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Dear sir

Attached please find our response to the Partial Privatization of the Airport Authority for your reference.

Regards
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PARTIAL PRIVATIZATION OF THE AIRPORT AUTHORITY

APRC SUBMISSION TO
THE ECONOMIC DEVELOPMENT
AND LABOUR BUREAU OF
THE GOVERNMENT OF
THE HONG KONG SAR

May 2005

AVIATION POLICY AND RESEARCH CENTER
THE CHINESE UNIVERSITY OF HONG KONG

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27 May 2005

Table of Contents

Table of Contents.....	i
List of Tables	iv
List of Figures	vi
EXECUTIVE SUMMARY.....	1
1 METHODS OF PRIVATIZATION AND INTERNATIONAL EXPERIENCES	9
1.1 INTRODUCTION	9
1.2 THE GOVERNMENT’S PRIVATIZATION PROPOSAL.....	10
<i>1.2.1 Objectives of Privatization</i>	<i>10</i>
<i>1.2.2 Control Requirements.....</i>	<i>11</i>
1.3 PRIVATIZATION OPTIONS FOR THE AAHK	12
<i>1.3.1 Public Offerings.....</i>	<i>12</i>
1.3.1.1 Initial Public Offering	12
1.3.1.2 Securitization	18
1.3.1.3 Going-Public Exchangeable Bond.....	19
1.3.1.4 Sale to the Exchange Fund.....	19
<i>1.3.2 Private Offerings</i>	<i>20</i>
1.3.2.1 Introduction.....	20
1.3.2.2 Sales to Strategic Investors	20
1.3.2.3 Long Term Lease	21
1.3.2.4 Sales to Financial Investors	21
1.3.2.5 Management Buyout.....	21
<i>1.3.3 Private Participation.....</i>	<i>22</i>
1.3.3.1 Management Contract.....	22
1.3.3.2 Project Financing	23
1.4 PRIVATIZATION VERSUS PUBLIC OWNERSHIP.....	24
1.5 INTERNATIONAL EXPERIENCE.....	25
<i>1.5.1 Introduction</i>	<i>25</i>
<i>1.5.2 UK Experience.....</i>	<i>26</i>
1.5.2.1 BAA	27
<i>1.5.3 Australia Experience</i>	<i>33</i>
1.5.3.1 Stage I	33
1.5.3.2 Stage II	34
1.5.3.3 Privatization of Sydney Basin Airports.....	35
2 REGULATION METHODS AND INTERNATIONAL EXPERIENCES	39

2.1 INTRODUCTION.....	39
2.1.1 <i>Economic Theories</i>	39
2.1.2 <i>The Government’s Proposal for a Regulatory Framework</i>	39
2.1.2.1 Major Regulation Issues	39
2.1.2.2 Economic Regulation.....	40
2.2 REGULATION OPTIONS	44
2.2.1 <i>Rate of Return (ROR) Regulation</i>	44
2.2.2 <i>Price-Cap Regulation</i>	48
2.2.2.1 Background	48
2.2.2.2 Standard Form.....	48
2.2.3 <i>Performance Measures</i>	50
2.2.3.1 Quality of Service	50
2.2.3.2 Productivity and Costs	52
2.2.4 <i>Other Common Regulations</i>	54
2.2.4.1 Yardstick Regulation	54
2.2.4.2 Trigger Regulation	55
2.2.4.3 Automatic Rate Adjustment	56
2.3 SINGLE-TILL VERSUS DUAL-TILL.....	56
2.3.1 <i>Single-Till Approach</i>	57
2.3.2 <i>Dual-Till Approach</i>	58
2.4 ECONOMIC REGULATION AND EFFICIENCY	60
2.5 INTERNATIONAL EXPERIENCE.....	64
2.5.1 <i>UK Experience</i>	64
2.5.2 <i>Australia Experience</i>	66
2.5.2.1 Background.....	66
2.5.2.2 Reform of Price-Cap Regulation	68
2.5.2.3 Price Monitoring Mechanism	71
3 THE FUTURE OF THE AVIATION INDUSTRY IN HONG KONG	72
3.1 INTRODUCTION.....	72
3.2 THE IMPORTANCE OF AVIATION TO THE HONG KONG ECONOMY	73
3.3 KEY DRIVERS OF GROWTH IN THE AVIATION INDUSTRY	75
3.3.1 <i>Continued Growth of Guangdong as the Manufacturing Heartland of China</i>	76
3.3.2 <i>A Change in the Preferred Mode of Transportation</i>	78
3.3.3 <i>The Emergence of China as One of the World’s Largest Tourism Markets</i>	79
3.3.4 <i>An Enhancement in the Appeal of the Region as a Tourist Destination</i>	85
3.3.5 <i>More Liberal Access for China’s Airlines into Hong Kong and Vice Versa</i>	86
3.4 CHALLENGES AHEAD – CHINA’S ‘OPEN SKIES’ LIBERALIZATION	88
3.4.1 <i>Sino-Foreign Air Services Agreements</i>	89

3.4.2 <i>Direct Charter Flight Services between Taiwan and the Mainland</i>	90
3.5 COMPETITION FROM CROSS-BORDER ‘NEIGHBOURS’	92
3.5.1 <i>A5</i>	92
3.5.2 <i>Low Cost Carriers</i>	95
4 CONCLUSIONS AND RECOMMENDATIONS	97
4.1 INTRODUCTION.....	97
4.2 RESPONSES TO THE GOVERNMENT’S CONSULTATION DOCUMENT ON THE PARTIAL PRIVATIZATION OF THE AIRPORT AUTHORITY	98
4.3 THE CASE FOR PARTIAL PRIVATIZATION OF THE AIRPORT AUTHORITY	107
4.3.1 <i>Strengthen market discipline in the running of the airport for greater efficiency and more commercial opportunities.</i>	107
4.3.2 <i>Enhance the AAHK’s access to the capital market.</i>	107
4.3.3 <i>Introduce an additional quality stock to add diversity to the local financial markets.</i>	108
4.3.4 <i>Offer an opportunity for Hong Kong people to participate in the success of a well-managed company with strong growth potential.</i>	108
4.3.5 <i>Proceeds from privatization will help strengthen government finance in the short to medium term.</i>	109
4.4 GUIDING PRINCIPLES FOR THE PRIVATIZED AA NEWCO.....	110
APPENDIX.....	114
REFERENCES.....	119

List of Tables

Table 1.1	: Historical Financing Cost Structure of AAHK	16
Table 1.2	: Historical Return on Equity and Various Margins of AAHK (FY99 – FY04)	17
Table 1.3	: Margins of Selected Publicly Listed International Airports for the Past Three Financial Years	18
Table 1.4	: Major Publicly Listed Airports	25
Table 1.5	: Major Public Airports	26
Table 1.6	: Current Ownership Structure of Major UK Airports	28
Table 1.7	: BAA Revenue Growth (%)	30
Table 1.8	: BAA Revenue Breakdown by Airports.....	30
Table 1.9	: BAA Terminal Passenger Volume Growth (%)	31
Table 1.10	: BAA Terminal Passenger Volume Breakdown by Airports (%)	31
Table 1.11	: BAA Cargo Volume Growth (%)	32
Table 1.12	: BAA Cargo Volume Breakdown by Airports (%).....	32
Table 1.13	: Privatization of Airports in Australia – Stage I, A\$ mn	33
Table 1.14	: Privatization of Airports in Australia – Stage II, A\$ mn.....	34
Table 1.15	: Total Passengers Growth (%) for Selected Airports (1994/95 – 2003/04)	36
Table 1.16	: Total Cargo Growth (%) for Selected Airports (1994/95 – 2003/04)	36
Table 1.17	: Total Aircraft Movements Growth (%) for Selected Airports (1994/95 – 2003/04)	37
Table 1.18	: 10-year Compound Annual Growth Rate (%) (1994/95 – 2003/04)	37
Table 2.1	: Changes in Net Fixed Assets Value & Total Electricity Demand (FY94 – FY03)	47
Table 2.2	: Airport Regulation Options – Single-Till Price-Cap Regulation.....	61
Table 2.3	: Airport Regulation Options – Dual-Till Price-Cap Regulation	62
Table 2.4	: Airport Regulation Options – Rate of Return Regulation.....	63
Table 2.5	: Airport Regulation Options – Other Regulations	64
Table 2.6	: Parameter Values for the UK Airports Price-Cap Formulae: April 2003 – Now	66
Table 2.7	: Australia Airports x Values and Inflation Rate: 1997 – 2002	67
Table 2.8	: Selected Financial Performance of Core-regulated Airports, FY00	68
Table 2.9	: Total Passengers Growth (%) for Selected Airports, 1998/99 – 2003/04	69
Table 2.10	: Total Cargo Growth for Selected Airports, 1998/99 – 2003/04.....	69
Table 2.11	: Total Aircraft Movement Growth (%) for Selected Airports, 1998/99 – 2003/04	70
Table 3.1	: Scheduled Destinations Served at HKIA.....	73

Table 3.2	: Economic Contribution of Aviation Industry.....	75
Table 3.3	: World’s Top Tourism Destinations, 2003.....	80
Table 3.4	: World’s Top Destinations, 2020.....	81
Table 3.5	: Total Number of Domestic Resident Outbound.....	81
Table 3.6	: Expenditure of Chinese Travellers, US\$.....	82
Table 3.7	: World’s Top Outbound Markets, 2020.....	84
Table 3.8	: Tourist Arrivals by Region, 1998 – 2003.....	86
Table 3.9	: Percentage of Tourists who Gamble while in Macau	86
Table 3.10	: Mainland-HK Air Services Arrangement	88
Table 3.11	: Number of Airlines Serving HKIA.....	91
Table 3.12	: Passenger Traffic of HKIA	91
Table 3.13	: Passenger Flights per Week of HKIA, 2004.....	91
Table 3.14	: Key Facts of the A5	93
Table 3.15	: LCCs at HKIA	96

List of Figures

Figure 3.1	: Proportion of FDI of Different Provinces, 2003	76
Figure 3.2	: Proportion of GDP of Different Provinces, 2003	76
Figure 3.3	: Proportion of Exports of Different Provinces, 2003	77
Figure 3.4	: Proportion of Imports of Different Provinces, 2003	77
Figure 3.5	: Proportion of the Export Value of Different Commodities to that of the Total Export Value of Guangdong Province, 2003	79
Figure 3.6	: Historical Trends of Total Number of Domestic Resident Outbound.....	83
Figure 3.7	: Number of Destinations, 2004	92
Figure 3.8	: Air Passenger Traffic of A5	94
Figure 3.9	: Air Cargo Traffic of A5	94

Executive Summary

The Hong Kong SAR Government has announced its plan to partially privatize one of its most important and valuable infrastructure assets – the Hong Kong International Airport (HKIA) – through the initial public offering (IPO) of its operator, the Airport Authority Hong Kong (AAHK) in the near future. The Economic Development and Labour Bureau (EDLB) is responsible for studying the feasibility of this exercise, and several consultation papers were published recently for discussion by the Legislative Council Panel on Economic Services and the general public.

Currently, the AAHK is a statutory corporation that operates the HKIA and is wholly owned by the government. The government believes that privatization will unlock the value of the AAHK, not only by increasing the government's fiscal income, but also by giving the AAHK a listing status to improve its operational efficiency and its accessibility to capital market fund-raising opportunities. It also believes that privatization will allow the general public to participate in sharing the success of the AAHK and its growth potential.

Given the recent fiasco surrounding the West Kowloon Cultural District Project and the shelving of the Link REIT IPO, this privatization proposal merits careful consideration, particularly given the strategic importance of the HKIA to Hong Kong and the Pearl River Delta region. We would therefore like to take this opportunity to share our thoughts on the issue.

The government initially proposed four possible ways in which to carry out the privatization: IPO, securitization, going public exchangeable bond, and sale to the

Exchange Fund, but after consultation with its own financial advisors, the government decided on IPO. In this study, we explore several commonly adopted privatization options that are categorized as either *public offerings* or *private offerings* in terms of concepts, pros, and cons. We agree that an IPO may be the simplest and easiest way for the government to divest of the AAHK, but are concerned about several aspects of the plan, such as loss of control, social versus private interests, potential financial contingency for the government, insufficient protection for minority shareholders and the expensive cost of capital. One of the main objectives that the government would like to achieve through this privatization is to improve the operational efficiency of the AAHK. A review of the empirical studies of Parker (1999) and Oum, Zhang and Zhang (2004) demonstrates that it is not always a case that a partially privatized company is more efficient than a wholly government-owned company in practice.

Airport regulation is also one of our main focuses. Currently, any new schemes for the airport charges that are implemented by the AAHK require approval from the Chief Executive in Council (the Executive Council). There have been concerns recently that the AAHK would be likely to raise airport charges after listing to generate higher returns for its shareholders, especially given that the historical returns of the AAHK have remained at low levels since the opening of the new airport in 1998.

Different frameworks to regulate airport charges, such as rate of return (ROR), price caps, and other common methods, are discussed in this study. An examination of the pros and cons of each type for the AAHK case reveals that the choice is essentially between the ROR mode and the price-cap mode. The ROR mode allows regulated operators not only to increase charges to recover *all* of their related costs, but also to obtain a guaranteed return. This could offer incentives to such operators to invest,

although the “Averch-Johnson Effect”, or over-investment, is a common problem with this mode. In Hong Kong, the electricity market is regulated under an ROR framework. The recent proposals by Hong Kong Electric to increase tariffs and by the China Light and Power Group to stop offering rebates to retain the guaranteed rate of return under the Scheme of Control have drawn criticism from the public that consumers are actually paying more for electricity, despite the fact that the economy has only just moved out of a recession. The recent criticisms of the proposal for toll increases at the Eastern Harbour Crossing have also generated concern about the ROR mechanism. The price-cap scheme, unlike the ROR mode, only allows operators to recover *unavoidable* cost increases, such as inflation, through raising charges. Under this scheme, the magnitude by which operators can increase charges is capped, but the return is not, and so operators are given the incentive to minimize their costs and invest at efficient levels only. We believe that this would be in the interest of the public and the users of the airport (airlines, passengers, and shippers). Deterioration in the quality of service may be a drawback of the price-cap mode, but the regulator could remedy this by incorporating a measure of service quality in the regulatory framework and by benchmarking the airport’s performance in various productivity and cost measures against that of its competitors. This would incentivize the operator to maintain its level of service quality, understand the importance of the competitiveness of the HKIA, and protect the interests of airport users and the public. Oum, Zhang and Zhang (2004) conducted a study of the performance of 60 selected international airports, and concluded that, in practice, the airports that had adopted the price-cap mode generally outperformed those that had adopted the ROR mode.

There are two common approaches, single till and dual till, that airport regulators can choose between to determine whether the commercial activities of an airport should be

included in the consideration of a price regulation framework. The single-till mechanism considers operating profits from *all* of the activities of an airport, both aeronautical and commercial, in regulating airport charges. This allows aeronautical and commercial businesses to subsidize each, which means that that charges are likely to be lower than they would be under a dual-till mechanism, although potential congestion of the airport may be created due to a lack of incentive to expand the aeronautical capacity of the airport. With the dual-till approach, airport charges are solely based on aeronautical activities. Without the cross subsidy from commercial activities, the airport is likely to end up with a higher level of charges of which the operator is the ultimate beneficiary, but this could provide incentives for the operator to invest in aeronautical facilities to reduce congestion. There are pros and cons for both the single-till and dual-till approaches, and we do not find overwhelming evidence from analysis or research that can be used to support either approach in the case of the privatization of the AAHK. In general, there is a tendency for airport operators to prefer the dual-till approach, whereas major airport users, such as airlines, may prefer the single-till approach. A more important consideration here is that **a dual-till approach is likely to lead to higher airport charges for the aeronautical side of the equation.** The issue of single till versus dual till also involves the fundamental question of a trade-off between overall public interest in Hong Kong and the commercial interest of a privatized AAHK.

Several other important airport privatization exercises have taken place in the last two decades. Two key airport privatization cases in the UK and in Australia are examined to allow readers to make reference to how these leading airports were privatized, how they have performed since privatization, and the kind of regulation framework that they have adopted.

Since its opening in July 1998, the HKIA has continuously made a significant contribution to the economy of Hong Kong. We estimate that the overall contribution of aviation-related sectors to the economy amounted to 10% of total GDP in 2003. Several key drivers that are crucial for the growth of the aviation sector in the future have been identified, but given the recent rapid and aggressive development of neighbouring airports and the more liberalised “open skies” policy that has been adopted by China will no doubt entail growing competition that will challenge the leading role of Hong Kong as the main hub for air transport in south China. Therefore, every strategic decision that is made by the government and the AAHK for the HKIA will influence its competitiveness in the regional aviation market, and, in turn, the economy of Hong Kong.

We provide the following responses to the reasons that are given by the HKSAR government for privatization.

- (i) As the AAHK has always operated on prudent commercial principles and the HKIA has been generally well managed, as stated in the justification for the privatization, the possible benefits of privatization for typical inefficient state enterprises are not applicable here for the most part.**

- (ii) As the AAHK is a highly successful operation that is fully owned and backed up by the government of Hong Kong, it has effective and efficient means of accessing less expensive capital through the debt market or other means.**

- (iii) Given the fact that Hong Kong currently has over 890 companies listed**

on the Main Board alone with a market cap of over 6.5 trillion, the addition of AA NewCo would add little diversity to, or have any other appreciable effect on, the local market.

(iv) Conceptually, all of us in Hong Kong are owners of the AAHK and already participate in its success. This applies to direct financial and commercial success, and, more importantly, to the indirect effects that the success of the HKIA contributes to the overall economy of Hong Kong. Hence it is not necessary for Hong Kong people to own shares in the AAHK through an IPO exercise.

(v) The original privatization proposal was floated when the economy of Hong Kong was going through testing times during the Asian financial crisis in 1998, followed by the global economic slowdown at the beginning of the new century. During this time there was a need to re-balance the budget and to seek out new sources of income for the government. Since then, we have moved on to much better times, most notably through the policy support of the Central Government. Thus, at the very least, the short- to medium-term financial needs of the government have been significantly lessened, if not eliminated, for the time being.

There are obviously costs that are involved in the privatization exercise, both in terms of monetary and other resources. The cost of maintaining a listed company and continuously finding a balance between the public interest and the financial benefits of minority shareholders in AA NewCo are significant costs that cannot be ignored. A

glance at the government's consultation paper reveals that many of the issues contained therein do not lend themselves to simple or easy solutions, and that others are of the nature that if a less than optimal choice is selected, then the long term repercussions would be tremendous in terms of the overall cost to the Hong Kong economy.

When we consider the costs in the cost-benefit picture, together with the lack of strength in the justifications for the privatization exercise and the significantly diminished need for short- to medium-term props for the financial position of the HKSAR Government, we must conclude that the partial privatization of the AAHK is not justified, either now or in the foreseeable future.

In addition to the discussions and considerations of the various options that have been put forward in this privatization exercise, we would like to propose the following guiding principles as a key reference for regulation should the decision to privatize be taken.

- (i) AA NewCo will pursue continuous improvement toward the achievement of the established mission of the HKIA.**

- (ii) The overall service quality, and particularly the service quality of the aeronautical services, will not fall below the level of service quality of the HKIA before privatization.**

- (iii) The overall level of charges (in relation to overall prices in Hong Kong and other relevant factors), and particularly the level of charges that are applicable to the aeronautical services, will not be higher than that**

before privatization.

- (iv) The overall performance of the HKIA, as measured by relevant comparative studies, will not be worse than that before privatization.**

Should the proposed partial privatization of the AAHK be postponed or shelved indefinitely, we would like to suggest that many of the issues that have been discussed and the knowledge that has been gained in this privatization exercise be put to good use to improve the competitive positioning of the HKIA. This may include the following.

- (i) The adoption of improved governance and other practices that have been envisioned in the privatization exercise.**
- (ii) Continuation of the projection of future capital needs, and evaluation and planning of the most cost-effective means to support the future funding needs of the development of the HKIA toward the established mission without it becoming a listed company.**
- (iii) Continuation of the study and implementation of appropriate regulatory frameworks and processes to ensure that the performance of the HKIA and the AAHK is on a continuous improvement curve. The devised frameworks should include the development and adaptation of reliable measurements of performance, improved mechanisms for the determination of airport charges and the adjudication of disputes, and a financial reward and penalty system that is linked to service standards.**

1 Methods of Privatization and International Experiences

1.1 Introduction

The government announced the commencement of preparation work for the partial privatization of the Airport Authority Hong Kong (AAHK) in August 2003. In February 2004, the government then briefed the Legislative Council (LegCo) Panel on Economic Services on its plan to privatize the AAHK by way of an initial public offering (IPO) with the discussion paper *Privatization of the Airport Authority* (LegCo Paper Feb 04). Paragraphs 5 and 6 of the paper state that an

*IPO is also commonly adopted when airports are privatized elsewhere. To ascertain whether this is the best choice for AAHK, the Government's financial advisors have analyzed several other options for privatizing AAHK, including sale to strategic investors, securitization, issue of exchangeable bond and sale to the Exchange Fund. Generally speaking, all of these options also have the drawback of not conferring ownership of the airport on members of the public, hence do not build on the Government's privatization efforts. We have therefore decided that **IPO should be the preferred mode of privatization.***

It is clear that the government *intends* to privatize the AAHK, but the optimal way to do it is yet to be finalized. In June 2004, the LegCo passed the *Airport Authority (Amendment) Bill 2004* and a Resolution to authorize the AAHK to return HK\$6 billion equity capital to the government¹. In November 2004, the Economic Development and Labour Bureau (EDLB) submitted a consultation paper entitled *Consultation Document*

¹ The AAHK returned HK\$6 billion in equity capital to the government in September 2004.

on *Partial Privatization of the Airport Authority* (LegCo Paper Nov 04) and in January 2005 submitted its *Response to Questions raised on 22 November 2004 relating to Partial Privatization of the Airport Authority* (LegCo Paper Jan 05) to the LegCo. The government has invited the general public to provide comments before the end of May 2005² about the various proposed methods of privatizing the AAHK.

In this section, we first look at the outline and the main objectives of the privatization plan proposed by the government (Section 1.2), and then explore several commonly-adopted privatization options categorized under *public offerings* and *private offerings* (Section 1.3). We further examine whether privatized airports always outperform public airports in terms of productivity (Section 1.4) and discuss the two major airport privatization exercises in recent history, in the UK and Australia (Section 1.5).

1.2 The Government's Privatization Proposal

1.2.1 Objectives of Privatization

The AAHK is a statutory corporation that was set up under the Airport Authority Ordinance (Cap.483) in 1995. It is wholly owned by the government. In LegCo Paper Feb 04, the objectives of the proposed privatization of the AAHK were as follows:

- To strengthen the AAHK's market discipline for greater operational efficiency and more business opportunities.
- To enhance the AAHK's accessibility to the capital market for better liquidity and fund raising opportunities.

² The government decided to extend the consultation period from February 2005 to May 2005.

- To add diversity to the local capital markets by introducing the AAHK as a quality stock.
- To invite Hong Kong people to participate in sharing the success of a well-managed company with strong growth potential.
- To contribute privatization proceeds to the government's finances.

In the EDLB's *Response to Questions raised on 2 March 2004 Relating to Privatization of the Airport Authority*³ (LegCo Paper May 04), the government again expressed a keen preference for an IPO exit to privatize the AAHK with the consideration of several alternative options, including *securitization, exchangeable bond issuance, sale to the Exchange Fund and sale to strategic investors.*

1.2.2 Control Requirements

Several key controls that the government would intend to maintain are as follows:

- The government should retain appropriate powers over the privatized AAHK to continue its regulatory role and ensure safe and efficient operation of the airport.
- The government should add a minority number of new members to the AAHK Board after privatization to ensure that the views of both the government and the general public are represented effectively.
- The government should continue to be the majority shareholder so that it can intervene in and provide directions to the AAHK with regards to safeguarding the public interest.

³ LC Paper No. CB(1) 1749/03-04(01)

- No single shareholder other than the government could hold more than 10% of the issued shared capital.
- Shareholders who are not Hong Kong residents could not have more than 49% of the voting rights at shareholders' general meetings.

The government would intend to divest no more than 49% of the issued shared capital of the AAHK to retain this level of control and ensure that the Hong Kong International Airport (HKIA) will continue to operate efficiently, as well as to safeguard the public interest.

1.3 Privatization Options for the AAHK

In this section, we explore several major privatization methodologies that are widely adopted across the globe and are applicable to the proposed privatization of the AAHK. There are two main categories of privatization, namely *public offerings* and *private offerings*. As the government has shown its preference for an IPO, we will focus more on this exit route.

1.3.1 Public Offerings

1.3.1.1 Initial Public Offering

An IPO is the sale of equity shares of a company through public subscription for the first time. After the listing, the shares are publicly traded on a stock exchange. Here we will only look at the case of a minority sell down of equity interests of the AAHK from the government, and hence the government will retain majority control of the business but its conduct will be exposed to a measure of external capital market discipline.

There are several advantages to listing the AAHK on a stock exchange, presumably the Hong Kong Stock Exchange.

(i) New capital for growth

Listing will definitely enhance the profile of the AAHK by allowing it to effectively tap capital from both the equity and debt markets and to alleviate the financial burden on the government. The proceeds from the listing and post-IPO share issuances or placements will provide financial sources for the AAHK to expand its operations and facilities and to participate in merger and acquisition opportunities (however, no new money will flow into the AAHK if the IPO only involves the divestiture of the government's existing shareholdings).

(ii) Improved corporate transparency

The listing rules published by the Stock Exchange of Hong Kong require all companies that are listed on its Main Board or Growth Enterprise Market (GEM) Board to publish periodic financial reports and ownership lists, and to announce any material corporate events that involve public interest. As part of a listed company, the AAHK management will have a greater fiduciary duty to disclose better corporate and financial information, the corporate governance and transparency will also be greatly enhanced.

(iii) Increased employee commitment

The granting of stock options to management and employees of the AAHK will give them the incentive to maximize the operation efficiency and profitability of the business.

(iv) Improved operational efficiency

As a result of achieving (i), (ii) and (iii), the operational efficiency of the AAHK could be improved.

(v) Increased government finances

The government injected approximately HK\$36.7 billion in capital into the AAHK up to the third quarter of 2004, of which HK\$6 billion was returned through the capital restructuring exercise that took place in September 2004. By selling off part of its existing shareholding of the AAHK, the government will receive proceeds from the IPO to increase its return on capital and improve its fiscal revenues. Last December, the AAHK management indicated that the potential IPO valuation may reach HK\$40 billion: that is, the government will receive over HK\$19 billion in proceeds before the deduction of transaction costs if it decides to sell off a 49% stake of the AAHK.

(vi) Broadened shareholder base and increased investor liquidity

The listing allows the participation of the general public and well-known global investors in one of the most important assets of the government, which will broaden the AAHK shareholder base. The publicly traded status will also provide liquidity, which will attract further investor interest.

However, there could be negative aspects of going public.

(i) Loss of some degree of control

Regardless of the manner in which the AAHK is privatized, the government's control over its operations will be decreased. In addition, the share price performance may influence management decisions and lead to a potential loss

of management autonomy.

(ii) Balance between social and private interests

As the AAHK operates the HKIA, which is one of the most important forms of public infrastructure in Hong Kong, the proposed privatization may involve one issue that always exists in public sector privatization – the mismatch between private and social objectives. The maximization of private efficiency does not necessarily imply the maximization of social interest. One of the top priorities of private sector companies is to achieve the highest possible monetary returns for shareholders, whereas the public sector looks for social benefits. The Mass Transit Railway Corporation provides an example of this. Despite the success of its IPO, there have been subsequent difficulties in balancing the public and private interests, as is evidenced by the recent debate about its merger with the Kowloon-Canton Railway Corporation.

(iii) Potential financial contingency for the government

In paragraph 23 of LegCo Paper Jan 05, the government proposed that “*it may need to pay compensation to [the] AAHK (post-privatized) under specified circumstances, e.g. when it is directed to act contrary to prudent commercial principles, thereby suffering financial loss through no fault of its own*”. Although it is the government’s duty and primary objective to safeguard the public interest in the AAHK and the HKIA after privatization, it will not be easy to determine a fair and reasonable compensation to shareholders under those specific circumstances. Moreover, it will induce an extensive debate on which circumstances will be subject to a governmental compensation scheme.

(iv) *Insufficient protection for minority shareholders*

Although the listing rules require that listed companies issue their financial reports regularly and disclose material events to the public once they occur, minority shareholders, especially individual retail investors, have limited power in opposing any corporate plans that are decided by major shareholders and management.

(v) *Cost of capital*

As of 31 March 2004, the AAHK had total credit facilities of HK\$12.4 billion, of which HK\$7.8 billion had been drawn down and remained outstanding. Given the low interest rate environment in recent years, the AAHK has managed to maintain a low level of effective cost of debt.

Table 1.1: Historical Financing Cost Structure of AAHK

	FY99	FY00	FY01	FY02	FY03	FY04
Total Debts (HK\$ mn)	7,700	7,625	7,575	8,450	7,801	7,778
Total Interest Expenses (HK\$ mn)	348	454	534	428	233	255

Note : Financial year ended as of 31 March, Year (t)

Source : Various annual reports, AAHK

Both debt and equity investors are looking for different levels of returns that are commensurate with the risks that they take in investing in companies. Given that debt holders rank ahead of equity shareholders in the priority of cash flow and asset claims in case of liquidation, equity investors bear a higher risk on their investment and hence demand higher returns (costs of equity). This implies that the use of equity for capital financing may not be cost effective compared to the use of borrowings.

(vi) *Valuation*

The IPO valuation of a company depends heavily on not only its future business development, but also its historical financial and operation performance. Although the AAHK has been planning for large-scale business expansion, which will lead to a higher valuation, its low historical rates of return on equity and low net margins (Table 1.2) may not allow the government to command the valuation that it hopes for.

Table 1.2: Historical Return on Equity and Various Margins of AAHK (FY99 – FY04)

	FY99	FY00	FY01	FY02	FY03	FY04
Net Profit/ (Loss) to the Government	(388)	(168)	71	236	502	386
Shareholders' Equity (HK\$mn)	36,260	36,092	36,163	36,399	36,978	37,364
Return on Equity	-1.07%	-0.47%	0.20%	0.65%	1.36%	1.03%
EBITDA Margin	39.5%	39.5%	45.7%	47.4%	49.2%	46.6%
EBIT Margin	-3.9%	5.1%	11.2%	12.5%	15.7%	14.6%
Net Margin	-10.2%	-3.2%	1.4%	4.6%	9.3%	7.7%

Note : Financial year ended as of 31 March, Year (t)

Source : Various annual reports, AAHK

By comparing the margin performance of several publicly listed major international airports for their last three financial years (Table 1.3), the AAHK's historical performance is not very outstanding: its EBITDA⁴ margins and net margins for the past three financial years are lower than those of the other major Asian players but are at similar levels to its European counterparts; for EBIT⁵, the AAHK margins are lower than those of comparable players.

⁴ EBITDA stands for earnings before interest expenses, tax, depreciation and amortization expenses.

⁵ EBIT stands for earnings before interest expenses and tax; it represents the operating income (loss) of a company.

Table 1.3: Margins of Selected Publicly Listed International Airports for the Past Three Financial Years

	EBITDA Margin (%)			EBIT Margin (%)			Net Margin (%)		
	FY (t-2)	FY (t-1)	FY (t)	FY (t-2)	FY (t-1)	FY (t)	FY (t-2)	FY (t-1)	FY (t)
Beijing Capital	58.5	58.5	52.4	36.5	38.5	31.2	20.3	22.4	17.9
Hainan Meilan	74.9	76.2	63.5	58.9	65.1	51.9	49.0	58.8	50.7
Airports of Thailand ^a	68.2	62.0	64.8	58.9	50.3	54.9	62.0	31.7	34.1
Auckland ^b	75.7	76.5	77.8	59.9	63.1	65.8	35.6	36.6	36.0
BAA ^c	44.0	44.8	44.4	30.1	31.0	31.3	9.0	19.9	19.2
Copenhagen	55.4	56.4	57.6	32.2	34.4	36.5	16.8	16.2	18.7
Fraport Frankfurt	38.5	31.1	21.0	20.3	15.6	9.2	6.4	-6.7	6.3
Unique Zurich	44.9	40.4	46.3	10.7	13.3	15.3	-6.7	1.5	0.7
Vienna	39.8	44.5	41.0	26.9	30.6	27.9	20.6	22.0	20.4
AAHK^b	47.4	49.2	46.6	12.5	15.7	14.6	4.6	9.3	7.7

Notes : FY (t) is the latest financial year data available

^a Financial year ended as of 30 September, Year (t)

^b Financial year ended as of 30 June, Year (t)

^c Financial year ended as of 31 March, Year (t)

Source : Bloomberg

In general, the IPO option has been widely used in airport privatization in Europe and Asia. The Beijing International Capital Airport (February 2000) and the Meilan Airport (November 2002) were listed on the Hong Kong Stock Exchange, and Airports of Thailand was listed on the Bangkok Stock Exchange in 2004.

1.3.1.2 Securitization

Traditional approach of asset securitization will transfer all of the AAHK's legal title and economic rights of assets to a special purpose vehicle, which will then issue securities backed by the cash flows to fund the purchase of the assets. This is more a debt capital market approach and will offer the general public an investment alternative other than equity investment. However, as mentioned earlier, the AAHK has already

attained a sovereign credit rating and further credit enhancement as a result of securitization is very limited.

1.3.1.3 Going-Public Exchangeable Bond

A going-public exchangeable bond is a type of convertible bond that the government could issue before the AAHK IPO exercise actually takes place. The bondholders would convert their bond holdings into actual shareholdings of the AAHK at the trigger event – the IPO – or receive cash from the government if the IPO does not happen. Although the exercise could allow the government to realize capital inflow at the pre-IPO stage, the structure of the issuance is usually complicated and not ‘user-friendly’ to general investors. Moreover, this is not a usual exit mechanism in airport privatization and is not popularly adopted in the capital market of Hong Kong.

1.3.1.4 Sale to the Exchange Fund

The Exchange Fund was established in 1993 by the Exchange Fund Ordinance (formerly known as the Currency Ordinance) as a reserve used to back the issue of banknotes in Hong Kong. The Exchange Fund is under the control of the Financial Secretary and is managed by the Hong Kong Monetary Authority. The option of selling some of the government’s shareholding in the AAHK to the Exchange Fund is not compelling firstly because the transfer would not strictly be privatization, and secondly because the main objective of the Exchange Fund is to maintain the stability and integrity of Hong Kong’s monetary and financial systems, which is unrelated to the AAHK.

1.3.2 Private Offerings

1.3.2.1 Introduction

An alternative to public offerings is a sale to private investors. Because fewer investors are involved than in public offerings, negotiation or lobbying between the government and investors may become less complicated. This facilitates the decision-making process and policy implementation. Inviting strategic industry players and/or financial investors to participate in managing the AAHK will provide funding and expertise that can improve the company's operations and optimal use of capital in the future.

Nevertheless, the launch of these private offering options requires a certain degree of transparency in the transaction due diligence process: for investors holding too large shareholdings, the government may be subjected to criticism of being biased towards certain interest groups, yet too little shareholdings will be unattractive to investors. Another issue is the 'cherry-picking' process of selecting which investors are qualified to become the shareholders. One prominent hypothetical question is what will happen when a particular shareholder holds certain shares in neighbourhood airports in the future? Is there a conflict of interests? How can such interests be balanced? Is there any intra-group competition between the AAHK and its 'neighbours'?

1.3.2.2 Sales to Strategic Investors

The participation of a single strategic investor or a consortium of strategic investors, such as airlines, world-leading airport management companies or related industry players, may contribute more in-depth knowledge and industry expertise, as well as necessary funding, to the AAHK in running the HKIA. This type of investor can introduce new ways of operation and new marketing plans, which may create synergies.

These valuable experiences could be matched by neither financial nor general public investors. However, if the government decides to sell off only a minority stake of the AAHK, it may be unattractive to strategic investors because their influence over corporate decision making may not be significant. The 2-stage Australian airport privatization exercise in 1997/98 is a commonly cited example of this option.

1.3.2.3 Long Term Lease

This option involves the leasing of the HKIA facilities for at least 20 years. An example is Lease-Develop-Operate (LDO), in which a government leases out relevant facilities and the surrounding land to a private firm to develop in return for revenue sharing. The government need not to dispose any shareholding of the facility, but only leases out both the economic control (turnover, cost, profits) and operational control to the private sector. The Australian case involved selling the ownership of airports to private strategic investors with long-term leases of 99 years.

1.3.2.4 Sales to Financial Investors

Financial investors such as private equity and buyout funds may also be interested in buying shareholdings in the AAHK. These are passive investors compared to strategic investors; they usually invest with the objective of a quick and/or higher return exit, through either a public listing or a trade sale. They have less interest in the company's management and mainly focus on the financial returns and value maximization.

1.3.2.5 Management Buyout

A management buyout is a leverage acquisition (largely funded by debt) in which the management of a company acquires a controlling ownership from the parent company.

Usually management is motivated to conduct an buyout by the desire to gain greater control of the company and share its future prospects. Classic management buyouts are usually due to parent companies deciding to dispose of non-core assets or as a defence against takeover bids. The number of management buyouts in Asia is very much less than that in Europe and the US. The option may sound interesting to the management of the AAHK, but given that the government only planned to divest a minority shareholding, this option is not applicable.

1.3.3 Private Participation

1.3.3.1 Management Contract

Some airports in the US (such as Burbank, Indianapolis and Westchester New York) have adopted a management contract mechanism in running their operations. Under the contractual arrangement, government agencies can retain ownership and control of assets and can set specific performance requirements for the contractor. Management contracts can be either short-term, long-term or for particular activities. The contracted management team receives a management fee that is linked to performance, or even a share in airport revenues. This option is good for airports that wish to commercialize or improve their management performance.

Besides operating the terminal and cargo facilities, the AAHK is also involved in retail business (terminal shopping malls) and property development (the planned SkyCity exhibition centre and terminus for ferries from Pearl River Delta ports), and it may not be easy to find a single private contractor to take up all operations. A consortium of management contracts may be a feasible measure to take before the privatization, but no transfer of ownership would happen in such a case.

1.3.3.2 Project Financing

(i) *BOT (Build – Operate – Transfer)*

In this scenario, the government grants a concession or franchise⁶ to a private firm to finance, build or modernize the airport facilities. The government retains regulatory power, and the firm receives the corresponding revenues but assumes all commercial risks. The concession period usually lasts for 20 to 50 years to allow the private firm to generate sufficient revenues to cover its costs and earn profits. When the concession period expires, the ownership of the facility returns to the government. This option normally involves the participation of consortia including lending banks, engineering firms and airport management specialists. Hence, it requires a wider and more complex set of contractual and regulatory mechanisms than do management contracts. Airports that use this option include Athens (Greece), Argentina, Bogotá (Columbia), Istanbul (Turkey) and Macau (China).

(ii) *BOOT (Build – Own – Operate – Transfer)*

This option is a variant of BOT wherein the private project sponsor retains legal title during the concession period, and the shares are used to back bank loans. Compared with BOT, this option allows the private operator to have greater strategic autonomy, beyond the operational and financial aspects.

⁶ A franchise is a system of ownership and management in which a private entity is delegated the responsibility of the ownership, financing and operation of certain facilities.

(iii) BOO (Build – Own – Operate)

This option is a mechanism whereby the project sponsor receives the title in addition to a contract to build and operate the project facilities on a perpetual basis. Jamaica provides one example.

(iv) BBO (Buy – Build – Operate)

This option is a type of asset sale mechanism similar to BOO which includes a rehabilitation or expansion of existing facilities. The London City Airport developed by Mowlen is an example.

All of these project-financing options have been widely used for infrastructure development. However, as the AAHK has no immediate need for the construction of new facilities or the expansion of existing facilities, these options seem not to be directly applicable to the proposed privatization.

1.4 Privatization versus Public Ownership

Oum, Zhang and Zhang (2004) recently classified a sample of 60 major international airports into publicly owned and privately owned, and used data extracted from 1999 to 2000 to conduct an empirical econometric study of their productivity (details in Section 2.4). The regression results showed that there is no clear relationship between the privatization and productivity of airports: that is, no conclusion can be reached on whether privatizing an airport will definitely bring about improvements in efficiency.

1.5 International Experience

1.5.1 Introduction

Several major airport privatization exercises took place in the last two decades, particularly in Europe. The 1987 public listing of the British Airports Authority (now BAA) started a new wave of airport privatization – over 20 countries have completed or are in process of completing the divestiture of airport assets, including Australia, Austria, Canada, China, Denmark, Germany, India, Japan, Malaysia, Switzerland and Thailand. Public listing is a popular method of privatization. Table 1.4 shows a list of major privatized airports that used an IPO route. However, the ownership of a number of major international airports is still held by the respective national or regional governments (Table 1.5).

Table 1.4: Major Publicly Listed Airports

Airport	Country	Stock Exchange	IPO Year	Current Government Shareholding
British Airports Authority (now BAA)	UK	London Stock Exchange	1987	1 golden share
Vienna Int'l Airport	Austria	Vienna Stock Exchange	1992	65%
Copenhagen Airports	Denmark	Copenhagen Stock Exchange	1994	37%
Shanghai Hongqiao Int'l Airport ^a	China	Shanghai Stock Exchange	1998	61%
Auckland Int'l Airport	New Zealand	New Zealand Stock Exchange	1998	22%
Malaysia Airport Holding (37 airports)	Malaysia	Kuala Lumpur Stock Exchange	1999	73%
Unique - Zurich Airport	Switzerland	Swiss Exchange (SWX)	2000	54%
Beijing Capital Int'l Airport	China	Hong Kong Stock Exchange	2000	65%
Fraport AG (Frankfurt Airport)	Germany	Frankfurt Stock Exchange	2001	71%
Hainan Meilan Airports of Thailand (28 airports)	China	Hong Kong Stock Exchange	2002	52%
	Thailand	Bangkok Stock Exchange	2004	70%

Note : ^a First airport stock listing in China

Source : Bloomberg

Table 1.5: Major Public Airports

Airport	Country	Government Shareholding
Amsterdam International Airport	Netherlands	National Government – 75.8%, City of Amsterdam – 21.8%, City of Rotterdam – 2.4%
Berlin International Airport	Germany	Federal Government – 26%, State of Berlin – 37%, State of Brandenburg – 37%
Chicago International Airport	US	City Government of Chicago – 100%
Hong Kong International Airport	China	Hong Kong Airport Authority – 100%
Kansai International Airport	Japan	Kansai International Airport Authority
Los Angeles International Airport	US	City Government of Los Angeles – 100%
Madrid International Airport	Spain	AENA – 100%
Mumbai International Airport	India	India National Government – 100%
New York JFK International Airport	US	Port Authority of New York and New Jersey – 100%
Paris CDG International Airport	France	France National Government – 100%
Seoul International Airport	South Korea	Republic of Korea National Government – 100%
Singapore International Airport	Singapore	Civil Aviation Authority – 100%
Taipei International Airport	Taiwan	Civil Aeronautics Administration – 100%
Tokyo Narita International Airport	Japan	Narita Airport Authority – 100%
Vancouver International Airport	Canada	Vancouver International Airport Authority – 100%

Source : Transport Research Laboratory (2003)

1.5.2 UK Experience

There are 57 airports in the UK serving the main populated areas⁷. Air travel demand rapidly grew from 57.8 million terminal passengers in 1980 to 201 million in 2003⁸. To

⁷ There are also 3 Channel Island airports, Alderney, Guernsey and Jersey, which are regulated by the Civil Aviation Authority.

⁸ UK airports statistics annual 2003, Economic Regulation Group, Civil Aviation Authority of UK (www.caa.co.uk/erg)

cope with the rapid development of the industry, a large scale airport privatization exercise began under the Thatcher Government. In the *Airports Policy White Paper 1985*, the government listed its main objectives in privatizing several major airports: to improve the operational efficiency by way of private management participation and to reduce the tax payer subsidies that had been necessary to run airport facilities (Humphreys 1999). Table 1.6 lists the current ownership structure of all major airports in the UK⁹. Besides the Leeds/Bradford, Manchester and Nottingham East Midlands airports, all other major airports have been privatized to different degrees, from 49% in case of Newcastle to 100% in Belfast, Prestwick, Cardiff and all seven airports under the BAA.

1.5.2.1 BAA

The former British Airports Authority (now BAA) was established by the UK government to own, operate, and develop major international airports including Heathrow, Gatwick, Stansted in England and Prestwick in Scotland (which was subsequently sold). In the 1970s, the list extended to include Edinburgh, Aberdeen and Glasgow airports. In 1986, the government adopted the recommendations of the *Airports Policy White Paper 1985* and passed an *Airports Act* to corporatize the British Airports Authority, and in July 1987, BAA plc. was listed on the London Stock Exchange. Initially the government retained a 2.9% stake, but that was sold in 1996. Now the government only holds a special share (a so-called ‘golden share’), which ensures that the written consent of the Secretary of State is required for certain corporate matters.

⁹ We regard as major all airports with terminal and transit passenger volumes of over 1 million per annum as of calendar year end 2003. The figures were collated from the Civil Aviation Authority’s UK airports statistics 2003.

Table 1.6: Current Ownership Structure of Major UK Airports

Airport	2003 Terminal & Transit PAX (mn)	Privatization Year	Way of Privatization	Initial Major Shareholders	Current Major Shareholders
Heathrow	63.5	1987	All seven airports are wholly-owned by BAA plc which was listed on the London Stock Exchange in 1987.		Unchanged
Gatwick	30.0	1987			
Stansted	18.7	1987			
Southampton	1.2	1987			
Aberdeen	2.5	1987			
Edinburgh	7.5	1987			
Glasgow	8.1	1987			
Luton	6.8	2001	Private sale	TBI plc – 71.4% Bechtel Enterprises – 28.6%	Unchanged
Belfast City	2.0	1991	Private sale	Bombardier, Canada – 100%	Ferrovial Group, Spain – 100%
Belfast Int'l	4.0	1994	EMBO ^a	Northern Ireland Airports Ltd – 100%	TBI plc. – 100%
Birmingham	9.1	1997	Partial private sale	Aer Rianta & NatWest Equity Partners – 40% 7 West Midlands District Councils – <50%	Aer Rianta & Bridgepoint Capital (formerly Nat West Equity Partners) – 48.25% 7 West Midlands' District Councils – 49%
Bristol	3.9	1997	Partial private sale	FirstGroup – 51% Bristol City Council – 49%	Macquarie & Cintra – 100%
Cardiff	1.9	1995	Private sale	TBI plc. – 100%	Unchanged
Leeds Bradford	2.0	1987	Corporatization & wholly owned by the government	5 Metropolitan Councils: i) Leeds – 40%; ii) Bradford – 40%; iii) Wakefield – 20%; iv) Calderdale – 20%; v) Kirklees – 20%	Unchanged
Liverpool	3.2	1990	Partial private sale	British Aerospace – 76% 5 Merseyside Local Authorities – 24%	Peel Holdings (UK)
Manchester	19.7	1987	Corporatization & wholly owned by the government	Manchester Airports Group ^b – 100%	Unchanged
Nottingham East Midlands	4.3	1993	Private sale	National Express Group – 100%	Manchester Airport Group – 100% (Government Owned)
Newcastle	3.9	2001	Partial private sale	Copenhagen Airports – 49% 7 local authorities – 51%	Unchanged
Prestwick	1.9	2001	Private sale	Infratil (New Zealand) – 100%	Unchanged

Notes : ^a Employee Management Buyout

^b Manchester Airports Group is wholly owned by 10 Local Councils of Greater Manchester

Source : Civil Aviation Authority and airport websites

Currently BAA is managing a portfolio of airports (Heathrow, Gatwick, Stansted, Southampton, Glasgow, Edinburgh and Aberdeen), as well as several commercial businesses including property (BAA Lynton), duty free shops (World Duty Free International), an airport railway (Heathrow Express) and airport management and consulting services. Over the next few years, the most important BAA project will be the construction of Terminal 5 (with an over GBP4 billion project cost), which will increase the capacity of Heathrow airport from 70 million to an estimated 100 million passengers annually from 2008¹⁰.

Tables 1.7 to 1.12 show the key performance indicators of BAA since privatization. The three airports in London, Heathrow, Gatwick and Stansted, have been in the dominant positions in revenue, passengers and cargos (64%, 85%, 98% of total, respectively in the 2004 financial year) since privatization. In the 2004 financial year, Southampton airport achieved the highest annual growth rates in revenue (46%) and terminal passenger volume (55%) amongst the BAA airports, but it only accounted for insignificant portions of BAA's total revenue and total terminal passenger volume (1% and 0.9%).

The UK is the first mover in airport privatization; 16 out of the 19 most important airports in the UK are either publicly listed or wholly/partially privately owned. Looking at their growth in passengers, cargo and aircraft movements, however, the 16 privatized airports seem not be able to out-perform the 3 remaining airports, which are still in the public sector. Has the privatization acted as a catalyst to improve the performance of these airports? According to Parker (1999), privatization has had no significant impact on BAA's technical efficiency.

¹⁰ BAA website.

Table 1.7: BAA Revenue Growth (%)

BAA	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
Heathrow	-3.4	-8.9	3.3	6.6	0.1	2.9	7.8
Gatwick	11.1	7.9	-17.7	-1.0	-1.4	-3.5	4.7
Stansted	-26.9	30.6	34.4	31.4	16.8	-0.8	7.6
Southampton	-18.2	22.2	9.1	16.7	0.0	-7.1	46.2
Glasgow	-15.6	5.6	7.0	6.6	3.1	3.0	0.0
Edinburgh	-2.6	10.8	4.9	16.3	12.0	7.1	5.0
Aberdeen	0.0	0.0	-3.8	4.0	3.8	0.0	3.7
Other Int'l Airports	81.3	65.5	18.8	12.3	-6.3	-16.7	6.0
Duty Free	n/a	74.8	17.7	0.1	-30.8	-26.7	5.7
BAA Airports Total	22.3	19.9	8.9	3.1	-11.4	-4.9	3.9

Notes : ^a Financial year ended as of 31 March, Year (t)

^b Heathrow and Duty Free are two major revenue generators for BAA

^c Duty Free business was acquired during financial year 1998

^d The sharp fall in revenue growth of Duty Free in financial year 2002 was due to disposal of World Duty Free's export division and World Duty Free Americas, Inc.

Source : BAA annual reports

Table 1.8: BAA Revenue Breakdown by Airports

	FY 98	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
Total (GBP mn)	1,679	2,013	2,192	2,261	2,004	1,906	1,981
Heathrow	45%	34.2%	32.5%	33.6%	37.9%	41.0%	42.6%
Gatwick	19.7%	17.7%	13.4%	12.8%	14.3%	14.5%	14.6%
Stansted	2.9%	3.2%	3.9%	5.0%	6.6%	6.9%	7.1%
Southampton	0.5%	0.5%	0.5%	0.6%	0.7%	0.7%	1.0%
Glasgow	3.2%	2.8%	2.8%	2.9%	3.3%	3.6%	3.5%
Edinburgh	2.2%	2.0%	2.0%	2.2%	2.8%	3.1%	3.2%
Aberdeen	1.5%	1.3%	1.1%	1.1%	1.3%	1.4%	1.4%
Other Int'l Airports	1.7%	2.4%	2.6%	2.8%	3.0%	2.6%	2.7%
Duty Free	20.1%	29.3%	31.6%	30.7%	24.0%	18.5%	18.8%
Others	3.1%	6.6%	9.6%	8.2%	6.1%	7.7%	5.2%
BAA Airports Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source : BAA annual reports

Table 1.9: BAA Terminal Passenger Volume Growth (%)

BAA	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Heathrow	8.0	5.5	7.7	-5.6	11.7	5.9	7.9	5.4	3.0	3.8	4.3	2.7	3.7	-5.9	4.3	0.3
Gatwick	7.0	2.0	-0.5	-11.2	6.2	1.1	4.9	6.4	7.7	11.2	8.4	4.7	5.1	-2.7	-5.1	1.3
Stansted	46.8	26.0	-12.4	45.8	38.4	14.5	21.8	19.6	23.6	11.6	27.3	37.8	26.0	15.1	17.5	16.6
Southampton	5.1	7.7	-0.6	-12.5	-5.6	3.5	12.2	8.1	7.3	12.3	18.0	3.9	14.0	0.4	-8.1	54.6
Aberdeen	9.7	7.3	12.5	3.7	6.6	6.4	-7.9	3.4	7.1	8.6	3.4	-7.2	0.9	2.9	1.0	-1.6
Edinburgh	12.4	13.9	5.5	-6.1	8.5	6.7	10.6	9.3	16.3	9.2	9.2	11.9	8.1	9.9	14.5	8.2
Glasgow	8.0	6.3	11.0	-3.1	12.4	7.4	8.8	-0.6	0.9	9.8	7.8	4.3	2.4	4.7	7.3	4.5

Note : BAA's London airports: Heathrow, Gatwick and Stansted accounted for over 85% of total passengers over the period

Source : Civil Aviation Authority

Table 1.10: BAA Terminal Passenger Volume Breakdown by Airports (%)

BAA	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Heathrow	55.9	56.2	57.6	57.9	58.5	58.9	59.3	59.0	57.6	56.0	54.6	53.1	51.9	49.6	49.8	48.2
Gatwick	30.9	30.0	28.4	26.9	25.8	24.8	24.3	24.4	24.9	25.9	26.3	26.0	25.8	25.5	23.3	22.8
Stansted	1.6	1.9	1.6	2.4	3.0	3.3	3.8	4.2	5.0	5.2	6.2	8.1	9.6	11.2	12.7	14.3
Southampton	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.6	0.9
Aberdeen	2.4	2.5	2.6	2.9	2.8	2.8	2.4	2.4	2.4	2.5	2.4	2.1	2.0	2.1	2.0	1.9
Edinburgh	3.1	3.4	3.4	3.4	3.3	3.4	3.5	3.6	3.9	4.0	4.1	4.4	4.4	5.0	5.5	5.7
Glasgow	5.4	5.5	5.8	6.0	6.1	6.2	6.3	5.9	5.7	5.8	5.9	5.8	5.6	5.9	6.1	6.2
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source : Civil Aviation Authority

Table 1.11: BAA Cargo Volume Growth (%)

BAA	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Heathrow	11.8	6.9	1.3	-5.9	15.3	12.2	13.7	7.1	0.9	11.1	4.6	4.7	3.3	-9.7	4.6	-0.9
Gatwick	0.5	8.7	5.4	-8.0	-6.1	3.4	13.1	3.0	16.6	-0.8	3.6	7.2	8.4	-12.2	-13.4	-8.1
Stansted	27.4	23.4	11.0	0.1	63.9	14.2	36.9	7.1	15.7	21.6	42.5	-2.9	-4.4	-0.2	11.3	7.7
Southampton	14.2	7.3	13.3	-9.7	-7.5	-9.5	-16.7	-3.9	-2.5	-1.8	3.7	-1.6	-63.4	36.1	15.1	-15.7
Aberdeen	8.8	-4.1	5.2	-8.1	-8.6	5.5	-8.7	5.1	8.7	-3.5	-17.5	-4.3	0.1	9.8	-22.7	-8.7
Edinburgh	11.4	-3.0	13.1	-4.8	-6.2	17.4	203.0	42.3	40.4	8.8	80.1	23.3	1.0	-9.6	31.3	16.6
Glasgow	42.3	5.1	15.4	-20.8	0.7	20.9	1.7	-32.1	-11.6	-4.6	-19.5	5.3	-4.8	-30.6	-15.0	-2.3

Note : BAA's London airports: Heathrow, Gatwick and Stansted accounted for over 98% of total cargo volume over the period

Source : Civil Aviation Authority

Table 1.12: BAA Cargo Volume Breakdown by Airports (%)

BAA	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Heathrow	72.8	72.3	71.3	71.7	74.0	74.9	74.3	75.1	72.5	73.6	71.5	71.7	71.7	71.4	73.0	72.9
Gatwick	21.8	22.0	22.6	22.2	18.6	17.4	17.1	16.7	18.6	16.9	16.2	16.7	17.5	16.9	14.3	13.3
Stansted	2.7	3.1	3.3	3.6	5.2	5.4	6.4	6.5	7.20	8.0	10.6	9.8	9.1	10.0	10.9	11.8
Southampton	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aberdeen	0.7	0.6	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.2
Edinburgh	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.5	0.5	0.9	1.0	1.0	1.0	1.3	1.5
Glasgow	1.8	1.7	0.1	1.6	1.5	1.6	1.4	0.9	0.8	0.7	0.5	0.5	0.5	0.4	0.3	0.3
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source : Civil Aviation Authority

1.5.3 Australia Experience

The sale of Australian airports since the late 1990s is another landmark type of privatization. Before the establishment in 1998 of the Federal Airports Corporation (FAC), a government owned entity, all of the major airports in the country were owned and managed by the federal government. In April 1994, the government published a *White Paper on Employment and Growth* and made known its intention to privatize the FAC's airports. In 1995, it announced a planned privatization over two stages by way of long term lease (an initial 50 years plus an option for the lessee to renew for another 49 years). By the end of 1998, 17 out of the 22 airports in the FAC's portfolio were successfully privatized, with the remaining 5 airports, including Essendon in Melbourne and 4 airports (Kingsford Smith, Bankstown, Camden and Hoxton) in the Sydney basin remaining under the FAC's control.

1.5.3.1 Stage I

The government sold airports in Melbourne (Tullamarine), Brisbane and Perth in July 1997 to various private groups through a bidding process with a total consideration of A\$3.3 billion.

Table 1.13: Privatization of Airports in Australia – Stage I, A\$ mn

Airport	Private Shareholders	Transaction Amount
Brisbane	Group led by Amsterdam Airport Schiphol (Dutch government owned) and Commonwealth Bank of Australia	1,378
Melbourne	Group led by Australian Pacific Airports Corp, Australian Mutual Provident Society, and BAA plc	1,290
Perth	Group led by Airstralia Development Group	639

Source : Australian National Audit Office (ANAO)

1.5.3.2 Stage II

The second stage of airport privatization was announced in June 1997 and completed in mid-1998. 14 out of the 15 airports were sold to raise A\$730 million in proceeds. The only airport that was withdrawn from the stage II sale was Essendon¹¹, because the tenders did not submit satisfactory bids.

Table 1.14: Privatization of Airports in Australia – Stage II, A\$ mn

Airport	Private Shareholders	Transaction Amount
Adelaide, Parafield & Coolangatta	Adelaide Airport Ltd., Parafield Airport Ltd., & Queensland Airports Ltd.	467
Darwin, Alice Springs & Tennant Creek	Darwin International Airport Pty Ltd., Alice Springs Pty Ltd., & Tennant Creek Airport Pty Ltd.	108
Canberra	Canberra International Airport Pty Ltd.	66
Hobart	Hobart International Airport Pty Ltd.	36
Launceston	Australian Pacific Airports (Launceston) Pty Ltd.	17
Townsville & Mount Isa	Australian Airports (Townsville) Pty Ltd. & Australian Airports (Mount Isa) Pty Ltd.	16
Moorabbin	Moorabbin Airport Corporation Pty Ltd.	8
Jandakot	Jandakot Airport Holdings Pty Ltd.	7
Archerfield	Archerfield Airport Corporation Pty Ltd.	3

Source : Australian National Audit Office (ANAO)

Although the government had set out a list of specific objectives for the two stages of privatization, the key objectives of the stages were alike:

- to maximize the proceeds generated from the divestitures to reduce national debts;
- to ensure that the majority ownership and control of the airports belonged to Australians, with foreign ownership limited to 49%;

¹¹ Essendon was eventually sold for A\$22 million in August 2001.

- to have diversity of ownership, with the cross-ownership of major airports and airlines limited to 5%; and
- to ensure fair and equitable treatment of FAC employees.

1.5.3.3 Privatization of Sydney Basin Airports

After the success of the 2-stage FAC airport privatization in 1997/1998, the government decided to transfer ownership of the four Sydney basin airports from the FAC to a new government enterprise, the Sydney Airports Corporation Limited. In December 2000, the government announced its plan to privatize the Sydney basin airports. In March 2001, the government decided to sell its 100% ownership of Kingsford Smith Airport, with a set of objectives that were similar to those set out in the earlier 2-stage privatization exercise, through a competitive tender process. In June 2002, Southern Cross Airports Corporation, a consortium led by Macquarie Bank and Hochtief AirPort, acquired the Sydney Kingsford Smith Airport with a 99-year lease (50 years plus renewable 49 years) for A\$4.23 billion.

In December 2003, the remaining three airports (Bankstown, Camden and Hoxton Park) were sold for A\$211 million to a consortium led by the Commonwealth Bank of Australia, James Fielding Group and Toll Holdings Limited. Through these privatization exercises, the government raised over A\$8.5 billion to reduce the national debt.

The performance of the individual airports in terms of the growth of passengers, cargo and aircraft movements over the last 10 years (including the privatization period) are shown in Tables 1.15 to 1.18. Airport operations were badly hit in 2001 by the

September 11 terrorist attack on the US and the beginning of the Ansett Airline crisis¹², with the majority of airports experiencing negative growth in passenger volume, cargo volume and aircraft movements.

Table 1.15: Total Passengers Growth (%) for Selected Airports (1994/95 – 2003/04)

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Adelaide ^a	8	7	1	5	3	3	6	-6	4	13
Alice Springs	7	-11	-6	-2	3	-3	-8	-22	2	6
Brisbane ^a	14	9	5	1	1	7	18	-6	1	16
Canberra	11	4	-1	5	0	8	7	-13	4	20
Darwin ^a	17	13	6	3	2	3	2	-11	2	9
Hobart ^b	10	4	-1	1	1	6	7	-2	5	21
Launceston	7	6	-2	-5	-2	1	-4	2	8	16
Mount Isa	9	10	4	10	21	1	-5	-34	-1	12
Melbourne ^a	10	8	3	3	2	7	11	-5	3	14
Perth ^a	12	8	8	3	1	5	6	-8	9	13
Sydney ^a	10	8	4	2	3	7	12	-10	1	11
Townsville ^c	12	4	2	3	4	4	7	-5	12	19

Notes : ^a Represents international airports
^b International operations ceased in April 1998
^c International operations ceased in February 1999

Source : Bureau of Transport and Regional Economics, Australia

Table 1.16: Total Cargo Growth (%) for Selected Airports (1994/95 – 2003/04)

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Adelaide ^a	4	-8	12	-8	-5	15	15	-17	15	11
Brisbane ^a	8	5	19	13	-3	6	2	-6	-2	-5
Darwin ^a	12	5	-20	20	-24	36	-16	-14	-45	5
Melbourne ^a	19	6	10	-3	4	24	-5	-5	6	-5
Perth ^a	5	-1	10	14	-4	7	8	-6	0	4
Sydney ^a	14	3	7	7	0	-1	-5	-3	-4	0

Note : ^a There is no cargo statistics for non-international airports reported by the Bureau of Transport and Regional Economics

Source : Bureau of Transport and Regional Economics, Australia

¹² The Civil Aviation Safety Authority posted several bans to suspend Ansett's services in 2001 due to safety issues on its aircrafts, and the airline was liquidated in March 2002.

Table 1.17: Total Aircraft Movements Growth (%) for Selected Airports (1994/95 – 2003/04)

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Adelaide ^a	6	6	3	4	2	-2	3	-10	0	1
Alice	10	-6	1	0	-4	0	-12	-30	-3	3
Brisbane ^a	11	8	-1	0	3	3	14	-17	-7	5
Canberra	14	4	3	1	-1	8	26	-23	-9	7
Darwin ^a	15	15	2	-2	6	-11	-1	-22	0	-5
Hobart ^b	9	-9	-16	-6	9	11	41	-19	-7	7
Launceston	-1	-9	-2	-4	-3	5	4	-30	-11	4
Mount Isa	17	7	-3	-1	40	0	-7	-32	5	-4
Melbourne ^a	7	4	3	1	2	6	16	-16	0	5
Perth ^a	11	8	6	-2	-4	4	1	-20	6	6
Sydney ^a	7	6	3	2	0	3	11	-20	-1	6
Townsville ^c	5	7	5	-4	3	0	6	-33	19	12

Notes : ^a Represents international airports
^b International operations ceased in April 1998
^c International operations ceased in February 1999

Source : Bureau of Transport and Regional Economics, Australia

Table 1.18: 10-year Compound Annual Growth Rate (%) (1994/95 – 2003/04)

	Passenger	Cargo	Aircraft Movement
Adelaide ^a	3.8	2.8	0.6
Alice Springs	-4.9	n/a	-6.2
Brisbane ^a	5.5	2.9	0.5
Canberra	3.6	n/a	0.8
Darwin ^a	3.0	-8.9	-2.5
Hobart ^b	4.6	n/a	-0.1
Launceston	2.1	n/a	-5.6
Mount Isa	0.8	n/a	-0.9
Melbourne ^a	5.0	3.2	2.2
Perth ^a	4.9	3.4	0.2
Sydney ^a	4.0	0.3	0.8
Townsville ^c	5.4	n/a	0.7

Notes : ^a Represents international airports
^b International operations ceased in April 1998
^c International operations ceased in February 1999

Source : Bureau of Transport and Regional Economics, Australia

The key government rationale for privatization was not a belief that it would improve airport efficiency, but to reduce its financial burden. Similar to the UK, the privatized airports have not experienced significant improvements in performance.

2 Regulation Methods and International Experiences

2.1 Introduction

2.1.1 Economic Theories

Airport regulation is an important issue mainly because airports are usually natural monopolies where no substitutes are available¹³. According to economic theories, a monopoly firm is always looking for ways to maximize its profits, which is optimal for itself but not for society. As a result, the monopoly price is higher than the competitive price as long as the monopoly firm is unregulated. Such deviation from the social optimality is called the '*deadweight loss*'. This is a '*net loss*' to society. Through regulation, deadweight losses can be reduced or even completely eliminated. For any type of regulation, the ultimate aim is to achieve a competitive outcome, a '*Pareto optimal*', according to the welfare theorem of economics.

2.1.2 The Government's Proposal for a Regulatory Framework

2.1.2.1 Major Regulation Issues

In LegCo Paper Nov 04, the Hong Kong government submitted several proposals for a post-privatization regulatory framework to the LegCo for comments and views. Given that the government intended to list the AAHK but retain its majority shareholding and role as regulator, the paper listed the major regulatory issues as follows:

- (i) the relationship between the government and the privatized entity (AA NewCo);
- (ii) the business case and valuation of AA New Co;

¹³ The airports in Greater China do provide a certain degree of competition; but the domestic airport is still the monopolized airport (at least for the two Hong Kong home carriers, Cathay Pacific and Dragonair) within the political boundary.

- (iii) economic regulation;
- (iv) land use, competition and scope of business; and
- (v) the impact of privatization on the companies and staff of the HKIA.

2.1.2.2 Economic Regulation

In this chapter, we will only study the economic regulation issue. Currently the AAHK is required to seek approval from the Chief Executive in Council (the Executive Council) before to implementing any new scheme of airport charges. According to the AA Ordinance, “*unless the proposed scheme would or have a likelihood to breach any international civil aviation obligation, the Chief Executive in Council shall approve the scheme*¹⁴”. This non-transparent mechanism would definitely need to be reformed after privatization.

Recently there have been discussions about whether increasing airport charges is justifiable. Obviously, the government and the AAHK support increases, and airlines are major opponents. The airport charges, which currently include landing, parking and terminal building charges levied on airlines, are one of the main streams of revenue for the AAHK (they accounted for 43% or HK\$2,167 million of its total turnover in the 2004 financial year)¹⁵. The *Review of Airport Charges 2003* published by the Transport Research Laboratory (TRL) indicated that the level of Hong Kong airport charges was actually quite competitive in comparison to 49 other major international airports (ranked 46th out of 50)¹⁶. Apart from Kuala Lumpur, Mumbai

¹⁴ Paragraph 19, LegCo Paper Nov 04

¹⁵ Annual report 2004, AAHK

¹⁶ The ranking of these 50 airports is based on an index of charges. The index is computed by using 4 airport charges (terminal navigation charges, landing charges, aircraft parking charges and passenger charges) imposed on 8 aircraft types (Boeing 747-400, Airbus A300-600 etc.)

and Dubai, the airport charges in Hong Kong were lower than 8 other sampled airports from the Asia-Pacific region and Middle East, including airports in Singapore, Taipei (Chiang Kai-Shek International Airport), Bangkok and Seoul (Incheon). Given the low historical returns of the AAHK (Table 1.3), the management may consider raising airport charges to generate higher returns for its investors in the future.

As airlines are the primary payers of airport charges, they are extremely concerned about any increase that the AAHK may propose. They view the airport as a public asset and think that the government should not look for a commercial return so soon after opening the HKIA in 1998. In the *Airport Benchmarking Report 2004* released by the Air Transport Research Society, landing charges for Boeing 747-400s in Hong Kong were ranked the 3rd highest amongst 14 airports in the Asia-Pacific region¹⁷. Any increase in airport charges would reduce the airport's competitiveness among other airports situated in the Pearl River Delta. However, the government disagreed with this view because the airport charges only account for a very small portion of the airlines' operating expenditures¹⁸.

In LegCo Paper Nov 04, the government proposed the following issues.

- (i) *The regulatory framework should subscribe to the user-pays principle; allow the AA NewCo a reasonable return on its investment; and provide incentives for enhancing efficiency and increasing capacity to cater for demand.*

¹⁷ The ranking is based on the landing charges of Boeing 747-400 in different airports. It is not completely comparable with the aforementioned ranking published by TRL as different methodologies were used.

¹⁸ "Airport charges paid by two local airlines to AA (i.e. excluding payment to other airports) in 2003 ranged from 2.6% to 4.0% of their total operating costs" Paragraph 15, "Privatization of the Airport Authority", November 2004.

Given the strategic value of the HKIA, there should be little disagreement that ‘reasonable’ should be defined from the social viewpoint. Details must be specified for how much incentive and capacity should be provided in striking a balance between private and public interest.

(ii) *Only airport charges (i.e. currently landing, parking and terminal building charges) paid by airlines should be regulated...consider the currently proposed arrangement a better alternative because excluding commercial revenues from the regulatory framework should offer more incentive for AA NewCo to explore commercial opportunities and to encourage AA NewCo to maintain its aeronautical services at high standards.*

The proposed regulated domain may be too small. Firstly, as the AAHK’s aeronautical and non-aeronautical activities are not completely unrelated, regulating only one stream of AA NewCo’s activities may create another kind of distortion (i.e. inefficiency) even though the investment incentive may be preserved. Secondly, as is a common phenomenon in any industry, service quality is less easy to observe and a certain subjective judgement may be involved so moral hazard behaviour cannot be eliminated. Finally, there is a concern that encouraging AA NewCo to explore more commercial opportunities (particularly outside of Hong Kong) may distract management’s attention from the core quality of aeronautical services provided in Hong Kong.

(iii) *The level of AA NewCo’s target return for aeronautical activities should commensurate with the risk of the aeronautical business, which may not*

necessarily be the same as the average cost of capital of AA NewCo as a whole.

The key issue here is whether it is a simple task to incorporate risk into the regulation formula for airport charges. Without a good understanding of the risk structure, there would be no solid ground to prescribe the risk premium.

- (iv) AA NewCo should be allowed to negotiate on a commercial basis with airlines on the level of airport charges every three years or as a need arises, within a set of broad parameters set out in the Ordinance;*
- (v) To consider whether the Government or a Government appointed independent panel should be empowered to adjudicate on the reasonable level of airport charges; and*
- (vi) AA NewCo should be required to draw up a set of service standards, and on the basis of which a financial reward and penalty system should be devised to link the actual service standards to the level of airport charges*

Issues (iv) to (vi) are related to the formation of a regulatory framework that is effective enough to regulate the airport charges and achieve a *social-private interest balance*. In Section 1, we mentioned the concern about the balance between social and private interests when the government is finalizing its privatization plan. On the one hand, a regulatory mechanism should be flexible enough to allow AA NewCo to operate efficiently and generate satisfactory returns for its shareholders; on the other hand, it has to be rigid enough to protect the public interest and the competitiveness of the

HKIA. We strongly support the establishment of a service quality measure as part of the regulatory framework, which will encourage AA NewCo to maintain the HKIA's level of service quality and protect the public interest.

2.2 Regulation Options

There are various common ways to regulate airport charges:

- (i) rate of return (ROR);
- (ii) price-cap;
- (iii) yardstick competition;
- (iv) automatic rate adjustment; and
- (v) trigger regulation.

2.2.1 Rate of Return (ROR) Regulation

This option is widely adopted in many natural monopolistic industries such as utilities. The regulated airport is allowed to set airport charges to recover all costs of its regulated services and to earn a ROR on its capital set. If the airport suffers cost changes, then it can ask the regulator to reset the airport charges: that is, to retain the allowed ROR and pass the changes on to its users. The rationale for doing so is to ensure the efficient use of capital. To mimic the competitive outcome, the allowed rate of return on capital should be set equal to the cost of capital so that the airport will earn zero economic profits.

The simplest formula of ROR can be set as follows:

$$\text{Revenue Permitted} = [\text{Costs} + \text{ROR} \times (\text{Net Fixed Assets Value})] \text{ of the Regulated Business}$$

Regulated airports can enjoy a number of advantages under this option.

- It provides a guaranteed return for investment because the regulation is cost based rather than revenue based, which gives high comfort to investors and encourages long-term investment.
- It prevents airport operators from generating abnormal profits from the regulated services due to the strict monitoring process.
- It provides clarity and certainty about the price calculation mechanism given that the method is conceptually simple.
- It provides certainty in pricing and returns to reduce the risk of the airport operators; this can also stimulate investment.

However, the ROR approach has considerable disadvantages.

- It is difficult to reach a fair ROR amongst all related parties. If the allowed ROR is set at a point where the airport operator earns zero economic profits, then this will be socially desirable but may not be desirable to the operator because the fixed cost of operation may be so high that a loss will be incurred if the airport is operated at the socially desirable level.
- It may be difficult for the regulator to decide the capital base and depreciation policy used in determining the allowed ROR: for example, whether a capital investment item should be measured as replacement costs or historical costs. In the case of the AAHK, whether to include the large amount of land granted to the AA NewCo by the government as part of the capital base may generate vigorous debate amongst different interest parties in the industry.
- Information required by the regulator to calculate an allowed ROR is sometimes asymmetric and imperfect (a common problem with monopolies).

An airport operator may try to overstate its costs because the higher the cost, the higher the prices required to recover the ROR.

- To obtain such imperfect private information may cause the regulator to incur a high regulatory cost.
- Potential bureaucratic approval procedures may result in unresponsiveness to any market changes.
- The airport operator may choose to employ a higher capital-labour ratio (over investment) than it would under cost minimization given that the allowed ROR is higher than its actual cost of capital: that is, the Averch-Johnson Effect¹⁹. The operator may over-invest to increase its assets base to justify a larger profit given the allowed ROR.
- The incentives of the airport operator to keep its operating costs down may be distorted if they can be passed through to their users, and the ‘*guaranteed return*’ reduces the operator’s incentives to manage its costs and investments: that is, cost inefficiency.

The electricity market in Hong Kong is currently regulated under a ROR framework. The Scheme of Control (1993-2008) allows the two power companies, Hongkong Electric (HKE) and the China Light and Power Group (CLP) to tie their profits to the spending on power assets and to achieve an annual rate of return between 13.5% and 15% on net fixed assets²⁰. Over the last decade, the two power companies have experienced the common weakness of ROR regulation – over-investment: the combined net fixed assets of HKE and CLP have grown by 60%, while the total

¹⁹ Averch-Johnson (1962)

²⁰ HKE and CLP have enjoyed higher returns (18% – 22% in 1998 – 2001) than power companies in the US (average 9%) and Europe (average 11%)

capacity demand has risen by only 36% (Table 2.1). In late December 2004, HKE decided to raise its electricity tariffs by an average of 6.5% in 2005 to respond to its failure to earn the permitted return for two consecutive financial years and the increase in fuel cost. CLP decided to continue to freeze its tariffs but to stop offering rebates. The increase in tariff and removal of concessional rebates have been criticized by both politicians and the general public. Although the two power companies argued that a change in the tariff regulation framework may affect the stability of power supply and power investment in the long term, the government decided to initiate a 2-stage consultation on a new regulatory framework for the electricity market in January 2005, and the public is invited to express views.

Table 2.1: Changes in Net Fixed Assets Value & Total Electricity Demand (FY94 – FY03)

	FY94	FY03	Changes (%)
Net Fixed Assets (HK\$ mn)			
CLP	43,131	66,711	55
HKE	24,590	45,104	83
Total	67,721	111,815	65
Capacity Sold (millions of kWh)			
CLP	22,297	31,043	39
Domestic	20,583	28,035	36
Export	1,714	3,008	75
HKE	8,257	10,413	26
Total	30,554	41,456	36

Note : Financial year ended as of 31 December, Year (t)

Source : Annual reports FY 03, CLP & HKE

The recent toll increase proposed by the Eastern Harbour Crossing has once again raised social concerns about the fairness of the ‘guaranteed’ rate of return permitted to the operator at the expenses of the public users.

2.2.2 Price-Cap Regulation

2.2.2.1 Background

The idea of price-cap regulation was first put in practice by Dr Stephen Littlechild in the privatization of the British Telecommunications plc (British Telecom) in 1983²¹. Since then, price-cap regulation has been widely adopted in the telecommunications, energy and infrastructure industries in the world.

2.2.2.2 Standard Form

Under a price-cap regulation, the regulator sets a ceiling for the charges that an airport operator can charge for its regulated services for a period of years. Unlike ROR regulation, which allows the operator to increase charges to recover all related costs, the price-cap mechanism only allows the firm to recover *unavoidable* cost increases such as tax or inflation through raising airport charges. Both parties share the market risks.

A simple generic price-cap formula is as follows:

$$\Delta P\% = I - x,$$

where

$\Delta P\%$ = maximum % price change allowed by the regulator

I = Inflation factor for the period

x = Efficiency adjustment factor

²¹ Littlechild, S. (1983) *Regulation of British Telecommunications' profitability: report to the Secretary of State, February 1983*. London, Department of Industry

(i) *Inflation factor (I-factor)*

The *I-factor* must be able to reflect changes in the operator's costs, be available from a reliable and credible source and not be subject to frequent revision. A common pick is the Consumer Price Index (CPI) or the Retail Price Index (RPI).

(ii) *Efficiency adjustment factor (x)*

The regulator sets the *x-factor* exogenously to allow the users of the regulated services to benefit from cost reductions and efficiency improvements without reducing the incentives of the operator to undertake operations that create these efficiencies. If the operator achieves an efficiency higher than the pre-set value of *x-factor*, then it will be allowed to keep any savings as profits. However, if it fails to retain the efficiency above or equal to the pre-set value of *x-factor*, then it will incur a loss. A key question is how to determine this *x-factor*. It should be set to promise users more benefits relative to other alternative regulatory mechanisms. If the *x-factor* is set too low, then the operator will be able to earn excessive profits, but if it is too high, then the operator may not be able to meet its revenue requirement. A standard price-cap regulation is a $(RPI - x)$ in the UK and $(CPI - x)$ in Australia.

Since the privatization of British Telecom in the mid-1980s, more regulators across the globe have chosen the price-cap framework to regulate their privatized airports simply because it provides a number of advantages.

- Airport operators take the cap as given and try to minimize costs and invest at levels that are efficient; they are motivated to do this because they can keep whatever profits they earn.

- Airport operators have incentives to introduce new products and services to improve efficiency and profits.
- Users are protected by limiting price increases and also gain certain benefits through the efficiency improvement (*x-factor*) of the regulated services provided by the operators.
- Airport charges are likely to be lower than they would be under the ROR mode because the rise in charges will always be slower than the general inflation rate as long as the *x-factor* is positive.
- As price-cap regulation is transparent and simpler to manage by the regulators (including setting the price-cap and re-setting it regularly), the administrative cost is lower.

However, price-cap regulation has certain disadvantages.

- There are practical difficulties in setting the base price and an appropriate *x-factor* that can provide incentives for airport operators to improve efficiency and generate benefits for end-users.
- The cost minimization exercise is usually associated with deterioration in service quality that is not easy to observe and is expensive to measure; airport operators may also be more reluctant to invest in quality improvement projects.

2.2.3 Performance Measures

2.2.3.1 Quality of Service

Given that one of the main weaknesses of price-cap regulation is deterioration of service quality, the UK aviation regulator, the Civil Aviation Authority (CAA) was the

first to start discussions on incorporating a measure of service quality in the economic regulatory framework²². This additional measure is supposed to encourage the airport operators to maintain their standards of service and protect the public interest. As the service quality cannot be easily quantified and is difficult to measure, the regulator itself or an independent agency must be engaged to set the level of service quality performed by the regulated operators and be responsible for carrying out regular surveys to monitor the quality provided.

Airlines, passengers and shippers are the major users of airports, and constant surveys on to judge their satisfaction and solicit feedback regarding service quality are crucial for the operators to improve their performance. Here we suggest a list of potential parameters/factors that can be incorporated in to the regulatory framework.

(i) Passengers

- Delays and waiting time: queuing time spent at check-in counters, custom/immigration counters, transit counters, security screening counters, the boarding gate, baggage claim area and car parks.
- Availability of the facilities: information display monitors, seating in departure and arrival halls, baggage trolleys, spaces in the car parks, public transportation (e.g. airport coach, railway and taxi), designated smoking area, restaurants, retail shops and airlines lounges.
- Accuracy of the information provided: accurate information on flight schedules, designated baggage-claim conveyer belts, directory of airport facilities and information booths.

²² Although the CAA decided not to incorporate service quality as one of the factors in the price-cap formulae, there are separate rebate schemes for service quality implemented in Heathrow and Gatwick airports (CAA 2003a).

- Serviceability of the facilities: size of the departure and arrival halls, cleanliness and general quality standards of the airport facilities, and staff availability and helpfulness.

(ii) *Airlines/Shippers*

- Quality of air control services at the airport: clear and define communications and directions given by air controllers to the pilots.
- Delays and waiting time: time spent on airborne holding, landing, take-off, tax-in/out, obtaining permission for clearance, parking, terminal aerobridge connection, baggage/cargo loading systems, fuel filling, aircraft cleaning and maintenance.
- Availability and quality of the facilities: runway, taxiway, parking stands, lighting, aerobridges, electricity and fuel supply facilities, repair and maintenance services.

Other than conducting surveys, service quality rating agencies can be set up to monitor and assess the airports. A *penalty* (or reward) scheme can be established to fine those airport operators whose service qualities have been rated poorly (or highly) by airlines, passengers and shippers. By taking all of these measures, the *deterioration of service quality* weakness brought about by the price-cap regulation can be minimized.

2.2.3.2 Productivity and Costs

Given the rise of intense competition from neighbouring airports, the aviation industry in Hong Kong should always be aware of the HKIA's competitive strengths. Apart

from incorporating service quality measurement into the regulatory framework, we also recommend two other performance indicators, *productivity* and *costs*, which are commonly used by the industry to evaluate airport competitiveness.

(i) *Productivity*

Several factors related to the productivity of the HKIA can be considered, and the relevant operating indicators can be easily obtained and measured across the aviation industry²³.

(a) Labour productivity

- ♦ Passengers per staff member
- ♦ Cargo volume per staff member
- ♦ Aircraft movements per staff member
- ♦ Work load unit²⁴ per staff member
- ♦ Total output per staff member

(b) Productivity of capital expenditure on airport facilities

- ♦ Aircraft movements per runway
- ♦ Passengers per gate
- ♦ Passengers per area of terminal (m²)

(c) Others

- ♦ Percentage of cargo in total traffic
- ♦ Percentage of passengers in total traffic

²³ Airport Benchmarking Report 2004, Air Transport Research Society.

²⁴ Work load unit (WLU) is an output measure of combining the passenger and cargo traffic volume. It is defined as a passenger or 100 kg of cargo.

- ♦ Average aircraft size

(ii) *Costs*

There are differences in cost structures amongst airports, so it is not very meaningful to compare the absolute costs incurred. Hence, we can consider different key operating costs as percentage shares of total cost as cost performance indicators.

- Labour cost as a percentage share of total operating costs
- Depreciation and amortisation cost as percentage share of total operating costs
- Average unit of operating cost (total cost incurred to produce one unit of aggregate output)

By using these input-output data, the government should consider conducting benchmarking studies to establish a more desirable and effective regulatory framework. For instance, we could understand much more clearly the competitiveness of the HKIA by benchmarking it with other airports in the region (such as Guangzhou, Shenzhen, Beijing, Shanghai, Bangkok, and Singapore).

2.2.4 Other Common Regulations

2.2.4.1 Yardstick Regulation

This option is also known as *comparative regulation*. The yardstick regulation mechanism allows airport operators to change their airport charges in line with the ‘market prices’ generated in a competitive market. The underlying rationale is to provide a competitive environment.

This option is simple and easy to implement as the problem of asymmetric information between the operator and the regulator can be significantly reduced because the regulator can obtain standard information submitted by a number of competitors, and by analysing this information can obtain a better understanding of costs and performance. However, the main disadvantages are the difficulties in carrying out performance comparisons between competitors and collecting large amounts of information to support the analysis. This option requires the existence of a competitive market and a reliable source of performance information submitted by competitors. It is not well-adopted in airport privatization given the natural monopolistic nature of airports. Airports are very different across jurisdictions, and the cost structure may not be similar between airports. Therefore, it is very difficult to find the *competitive market price*.

2.2.4.2 Trigger Regulation

This option relies on the potential intervention of the regulator to constrain the airport operator from increasing charges unfairly. The regulator has the power to intervene and set the level of charges, but only when a complaint is received and a response must be made. In game theory terms, the regulator uses a credible threat to achieve an optimal outcome without any concrete action. That is, any unfair pricing strategy will result in a worse-off outcome. Notice that this option is in line with the *laissez-faire* principle.

The very obvious advantage of this option is that neither the airport nor the regulator incurs costs unless the regulatory intervention is triggered. Moreover, the airport operator would have a considerable degree of freedom to set and change charges in

response to any market change, and the cost minimization result means an efficiency gain. This provides an incentive for the airport to perform better.

The main disadvantage of this option is that the triggering mechanism may be abused by, say, ungrounded complaints. Without any measurement to deal with this, the mechanism may become a means of achieving political purposes. Another difficulty lies in determining 'fair prices'. It follows that whether prices are fairly set must be judged case by case.

2.2.4.3 Automatic Rate Adjustment

In contrast to the yardstick competition, automatic rate adjustment regulation allows the airport charges to change automatically to cover costs, which means that any cash flow problem would be minimized. Hence, this option guarantees that the airport operator can operate above a break-even point. However, because any increase in costs will automatically be passed through to the users, the airport operator may have the incentive to over-invest and operate inefficiently, as in the case of ROR regulation.

2.3 Single-Till versus Dual-Till

Single-till and dual-till are the two common approaches to deciding on whether the non-aeronautical (commercial) profits should be included in the price formula under any type of price regulation framework, and particularly under price-cap regulation. A single-till approach involves taking account of revenue, costs and assets from commercial activities along with aeronautical activities when calculating the price of aeronautical activities: that is, airport charges. A dual-till approach separates airport

activities into two tills (aeronautical and commercial), where the setting of airport charges is solely determined by the aeronautical activities.

2.3.1 Single-Till Approach

Under the single-till approach, operating profits from *all* airport activities, including both aeronautical and commercial operations, are included in determining the regulated airport charges. This approach allows aeronautical and commercial businesses to *subsidize* each other so that the airport charges are likely to be lower than the level under the dual-till approach.

The single-till mechanism has several key advantages.

- Commercial revenues can be used to lower airport charges, which would be of benefit to airlines, passengers and shippers.
- Due to the strong links between the demands and costs of aeronautical and commercial services at airports, airlines, passengers and shippers not only contribute revenues to airport operators through the use of aeronautical facilities, but also through commercial activities, such as shopping and dining at airports. It would be efficient in economic terms for the users that the airport charges are subsidized by the commercial services.

However, there are some criticisms of the single-till approach.

- Airport charges are partly determined by commercial services performance; with a higher resistance to raising charges the airport operator may lack incentives to expand its aeronautical capacity to meet increasing demand over time, resulting in congestion.

- If the airport is already congested, then further congestion may be created as the lower airport charges implied by the single-till approach will generate higher airport traffic flow.

2.3.2 Dual-Till Approach

Under a dual-till approach, the regulated airport charges are determined solely by the aeronautical operations. Without a ‘cross-subsidy’ from the commercial side and with the comparatively lower profitability of the aeronautical side, airport charges will usually end up at higher levels than under the single-till approach.

The airport operator enjoys the most benefits under a dual-till mechanism.

- It gains a clear and stable picture of airport charges due to their disconnection from commercial revenues.
- In theory, the dual-till approach achieves a balance between the demand for and supply of aeronautical services by setting prices based solely on the aeronautical side to reduce congestions effectively.
- Given the subsequent higher airport charges under a dual-till mechanism, the airport operator may have incentives to invest in aeronautical facilities and, consequently, reduce congestion.
- The airport operator may generate higher total returns when compared to a single-till approach because a dual-till approach allows it to earn higher aeronautical revenues along with unregulated commercial revenues.

However, airport *users* may find the dual-till approach disadvantageous.

- Although regulator intervention is limited to regulated aeronautical business,

there are practical difficulties in the design of a dual-till structure which may lead to a very complicated and complex arrangement that actually involves greater than necessary intervention from regulator.

- Airport charges can be increased at a much faster pace than under the single-till mechanism because no subsidizing effect can be produced without taking non-aeronautical revenues into consideration.
- The naturally monopolistic nature of airports may cause the operator to under-invest in aeronautical capacity to create a need to increase airport charges in relieving congestion. This would definitely damage the competitiveness of the airport because any increase in charges would be directly transferred to the users, and it would dampen the public benefit.
- A monopolistic airport operator that has congestion issues may intend to allocate even less space to aeronautical services to create a larger passenger flow in the commercial area and force them to spend more time in the retail and other commercial areas due to delays caused by congestion, which will generate higher income from the commercial side. This increase in commercial revenues is earned at the expense of the airlines (a negative externality to the airlines is created) given that the passengers have experienced lower service quality.
- This approach requires more detailed cost allocation between aeronautical and commercial activities, and there are practical difficulties in defining and separating the two streams of business because they are usually interdependent; in addition, it may incur higher contractual cost and administrative expenses.

In LegCo Paper Jan 05, the government indicated its preference for adopting a dual-till approach in regulating the airport charges after privatization: *“the Government’s current proposal is to split AA’s asset base into aeronautical and non-aeronautical parts. Airport charges would then be determined based on a rate of return lower than the full commercial rate...to reflect the relatively lower risk profile of this part of business”*. In our view, the selection of a single-till or dual-till arrangement is not a simple decision-making process. The final pick is a matter of judgement. The key disadvantage of the single-till approach is congestion. However, the problem of congestion may be caused by the ineffective management of airport operators. The existence of external limitations on developing aeronautical facilities such as shortages of land and lack of development space are also responsible for the issue. In contrast, airport operators are the key supporters of the dual-till approach, as it means that they are able to earn much higher returns from aeronautical activities and can decide where the investment should be injected, either in aeronautical or commercial expansion.

2.4 Economic Regulation and Efficiency

Here, we draw on the comprehensive empirical study of Oum, Zhang and Zhang (2004) again. Apart from looking at the productivity of both privately and publicly owned airports, they also classified the 60 selected major international airports into four categories:

- (i) single-till price-cap (Table 2.2);
- (ii) dual-till price-cap (Table 2.3);
- (iii) single-till ROR (Table 2.4)²⁵; and
- (iv) other regulatory modes (Table 2.5).

²⁵ They did not include dual-till ROR cases.

Table 2.2: Airport Regulation Options – Single-Till Price-Cap Regulation

Name of Airport	Current Ownership	Country
Single-Till Price-Cap Regulation		
Auckland International Airport	Major Private	New Zealand
Christchurch International Airport	Private	New Zealand
London Gatwick International Airport ^a	Private	UK
London Heathrow International Airport ^a	Private	UK
Manchester International Airport	Public	UK
Stockholm Arlanda International Airport	Public	Sweden
Residual Cost-Plus Regulation		
Chicago O’Hare International Airport ^a	Public	US
Cincinnati/Northern Kentucky International Airport ^a	Public	US
Detroit Metropolitan International Airport ^a	Public	US
Miami International Airport	Public	US
Orlando International Airport	Public	US
San Francisco International Airport	Public	US

Note : ^a Congested airport

Source : Oum, Zhang and Zhang (2004)

Selected airports in the US were categorized into ‘residual cost plus’ and ‘compensatory cost plus’, which belong to the single-till and dual-till price-cap groups, respectively.

They found that²⁶:

- (i) the capital input productivity would be the highest under the single-till price-cap, followed by the dual-till price-cap and the single-till ROR; and
- (ii) the total factor productivity would be greater under the dual-till price-cap than under either the single-till price-cap or the single-till ROR.

²⁶ The methodology of calculating productivities is given by Adler et al. (2002).

They concluded that price-cap regulation generally outperforms ROR regulation. This is consistent with the traditional economic reasoning, where ROR regulation tends to result in over-investment. Nevertheless, whether the single-till or dual-till approach is better is still left open. In terms of capital productivity the single-till approach is better, but in terms of total factor productivity, the dual-till approach is better.

Table 2.3: Airport Regulation Options – Dual-Till Price-Cap Regulation

Name of Airport	Current Ownership	Country
Dual-Till Price-Cap Regulation		
Copenhagen Kastrup International Airport	Major Private	Denmark
Melbourne International Airport	Private	Australia
Compensatory Cost-Plus Regulation		
Atlanta William B. Hartsfield International Airport	Public	US
Boston Logan International Airport ^a	Public	US
Houston-Bush International Airport	Public	US
LaGuardia International Airport ^a	Public	US
Los Angeles International Airport	Public	US
New York-John F. Kennedy International Airport ^a	Public	US
Newark International Airport ^a	Public	US
Salt Lake City International Airport	Public	US

Note : ^a Congested airport

Source : Oum, Zhang and Zhang (2004)

Table 2.4: Airport Regulation Options – Rate of Return Regulation

Name of Airport	Current Ownership	Country
ROR Regulation		
Flughafen Dusseldorf International Airport	Major Private	Germany
Baltimore Washington International Airport	Public	US
Barcelona El Prat International Airport	Public	Spain
Calgary International Airport	Public	Canada
Charlotte Douglas International Airport	Public	US
Dallas/Ft. Worth International Airport	Public	US
Denver-Stapleton International Airport	Public	US
Edmonton International Airport	Public	US
Frankfurt International Airport	Major Public	Germany
Honolulu International Airport	Public	US
Las Vegas McCarran International Airport	Public	US
Madrid Barajas International Airport	Public	Spain
Minneapolis/St. Paul International Airport ^a	Public	US
Montreal-Dorval International Airport	Public	Canada
Munich International Airport	Public	Germany
Philadelphia International Airport	Public	US
Phoenix-Sky Harbour International Airport ^a	Public	US
Portland International Airport	Public	US
Ronald Reagan Washington National Airport	Public	US
Sydney Kingsford Smith International Airport ^a	Private	Australia
Toronto-Lester B. Pearson International Airport	Public	Canada
Vancouver International Airport	Public	Canada
Washington Dulles International Airport	Public	US

Note : ^a Congested airport

Source : Oum, Zhang and Zhang (2004)

Table 2.5: Airport Regulation Options – Other Regulations

Name of Airport	Current Ownership	Country
Other Regulation Frameworks		
Vienna International Airport	Major Private	Austria
Amsterdam International Airport Chisholm	Major Public	Netherlands
Beijing Capital International Airport	Major Public	China
Kansai International Airport	Public	Japan
Milan Malpensa International Airport	Major Public	Italy
Zurich International Airport	Major Public	Switzerland
Rome Leonard DaVinci/Fiumicino International Airport	Private	Italy
Bangkok International Airport	Major Public	Thailand
Dublin International Airport	Public	Ireland
Geneva Cointrin International Airport	Public	Switzerland
Hong Kong International Airport	Public	China
Paris Charles De Gaulle International Airport	Public	France
Seoul Kimpo International Airport ^a	Public	South Korea
Singapore Changi International Airport	Public	Singapore
Tokyo Narita International Airport ^a	Public	Japan

Note : ^a Congested airport

Source : Oum, Zhang and Zhang (2004)

2.5 International Experience

2.5.1 UK Experience

This section focuses on the price-cap regulation adopted by the four major UK airports: 3 BAA London airports (Heathrow, Gatwick and Stansted) and Manchester airport. In 2001, the CAA published a series of discussion papers on the airport charges that would be adopted for the next five-year regulatory period from April 2003. After studying the comments submitted by various related parties in the industry, the CAA proposed an end to the single-till mechanism and the adoption of a dual-till mechanism. The proposal was then referred to the Competition Commission (UKCC) for review. In mid-2002, the UKCC rejected the CAA's proposal to switch to a

dual-till mechanism mainly because the arguments and evidence in support of a dual-till approach were not convincing, and because it received complaints from airlines about the BAA's failure to undertake the promised expansion of facilities²⁷. In November 2002, the CAA finally decided to scrap the switch to a dual-till mechanism and announced that it would continue with the single-till mechanism for the next five-year regulatory period²⁸.

The CAA has granted special treatment to Heathrow airport to provide appropriate incentives for its investment programmes, mainly the construction of Terminal 5. Given that a large amount of capital commitment is required to build the terminal²⁹, Heathrow argued that a ($RPI - x$) together with a single-till mechanism would simply not allow it to recover its project cost and there would be doubts about whether sufficient capital could be injected to finance the Terminal 5 project. Eventually, the CAA decided to allow Heathrow airport to adjust its airport charges with a higher than the inflation rate ($RPI + 6.5\%$) from April 2004 to encourage it to complete the Terminal 5 project. However, to ensure that BAA carrying out its project commitment promptly, the CAA has introduced an additional trigger variable for Heathrow and Gatwick starting from April 2005, which is a penalty mechanism to reduce the maximum allowable charges if the airport has not achieved particular capital investment project milestones on time³⁰. The value of the X parameters currently used by the CAA in calculating the price-cap are listed in Table 2.6.

²⁷ UKCC (2002)

²⁸ CAA (2003 a,b)

²⁹ The total project cost is estimated at £4.2 billion, the construction commenced in the summer of 2002, and phase one (including main terminal building) is expected to be completed in 2008, with the completion of the whole project expected in 2011.

³⁰ Details of these variables are rather technical and can be found in CAA (2003a, b).

Table 2.6: Parameter Values for the UK Airports Price-Cap Formulae: April 2003 – Now

UK Airport	X
Heathrow	-6.5%
Gatwick	0%
Stansted	0%
Manchester	5%

Source : Civil Aviation Authority

Given that the UK price-cap regulation framework has been in use for nearly 20 years, it is one of the most well-developed airport price-regulations mechanisms in the world. The service quality rebate schemes³¹ and the additional trigger variable are two valuable references for the Hong Kong regulator to consider because a high level of service quality will be one of the key factors in maintaining the HKIA's leading industry position, and given that the AAHK has announced various large-scale capital investment plans (such as SkyPlaza), a penalty scheme may encourage AA NewCo to closely monitor the progress of the projects.

2.5.2 Australia Experience

2.5.2.1 Background

The airports under the control of the FAC have their airport charges subjected to price monitoring by the Prices Surveillance Authority under the *Price Surveillance Act 1983*. Since the 2-stage FAC airport privatization in 1997/98, 12 airports³² were designated as core-regulated airports under the *Airports Act 1996*. 11 of them (except Kingsford Smith airport in Sydney) had their aeronautical services subject to a simple dual-till

³¹ Rebate schemes are under reviewed by the CAA, and any changes in the derivation methodology of rebates will be announced in early 2005.

³² Adelaide, Alice Springs, Brisbane, Canberra, Coolangatta, Darwin, Hobart, Launceston, Melbourne, Perth, Sydney, and Townsville

‘CPI – X’ price-cap formula for five years. Each airport’s x value was set differently by the government as advised by the Australian Competition and Consumer Commission (ACCC). Table 2.7 lists the x value of individual privatized airports: the higher the value, the higher expected traffic flow that the airport was expected to have at the time of privatization.

Kingsford Smith Airport’s aeronautical services were subject to price surveillance by the ACCC under the *Prices Surveillance Act 1983* until its privatization in 2002. Since then, only its regional air services charges have been subject to a five-year price-cap regulation, where regional air services are defined as regular air services operating solely within the State of New South Wales.

Table 2.7: Australia Airports x Values and Inflation Rate: 1997 – 2002

Australia Airport	1997 – 2001	Oct 2001 – Jun 2002
Adelaide	4.0%	Replaced by price monitoring
Alice Springs	3.0%	Regulation removed
Brisbane	4.5%	6.7%
Canberra	1.0%	Replaced by price monitoring
Coolangatta	4.5%	Regulation removed
Darwin	3.0%	Replaced by price monitoring
Hobart	3.0%	Regulation removed
Launceston	2.5%	Regulation removed
Melbourne	4.0%	6.2%
Perth	5.5%	7.2%
Townsville	1.0%	Regulation removed
Average inflation rate^a	2.2%	2.8%

Note : ^a www.rba.gov.au/Statistics/

Source : ACCC

2.5.2.2 Reform of Price-Cap Regulation

Within the first five-year of price-cap regulation, apart from the Sydney and Townsville airports, all of the remaining 10 airports in the core-regulated portfolio were loss-making (Table 2.8), and were severely hit by a significant reduction in air travel demand due to the September 11 terrorist attack on the US and the bankruptcy of Ansett Airlines in 2001 (Tables 2.9-2.11).

Table 2.8: Selected Financial Performance of Core-regulated Airports, FY00

Airports	Earning Before Interest and Tax (EBIT) (A\$mn)	Profit/(-Loss) after interest and tax (A\$mn)
Adelaide	25.4	-7.1
Alice Springs	0.3	-2.7
Brisbane	68.3	-112.7
Canberra	3.7	-2.2
Coolangatta	3.2	-2.0
Darwin	0.6	-10.1
Hobart	1.8	-0.2
Launceston	1.2	-0.2
Melbourne	87.2	-20.3
Perth	29.4	-22.4
Sydney	120.2	42.8
Townsville	1.4	0.1

Note : FY ended as of 30 June, Year (t)

Source : ACCC

The government agreed with the aviation industry to review the price-cap regulation, and in late 2000 it engaged the Productivity Commission to carry out a review of the price-cap regulatory framework of the 12 core-regulated airports. The Commission submitted a draft report in August 2001 with the final report, the *Price Regulation of Airport Services – Inquiry Report*, published in January 2002.

Table 2.9: Total Passengers Growth (%) for Selected Airports, 1998/99 – 2003/04

	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Adelaide ^a	3	3	6	-6	4	13
Alice Springs	3	-3	-8	-22	2	6
Brisbane ^a	1	7	18	-6	1	16
Canberra	0	8	7	-13	4	20
Darwin ^a	2	3	2	-11	2	9
Hobart ^b	1	6	7	-2	5	21
Launceston	-2	1	-4	2	8	16
Mount Isa	21	1	-5	-34	-1	12
Melbourne ^a	2	7	11	-5	3	14
Perth ^a	1	5	6	-8	9	13
Sydney ^a	3	7	12	-10	1	11
Townsville ^c	4	4	7	-5	12	19

Notes : ^a Represents international airports

^b International operations ceased in April 1999

^c International operations ceased in February 1999

Source : Bureau of Transport and Regional Economics, Australia

Table 2.10: Total Cargo Growth for Selected Airports, 1998/99 – 2003/04

Airports	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Adelaide ^a	-5	15	15	-17	15	11
Brisbane ^a	-3	6	2	-6	-2	-5
Darwin ^a	-24	36	-16	-14	-45	5
Melbourne ^a	4	24	-5	-5	6	-5
Perth ^a	-4	7	8	-6	0	4
Sydney ^a	0	-1	-5	-3	-4	0

Note : ^a Represents international airports. There is no cargo statistics for non-international airports reported by the Bureau of Transport and Regional Economics

Source : Bureau of Transport and Regional Economics, Australia

Table 2.11: Total Aircraft Movement Growth (%) for Selected Airports, 1998/99 – 2003/04

Airports	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04
Adelaide ^a	2	-2	3	-10	0	1
Alice Springs	-4	0	-12	-30	-3	3
Brisbane ^a	3	3	14	-17	-7	5
Canberra	-1	8	26	-23	-9	7
Darwin ^a	6	-11	-1	-22	0	-5
Hobart ^b	9	11	41	-19	-7	7
Launceston	-3	5	4	-30	-11	4
Mount Isa	40	0	-7	-32	5	-4
Melbourne ^a	2	6	16	-16	0	5
Perth ^a	-4	4	1	-20	6	6
Sydney ^a	0	3	11	-20	-1	6
Townsville ^c	3	0	6	-33	19	12

Notes : ^a Represents international airports

^b International operations ceased in April 1998

^c International operations ceased in February 1999

Source : Bureau of Transport and Regional Economics, Australia

As recommended by Productivity Commission, the government started to loosen the regulatory framework for the core-regulated airports: it was either completely removed or switched to a ‘price monitoring’ mechanism (Table 2.7). According to the *Price Regulation of Airport Services – Inquiry Report (2002)*, the following concrete changes are being made in the second 5-year period (October 2001 to September 2006).

- A ‘once-off’ increase of airport charges for the Melbourne, Brisbane and Perth airports³³ with all other aspects of the price-cap arrangements remaining unchanged.
- The replacement of price-caps on aeronautical activities at the Adelaide, Canberra and Darwin airports with a price monitoring scheme.
- No price regulation for the Coolangatta, Alice Springs, Hobart, Launceston and Townsville airports.

³³ Up to 6.2%, 6.7% and 7.2% respectively.

- No price regulation changes for Kingsford Smith Airport in Sydney.

In June 2002, the government decided to remove all price regulations and replace them with the price monitoring mechanism. Larger airports, including Kingsford Smith, are now subject to price monitoring, with no regulation at all on the smaller airports.

2.5.2.3 Price Monitoring Mechanism

The mechanism is a light-handed regulation measurement compared to price-cap and ROR types. Airport operators are required to submit information on prices, costs and profits to the ACCC, which no longer has direct regulatory control over the prices charged or profit earned. Although operators now have a larger scope to exercise market power on price setting, the government has indicated that price regulations will be imposed again if any abuses of market power are found or performance is poor.

The Australian case has not provided much reference value in terms of the setting of price-cap formulae. However, an important lesson conveyed is the switching away from the price-cap to a much looser price-monitoring framework. The main reason for this was financial underperformance and a certain degree of regional competition. We have reservations about adopting the loose price monitoring mechanism in Hong Kong as the initial price regulatory framework because the HKIA does not have any financial difficulties and although there is a certain degree of competition from neighbouring airports, it may not be perfect due to product and geographical differentiation. In addition, loose regulation may lead to abuses of the AAHK's monopolistic power on setting airport charges. Hence, a comparatively more rigid price-cap regulation would be preferable to protect the public interest.

3 The Future of the Aviation Industry in Hong Kong

3.1 Introduction

The HKIA opened in July 1998 and handled more than 37 million passengers and 3.1 million tonnes of cargo in 2004³⁴. It is the 2nd largest airport after the FedEx hub airport in Memphis, USA³⁵ in cargo handling, and handled the most international passenger throughput in the Asia-Pacific region in 2003. 72 airlines operate at the HKIA with over 4,500 flights per week³⁶ to and from 136 destinations worldwide. The aviation industry plays a critical role in the prosperity and economic development of Hong Kong and the Pearl River Delta³⁷, and its importance has steadily increased.

A good understanding of how the aviation industry links to the rest of the local economy is essential to making any sound policy recommendations. The design of a regulatory framework should also consider the competitive environment faced by the HKIA. Although it has long enjoyed a leading role as the main air transport gateway for South China, there are several key drivers that will allow the HKIA to grow and maintain that position. However, the ‘open skies’ liberalization policy on the Mainland and the rising competition from the rapid development of neighbouring airports have created challenges for the HKIA.

³⁴ “*Finalized Civil International Air Traffic Statistics at HKIA for Calendar Year 2004*”, AAHK

³⁵ Airport Benchmarking Report 2004.

³⁶ Civil Aviation Department, March 2005.

³⁷ The Pearl River Delta includes Shenzhen, Guangzhou, Dongguan, Foshan, Zhuhai, Zhongshan, Huizhou, Jiangmen, and Zhaoqing.

Table 3.1: Scheduled Destinations Served at HKIA

	No. of Destinations
North Asia ^a	50
South East Asia ^b	23
Australasia	9
Middle East/Indian-Subcontinent/West Asia ^c	17
Europe ^d	19
Africa	4
North America ^e	14
Total	136

Notes : ^a Freighter services only to Kamatsu airport

^b Freighter services only to Clark and Subic Bay airports

^c Freighter services only to Chennai, Damman, Jeddah, Kuwait, and Sharjah airports

^d Freighter services only to Brussels, Cologne, Gothenburg, London Stansted, Luxembourg, Manchester, Milan Malpensa, and Novosibirsk airports

^e Freighter services only to Columbus, Dallas, Louisville, Memphis, and Oakland airports

Source : Annual report FY04, AAHK

3.2 The Importance of Aviation to the Hong Kong Economy

The air transport industry not only generates income of its own via provision of services to their users (i.e. airlines, passengers and shippers) directly, but also indirectly nurtures the development of several related sectors.

In 2003, the HKIA was ranked among the top airports in handling international passengers in the world. The business and revenues that visitors brought to the HKIA, airlines, flight catering service providers and other aviation auxiliary service providers, also flowed indirectly to the tourism and hotel industries. According to the Census and Statistics Department, the value-added to the Hong Kong economy by the air transport industry³⁸ amounted to HK\$22.7 billion (about 1.93% of total GDP) in 2003.

³⁸ The industry includes Hong Kong-based airline and helicopter companies, local representative offices of overseas airline companies and supporting services.

Although this figure was less than that of 2002 mainly due to the outbreak of SARS, it was still higher than what the sea and land transport sectors contributed during the same period. The air transport related industries (incidental industries) include travel agents and airline ticket agents (outbound)³⁹ and air cargo forwarding services, which together added about HK\$8.0 billion of value (about 0.68% of total GDP) to the local economy.

The tourism industry is one of the primary beneficiaries of the increasing flow of visitors. We estimate the value added to the Hong Kong economy by inbound visitor via air with spending amounted to about \$7.2 billion (about 0.6% of total GDP) in 2003⁴⁰. The Free Individual Travel Scheme promoted by the Chinese government which currently covers 158 million people on the Mainland⁴¹ and the opening of Hong Kong Disneyland in September this year will definitely further benefit the air transport and tourism industries.

The import/export trade sector has been one of the pillar industries in Hong Kong for a very long time due to its privileged position as the main gateway to and from the Mainland. Apart from being one of the busiest airports in handling cargos in the world, the HKIA is also one of the key airfreight hubs in South China. Finished goods manufactured in South China are usually transported to Hong Kong by land and then overseas from Hong Kong by air. This has made Hong Kong an important re-export

³⁹ This includes value added that is derived from all means of transport and services in organizing local tours for local residents, as the Census and Statistics Department provides no further breakdown. The measure may therefore overestimate the contribution of the aviation sector. However, as its share of GDP is small (0.2% in 2003), we believe that the measurement error is insignificant.

⁴⁰ Only inbound tourism is taken into account.

⁴¹ Hong Kong Tourism Board

hub for China and has created strategic opportunities for the development of logistic businesses in Hong Kong. Imports to Hong Kong also depend relatively heavily on air transport. More than one-third of imports (in terms of import value) rely on airlines for delivery, with the share continually increasing. The total contribution of trade service by means of air is estimated to be 6.2% of GDP in 2003, which is the largest share amongst the four sectors that we studied.

Table 3.2: Economic Contribution of Aviation Industry

Related Sectors	2001		2002		2003	
	HK\$ mn	Share of GDP(%)	HK\$ mn	Share of GDP(%)	HK\$ mn	Share of GDP(%)
Air transport	20,894	1.72	26,386	2.19	22,695	1.93
Incidental industries	8,102	0.66	7,967	0.66	7,962	0.68
Trade	61,404	5.05	66,251	5.49	73,013	6.20
Tourism	9,759	0.80	10,842	0.90	7,192	0.61
Total Contribution	100,068	8.23	111,446	9.24	110,862	9.41
GDP at factor cost	1,215,354		1,206,150		1,177,668	

Sources : CSDHK and APRC

By our estimation, the overall contribution from all of these aviation-related sectors to the Hong Kong economy is 9.41% in 2003⁴² (Table 3.2).

3.3 Key Drivers of Growth in the Aviation Industry

The aviation industry is expected to play an even greater role in the economy in the future as the overall contribution from the sector is likely to expand at a much quicker pace on the back of:

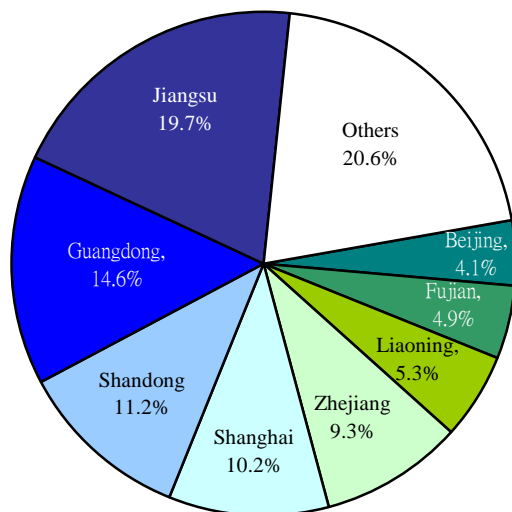
⁴² The value added figures of related sectors may be underestimated due to several prudent and strict assumptions that the APRC used in the study.

- the continued growth of Guangdong as the manufacturing heartland of China;
- a change in the preferred mode of transportation;
- the emergence of China as one of the world’s largest tourism markets;
- an enhancement in the appeal of the region as a tourist destination; and
- more liberal access for China’s airlines into Hong Kong and vice versa.

3.3.1 Continued Growth of Guangdong as the Manufacturing Heartland of China

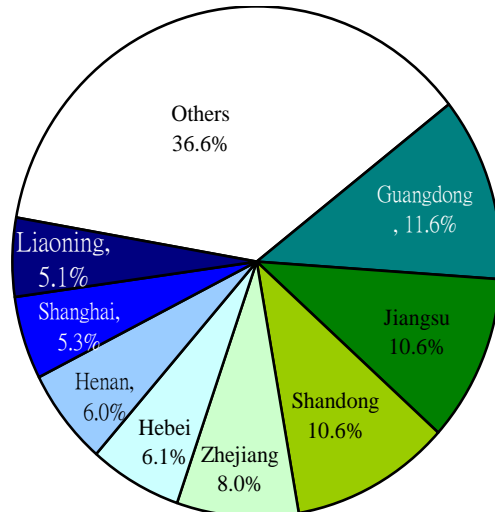
The key to the China’s rapid economic development over the past 30 years has been the progressive liberalization of its markets. This has attracted considerable foreign direct investment (FDI), which is a key driver to growth for air traffic. FDI inflows topped US\$54 billion in 2003⁴³. This has resulted in trade expansion that averaged 7% per annum for the period.

Figure 3.1: Proportion of FDI of Different Provinces, 2003



Note : FDI National Total in 2003:US\$53,505 mn
Source : China Statistical Yearbook (2004)

Figure 3.2: Proportion of GDP of Different Provinces, 2003

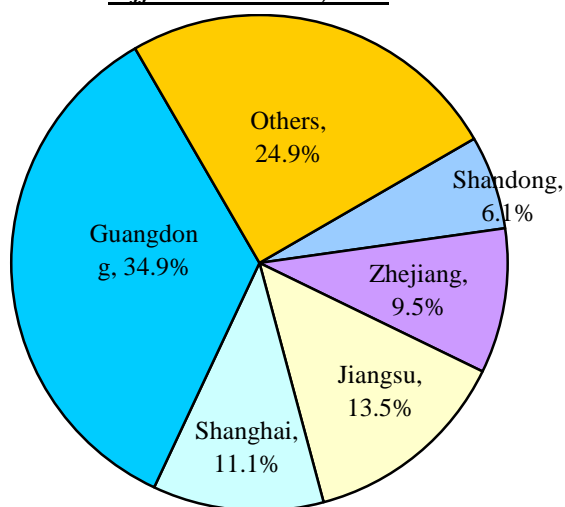


Note : GDP National Total in 2003: RMB11,725.2 bn
Source : China Statistical Yearbook (2004)

⁴³ United Nations Conference on Trade and Development (UNCTAD), “World Investment Report 2004: The Shift Towards Services”, 2004

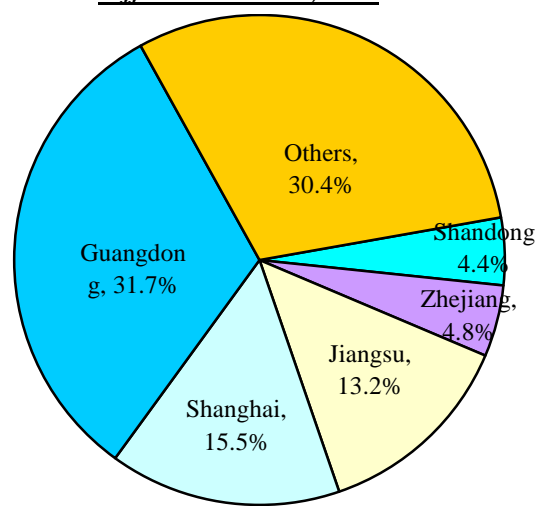
The distribution of FDI has been highly uneven, with the coastal regions drawing in the bulk of the inflow. Guangdong has been one of the most successful provinces in attracting FDI to date (accounting for 14.6% of the nation's FDI in 2003), and as a result has also been at the forefront of the country's industrialization. With industrialization, imports and exports have surged and it is not surprising that the region has experienced robust economic growth and urbanization. In 2003, Guangdong accounted for 11.6% of the country's GDP, the biggest individual provincial GDP achiever in China. Guangdong also plays a leading role in the country's export and import trades; the province ranked first in both shares of national export (34.7%) and import (31.7%) value amongst the provinces in 2003.

Figure 3.3: Proportion of Exports of Different Provinces, 2003



Note : National Total Export Value in 2003:
US\$ 412.8 bn
Source : China Statistical Yearbooks (2000 – 2004)

Figure 3.4: Proportion of Imports of Different Provinces, 2003



Note : National Total Import Value in 2003:
US\$438.2 bn
Source : China Statistical Yearbooks (2000 – 2004)

Guangdong is expected to continue to attract a significant amount of China's FDI mainly due to the country's commitment to further liberalize various sectors as a result

of its accession to the WTO in late 2001. It is worth noting, however, that compared to the heady levels of the 1990s, Guangdong's rate of FDI and export growth are both likely to be less dramatic in the future. Its share of the country's FDI and export trade may continue to decline as other regions, most notably the Yangtze River Delta, successfully attract large inflows of FDI and more export trade. That said, these trends are not indicative of the coming demise of Guangdong; instead, they serve to illustrate the economic liberalization and development that is taking place in other parts of the country.

3.3.2 A Change in the Preferred Mode of Transportation

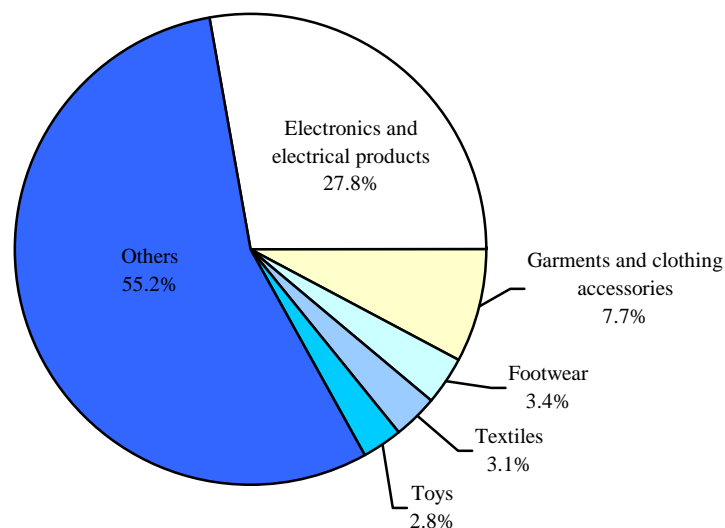
According to the Hong Kong Trade Development Council, 68% of FDI⁴⁴ in Guangdong is engaged in manufacturing industries. The products produced include textiles, garments, footwear, toys, computing products, biological products, mechanical products, electrical products and refined chemicals.

Looking ahead, manufacturing in the Pearl River Delta is likely to move up the value chain due to the increasingly high cost land and labour compared with the rest of the country. Gone will be the processing industries, which will be replaced by higher value-added manufacturing activities such as integrated circuits, higher-end clothing items and electronic goods. Additionally, companies are adopting more efficient manufacturing/distribution techniques to drive down inventories and free-up working capital. These factors combined will be likely to result in a shift from sea freight to air freight as the preferred mode of transportation for materials shipped into and out of the region.

⁴⁴ Hong Kong Trade Development Council, "Economic and Trade Information on Hong Kong" (www.tdctrade.com).

This potential for growth has encouraged Asia Airfreight Terminal to invest HK\$1.75 billion to build a new cargo terminal (expected to open by the end of 2006) with an annual cargo handling volume of 0.91 million tonnes. This expansion will obviously increase the cargo handling capacity of the HKIA and promote its role as the airfreight hub for South China. The Hong Kong Aircraft Engineering Company also plans to build a HK\$320 million new hanger at the HKIA (which is expected to be opened in early 2007) to cope with the future demand for aircraft maintenance.

Figure 3.5: Proportion of the Export Value of Different Commodities to that of the Total Export Value of Guangdong Province, 2003



Notes : ^a Total Export Value in 2003: US\$152,848 mn

^b Electronic and electrical products includes electric machinery, electric equipment, TV sets and sound appliances

Source : Guangdong Statistical Yearbook (2004)

3.3.3 The Emergence of China as One of the World's Largest Tourism Markets

Since the beginning of its economic reforms, China has evolved into a major international tourist destination. Visitors from around the world have been attracted by the country's long history, rich culture and spectacular landscapes.

In 2003, China was the 5th largest inbound market globally as inbound tourists topped 33 million. It was also one of the fastest growing tourism markets with a total visitor arrival compound annual growth rate (CAGR) of 8.6% during the 10-year period to 2003. In the same period, international tourism receipts rose from US\$4.7 billion to US\$17.4 billion, to be the 7th largest in the world.

According to the World Tourism Organization, China will become the most popular destination globally by 2020 when it is projected to receive 137 million international tourists⁴⁵. This represents a CAGR of 8.7% from 2003 onwards.

Table 3.3: World's Top Tourism Destinations, 2003^a

Rank	International Tourist Arrivals			International Tourism Receipts	
	Country	Series ^b	Number of Arrivals (mn)	Country	Tourism Receipts (US\$ bn)
1	France	TF	75.0	United States	64.5
2	Spain	TF	51.8	Spain	41.8
3	United States	TF	41.2	France	37.0
4	Italy	TF	39.6	Italy	31.2
5	China	TF	33.0	Germany	23.0
6	United Kingdom	VF	24.7	United Kingdom	22.8
7	Austria	TCE	19.1	China	17.4
8	Mexico	TF	18.7	Austria	14.1
9	Germany	TCE	18.4	Turkey	13.2
10	Canada	TF	17.5	Greece	10.7

Notes : ^a Preliminary data

^b TF: International tourist arrivals at frontiers (excluding same-day visitors);

VF: International visitor arrivals at frontiers (including tourists and same-day visitors);

TCE: International tourist arrivals at collective tourism establishments;

THS: International tourist arrivals at hotels and similar establishments.

Source : World Tourism Organization

⁴⁵ World Tourism Organization, "Tourism 2020 Vision", June 1998.

Table 3.4: World's Top Destinations, 2020

	Country	Tourist arrivals (mn)	Market share (%)	% Growth rate p.a. 1995 – 2020
1	China	137.1	8.6	8.0
2	United States	102.4	6.4	3.5
3	France	93.3	5.8	1.8
4	Spain	71.0	4.4	2.4
5	China, Hong Kong	59.3	3.7	7.3
6	Italy	52.9	3.3	2.2
7	United Kingdom	52.8	3.3	3.0
8	Mexico	48.9	3.1	3.6
9	Russian Fed.	47.1	2.9	6.7
10	Czech Rep.	44.0	2.7	4.0
Total (1 – 10)		708.8	44.2	

Source : World Tourism Organization

Table 3.5: Total Number of Domestic Resident Outbound

	10000 person-times		% change		Outbound travelers for private purpose % share of total
	Total	For Private Purpose	Total	For Private Purpose	
1994	610.6	164.23	N/A	N/A	26.90
1995	713.9	205.39	16.92	25.06	28.77
1996	758.82	241.39	6.29	17.53	31.81
1997	817.54	243.96	7.74	1.06	29.84
1998	842.56	319.02	3.06	30.77	37.86
1999	923.24	426.61	9.58	33.73	46.21
2000	1047.26	563.09	13.43	31.99	53.77
2001	1213.44	694.67	15.87	23.37	57.25
2002	1660.23	1007.39	36.82	45.02	60.68
2003	2022.19	1481.09	21.80	47.02	73.24

Source : China Statistical Yearbooks (1999 – 2004)

Perhaps it is the outbound market that holds the greatest potential in terms of the tourism sector. Despite growing by a CAGR of 14.2% for the 10-year period to 2003,

the market is still in its infancy as the number of people who could afford a holiday abroad stood at 20.2 million or less than 2% of the entire population in 2003⁴⁶. This is in contrast to 30-40% for Europe and the US, 17% for Australia and 12% for Japan.

A number of factors also serve to illustrate the market's immaturity:

- most travellers join tour groups that go to several countries on one trip;
- travellers tend to spend large sums of money when they are abroad (average spending of US\$574 in Hong Kong and US\$355 in Macau per person in 2003, and this has been increasing); and
- travel is concentrated during the three official holiday periods – the Spring Festival (Chinese New Year), the Labour Day Holiday and the National Day Holiday.

Table 3.6: Expenditure of Chinese Travelers, US\$

	1998	1999	2000	2001	2002	2003
Hong Kong	579	450	490	503	541	574
Macau	NA	333	299	330	330	355

Note : Numbers include both the overnight visitors and same-day in-town visitors in major destinations, 98 – 03

Sources : Macau Statistics and Census Services (DSEC), A Statistical Review of Hong Kong Tourism (2002), A Statistical Review of Hong Kong Tourism (2003)

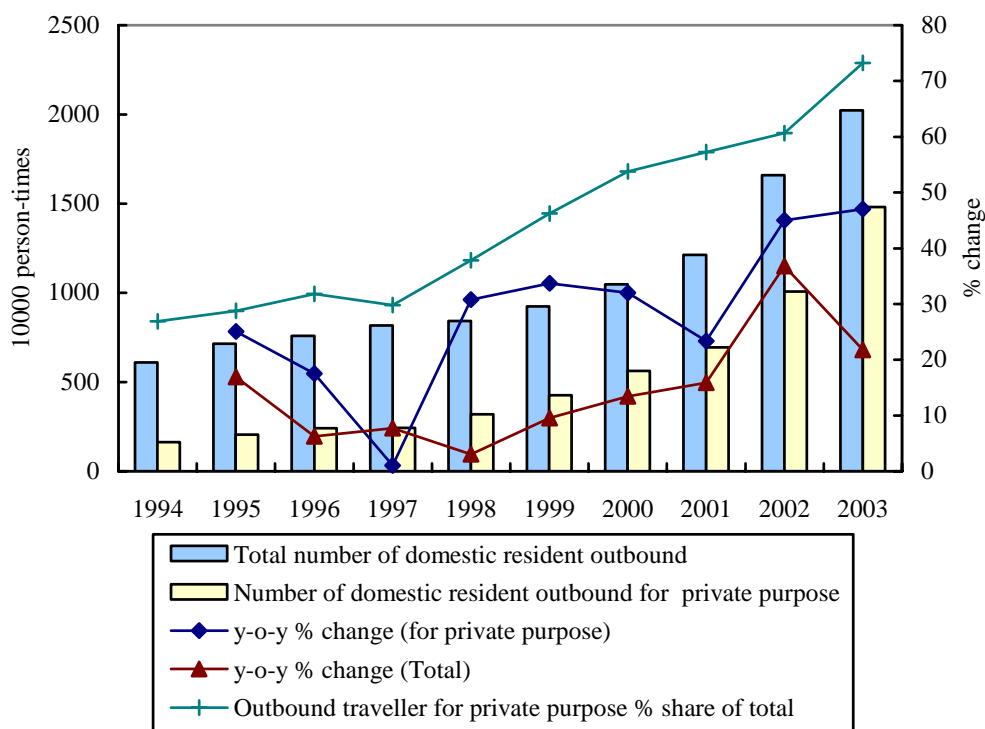
It is without a doubt that China's outbound market will experience a period of rapid expansion over the next 15 years. We believe that the key drivers to growth include:

- its accession to the World Trade Organization, which will spur more business travel;

⁴⁶ In December 2003, the total population reached 1.29 billion.

- the continued liberalization of its travel policies, with the implementation of the Individual Travel Scheme to Hong Kong and Macau being a case in point;
- the advent of a burgeoning middle class; and
- the introduction of paid holidays for employees.

Figure 3.6: Historical Trends of Total Number of Domestic Resident Outbound



Source : Statistical Yearbook of China (1999-2004)

This is likely to radically alter the profile of the market. It should result in a more balanced tourism economy with travel peaks evened out as paid holidays are progressively introduced. It is also expected that travellers will travel longer distances to more exotic destinations and for longer periods. They will begin to embrace the freedom of individual travel and are less likely to join tours, particularly as the Individual Travel Scheme is extended to cover more countries.

The World Tourism Organization anticipates that China will generate 100 million outbound tourists by 2020⁴⁷, making it the 4th largest source in the world. Its share in the world outbound market will rise from 0.9% in 1995 to 6.2% in 2020, and it is set to grow at a CAGR of 9.9% between 2003 and 2020.

Given its superior international connectivity, such trends are set to benefit Hong Kong at least in the short to medium term, and should enhance its position as a hub for international tourism. The World Tourism Organization anticipates that Hong Kong will become the 5th most popular destination in the world by 2020, as it is set to receive 59 million tourists. This represents a CAGR of 7.2% from 2005 onwards.

Table 3.7: World's Top Outbound Markets, 2020

	Country	Tourist arrivals generated worldwide (mn)	Market share (%)
1	Germany	163.5	10.2
2	Japan	141.5	8.8
3	United States	123.3	7.7
4	China	100.0	6.2
5	United Kingdom	96.1	6.0
6	France	37.6	2.3
7	Netherlands	35.4	2.2
8	Canada	31.3	2.0
9	Russian Fed.	30.5	1.9
10	Italy	29.7	1.9
Total (1 – 10)		788.9	49.2

Source : World Tourism Organization

⁴⁷ World Tourism Organization

3.3.4 An Enhancement in the Appeal of the Region as a Tourist Destination

We believe that the opening of Disneyland in Hong Kong scheduled for September this year and the completion of new casinos and other entertainment facilities in Macau will add considerably to the appeal of the Pearl River Delta as a tourist destination. A substantial increase in tourists from China has already been witnessed as a result of the continued liberalization of travel rules in the country. Currently, 158 million people are covered by the Free Individual Travel Scheme⁴⁸.

As the only city under the Chinese regime with the right to operate casinos, Macau has been the biggest beneficiary of this development. Visitor arrivals from Mainland China grew by a CAGR of 47.7% over the past five years. In part, this has been driven by a passion for gambling amongst the Chinese. The de-regulation of the gaming sector in the enclave should provide further impetus for growth in the future.

The opening of Hong Kong Disneyland in September 2005 will strengthen the international appeal of the Pearl River Delta. In its first year of operation, the government estimates that the theme park's attendance will be 5.2 million, of which 3.4 million will be visitors. It is expected that the theme park will generate additional passenger throughput of 2.4 million, most of whom will arrive by air. It is anticipated that there will be 10 million annual visitors upon the completion of the Phase 1 build-out in 2020. To cope with the potential significant influx of visitors, the AAHK has just signed contracts to expand the terminal facility of the HKIA, the HK\$2 billion of Terminal Two (SkyPlaza) which has 140,000 m² of gross floor area to accommodate customs/immigration halls and a coach station, as well as 35,000m² of retail and catering commercial area (expected to be opened in mid-2006)⁴⁹.

⁴⁸ Hong Kong Tourism Board

⁴⁹ Press release 11 January 2005, AAHK

Table 3.8: Tourist Arrivals by Region, 1998 – 2003

Country	1998	1999	2000	2001	2002	2003
Hong Kong	4,721,762	4,229,833	4,954,619	5,196,136	5,101,437	4,623,162
China	816,816	1,645,193	2,274,713	3,005,722	4,240,446	5,742,036
Taiwan	816,640	984,820	1,311,035	1,451,826	1,532,929	1,022,830
Other countries	593,317	584,078	621,845	625,289	656,029	499,848
Total	6,948,535	7,443,924	9,162,212	10,278,973	11,530,841	11,887,876

Note : Unit in number of trips

Source : Macau Statistics and Census Services (DSEC)

Table 3.9: Percentage of Tourists who Gamble while in Macau

	%
2000	57
2001	50
2002	50
2003	47

Source : Macau Statistics and Census Services (DSEC)

3.3.5 More Liberal Access for China's Airlines into Hong Kong and Vice Versa

Hong Kong is seen to have been losing out to its key international competitors in terms of gaining access to the Mainland. Over the past two years, the capacity on China's routes increased by 31% from Bangkok, 37% from Seoul, 40% from Singapore and 122% from Tokyo⁵⁰. This was partly resolved when China and Hong Kong drafted out a new set of Air Services Arrangement (ASA) in 2004 (Table 3.10), giving more liberal access for airlines on both sides to serve each other's markets.

As with other bilateral ASAs between China and major economies (Section 3.4.1), the separation of cargo and passenger regulation is increasing. Unsurprisingly, cargo is leading the way on de-regulation with passenger capacity lagging behind as the plan

⁵⁰ Various government press releases

calls for an immediate doubling of cargo capacity from each side but a more modest 30% increase in passenger capacity to be rolled out in phases up to 2006. This, together with other newly signed bilateral ASAs, will resolve the acute shortage of cargo capacity in the fleets of China-based airlines, which has stifled the country's economic development to date.

It is also worth highlighting that this new arrangement clearly illustrates that Hong Kong has less bargaining power with PRC airlines, which have been awarded valuable fifth freedom rights out of Hong Kong, thus allowing them to pick up passengers and cargo for third destinations. In return, Hong Kong airlines will only be able to serve two destinations on the Mainland on any flight but with a number of restrictions such as no passenger and cargo pick ups at the stops and the interim stops not being able to include Beijing, Shanghai or Guangdong. The 'dual designation' for Hong Kong airlines covering all routes by 2006 and modest capacity increases to the major hubs of Beijing and Shanghai are seen as compensatory factors. The current arrangement will be reviewed in 2006. Nevertheless, we believe that this arrangement will generate greater passenger and cargo volumes at the HKIA.

Table 3.10: Mainland-HK Air Services Arrangement

Items	Mainland-HK (8 September 2004)	
	Change	Effective date
Flight per week	1200 → 1600 (Passenger) 42 → 84 (Cargo)	Oct 2004
	<i>Beijing: Flight per week</i>	
	Increase by 4	Oct 2004
	Increase by 7, up to ~ 70	Mar 2005
	<i>Shanghai: Flight per week</i>	
	Passenger flights: increase by 7 Increased up to ~ 98	Oct 2004 Mar2005
	Cargo flight: 21 → 28	Oct 2004
Routes	44 → 45 One more route: Lijiang	
String Flies	Any 2 cities in Mainland, except Beijing, Shanghai, Guangzhou (Since 2006, Guangzhou will also open)	
Beyond flight	4 → 6 cities 3 – 4 → 7 per week	
Airlines	<i>Shanghai:</i> Passenger License to one more HK airline	Oct 2006
	Cargo license to one more HK airline	Oct 2004

Source : Various newspapers

3.4 Challenges Ahead – China’s ‘Open Skies’ Liberalization

The leading role of the HKIA in the Asia-Pacific aviation industry is continually being challenged by the rapid development of airports on the Mainland. In this there are three key factors:

- several key Sino-Foreign Air Services Agreements;
- the commencement of direct charter flight services between Taiwan and the Mainland; and
- competition from cross-border ‘neighbours’.

3.4.1 Sino-Foreign Air Services Agreements

Traditionally, the aviation industry in China was highly defensive against foreign participations, but the country's skies have been progressively liberalized in recent years, particularly since 2003 when the Civil Aviation Administration of China (CAAC) entered ASAs with several countries to grant them the fifth freedom rights for the first time⁵¹.

Under the ASAs, international carriers can fly directly to the Mainland. In late 2002 SIA Cargo⁵² was the first foreign airline allowed to operate fifth-freedom flights beyond China to the US. 2004 represented another landmark year for China's aviation market, and several important ASAs were signed⁵³.

- *Sino-UK ASA*: allows more than 1 carrier to operate passenger services between Shanghai, Beijing and the UK; British airlines can have 5 new cargo flights per week in and out of China, which will be increased to 7 flights a week by 2006.
- *Sino-Australian ASA*: posts no restriction on passenger and cargo services between all Chinese airports and regional international airports in Australia.
- *Sino-South Korean ASA*: China to open up more routes for Korean airlines and allow them to have more frequent flights to China.
- *Sino-Thai ASA*: grants fifth-freedom rights to Thailand and posts no restrictions on the number of cargo flights.

The 'open-skies' progress in China was highlighted in June 2004 by the announcement of a Sino-US ASA with the following main features.

⁵¹ Fifth freedom rights are the rights a country government grants international airlines to pick up passengers and cargo in its country before flying onto another destination.

⁵² A cargo subsidiary of Singapore Airlines.

⁵³ South China Morning Post

By 2010,

- Five new carriers from each country will be allowed to access to all cities, whereas before US airlines were restricted to 5 destinations and Chinese airlines were restricted to 12 destinations.
- Cargo operators will be given 111 additional flights a week.
- 9 passenger carriers serving 249 flights per week.
- No limitation on code-sharing agreements.

Currently, the HKIA operates far more flights into the Mainland than any other airport (Tables 3.11 to 3.13), and Hong Kong has entered over 50 different level of ASAs, with the most prominent including those with the UK, the Mainland, Australia, Thailand, Japan and Singapore. However, the recent ASAs signed between the Mainland and its foreign counterparts that have allowed international carriers to fly directly to the Mainland bypassing Hong Kong have definitely posed a threat both to Hong Kong's leading role as the main China gateway.

3.4.2 Direct Charter Flight Services between Taiwan and the Mainland

During the Chinese New Year period in February 2005, direct charter flight services were arranged for Taiwanese who worked on the Mainland to travel back and forth to Taipei and Kaohsiung from Beijing, Shanghai and Guangzhou. 6 Mainland carriers, including Air China, China Eastern Airlines, China Southern Airlines, Xiamen Airlines, Shanghai Airlines and Hainan Airlines, were allowed to operate 16 round-trip flights across the Taiwan Straits, and 5 carriers from Taiwan, including China Airlines, Eva Air, Trans Asia Airways, Far Eastern Air Transport and UNI, were allowed to operate 12 round-trip flights. The HKIA has been the primary transit

gateway for Taiwanese to travel to the Mainland since the country permitted Taiwanese investment, and this position may likely to be threatened in the future if the governments on the two sides of the Straits decide to operate more frequent direct charter flight services.

Table 3.11: Number of Airlines Serving HKIA

Passenger Routes	Taiwan			Mainland		
	Schedule	Non-schedule	Total	Schedule	Non-schedule	Total
99/00	10	1	11	9	8	17
00/01	9	3	12	10	9	19
01/02	9	2	11	11	11	22
02/03	8	4	12	12	11	23
03/04	10	4	14	7	19	26

Note : Fiscal year April (t-1) - March (t)

Source : Annual report, HKCAD

Table 3.12: Passenger Traffic of HKIA

	Passenger Traffic	% of Taiwan routes	% of Mainland routes
99/00	29,609,657	19.5%	17.4%
00/01	32,636,316	20.0%	17.5%
01/02	32,117,879	20.2%	18.6%
02/03	33,340,517	20.2%	19.3%
03/04	26,991,370	19.0%	19.7%

Note : Fiscal year April (t-1) - March (t)

Source : Annual report, HKCAD

Table 3.13: Passenger Flights per Week of HKIA, 2004

	Number of Routes	% share of total
Taiwan	350	9%
Mainland	1200	31%
Total	3900	100%

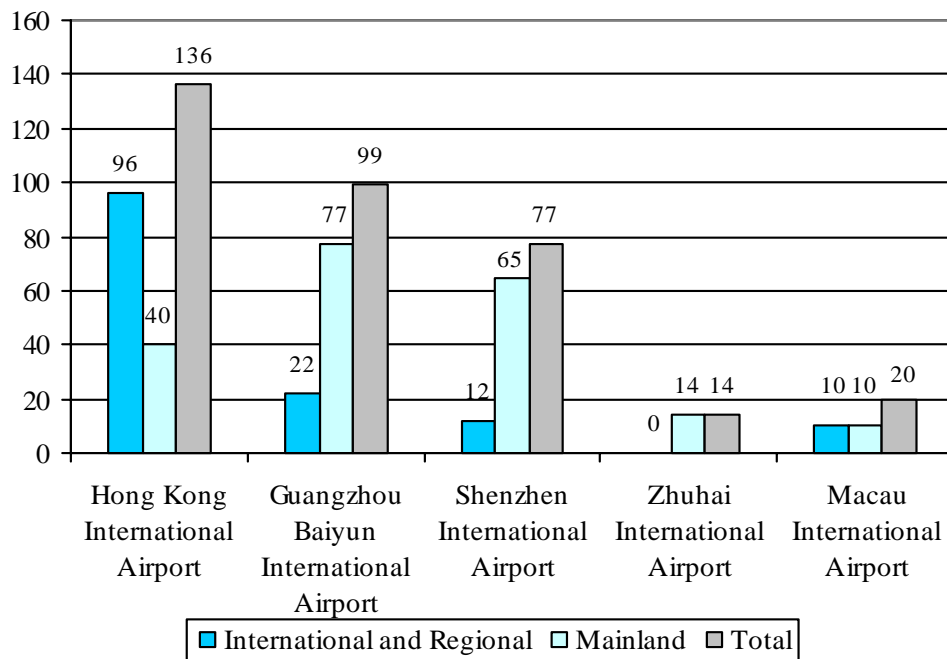
Sources : www.info.gov.hk; www.news.sina.com.hk; www.cnwnc.com

3.5 Competition from Cross-Border ‘Neighbours’

3.5.1 A5

There are five major airports (A5) in the Pearl River Delta (Table 3.14 and Figure 3.7). Comparing their handling capacity in aircraft movements, passengers, cargo, support facilities and number of destinations served, the HKIA seems to achieve a leading position.

Figure 3.7: Number of Destinations, 2004



Sources : A5 websites

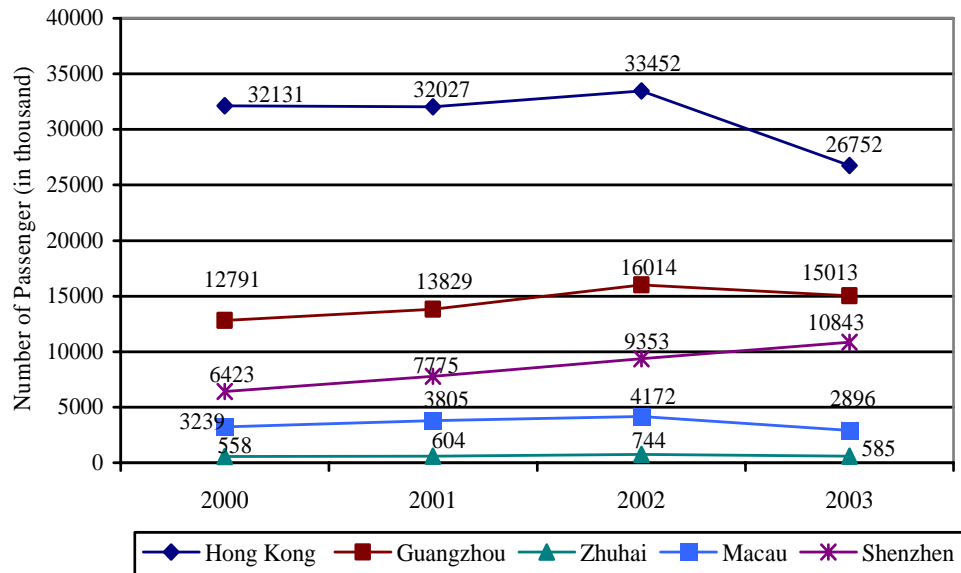
Table 3.14: Key Facts of the A5

	HKIA	New Guangzhou Baiyun	Shenzhen	Zhuhai	Macau
Opening	July 1998	August 2004	October 1991	June 1995	November 1995
Total airport site area	1,255 hectares	1,456 hectares	1080 hectares	520 hectares	192 hectares
Operation	24/7	24/7	24/7	24/7	24/7
Capacity					
Passenger	45 mn (87 mn planned)	25 mn (80 mn - 2 nd phase)	15 mn (30 mn planned)	12 mn	6 mn
Cargo	3 mn tonnes (9 mn tonnes planned)	1 mn tonnes (2.5 mn. tonnes – 2 nd phase)	0.53 mn tonnes (2.5 mn tonnes planned)	0.6 mn tonnes	0.16 mn tonnes
Flight handling capacity (per hour)	49 flights per runway	90 – 100 flights	25 flights	24-30 flights	20 flights
Runway	3800m x 2	3,800m x 1 3,600m x 1	3,400m x 1	4,000m x 1	3,360m x 1
Gates	96 (48 frontal, 27 aprons and 21 air cargo)	71 (46 frontal and 5 air cargo)	53 (24 frontal)	37 (17 frontal)	19
Number of Check-in Desks	288	168	90	80	60
Passenger terminal	550,000 sq m	300,000 sq m	110,000 sq m	91,600 sq m	45,800 sq m
No. of Airlines served	72 (4 local, 3 Mainland, 15 all cargo)	53	21 (14 Mainland, 7 International & Regional)	4	10 (1 local, 6 Mainland)
No. of destinations/cities	136 (40 Mainland, 96 Int'l)	99 (77 Mainland, 22 Int'l & Regional)	77 (65 domestic, 12 Int'l & Regional)	14 Mainland	20 (10 Mainland, 10 Int'l, incl. cargo)

Sources : Websites of A5 airports; Air Cargo World, Annual Report of Civil Aviation Department

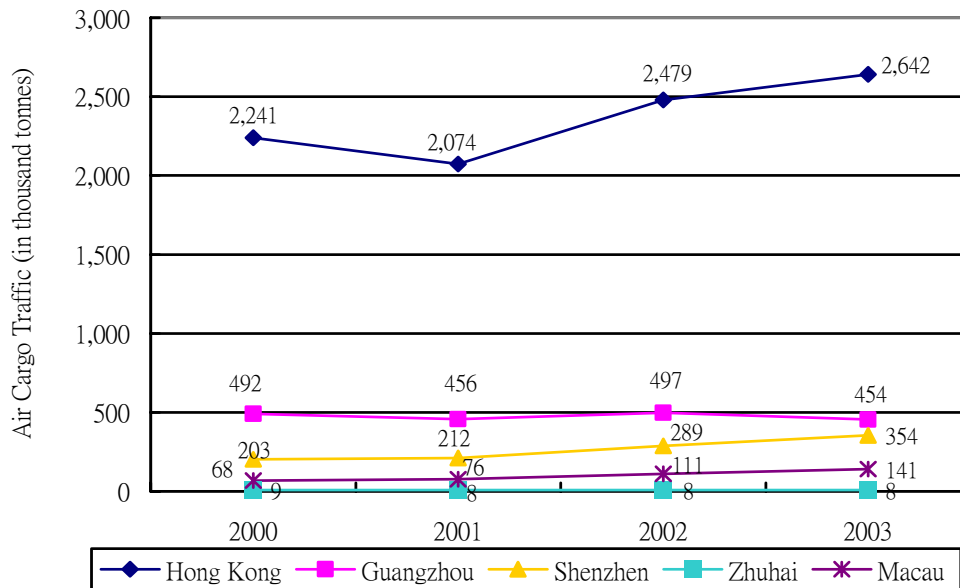
Figures 3.8 and 3.9 show that Hong Kong led the A5 in handling passengers and cargo over the past few years.

Figure 3.8: Air Passenger Traffic of A5



Sources : HKCAD, Macau International Airport, Statistical Data on Civil Aviation of China

Figure 3.9: Air Cargo Traffic of A5



Sources : HKCAD, Macau International Airport, Statistical Data on Civil Aviation of China

However, with the recent rapid development of the Mainland airports in the Pearl River Delta, all four main airports, Guangzhou, Zhuhai, Macau and Shenzhen, have achieved steady growth in handling passenger and cargo traffic, which has intensified the competitive environment amongst the A5.

The US\$2.4 billion Guangzhou Baiyun International Airport was opened in August 2004 with the goal of becoming the air transport hub for the Pearl River Delta⁵⁴. Its terminal can accommodate 25 million passengers a year (which will be expanded to 80 million in the second phase). The airport has two runways to handle 1 million tonnes of cargo (which will be expanded to 2.5 million tonnes in the second phase). The 2004 Sino-US ASA states that from 2007, carriers of each country will be granted seventh freedom rights that will allow them to set up cargo hubs and serve third country destinations without having to return to their home markets. FedEx was one of the first movers in an attempt to capture benefits from this arrangement by announcing a plan to relocate its Asia hub from the Philippines to Guangzhou⁵⁵. These developments have further intensified the competition amongst A5 and threatened the traditional Asian regional hubs that act as gateways to China, such as the HKIA.

3.5.2 Low Cost Carriers

The emergence of low cost carriers is another hot issue for the aviation sector in Asia. There are three low cost carriers in Singapore (Tiger Airways, ValuAir and Jetstart Asia), Virgin Blue in Australia, and AirAsia in Malaysia. In China, the CAAC has been fairly open towards the development of these carriers and has induced local

⁵⁴ Address by Huang Hua Hua, Governor of Guangdong province, at an official government gathering.

⁵⁵ However, Northwest Airlines has asked the US Department of Transport to disqualify FedEx's application for new flights to Guangzhou given that FedEx failed to supply sufficient information.

airports to compete to become low cost carrier hubs. From April 25, the Bangkok-based Thai Air Asia will be the first low cost carrier to launch Xiamen-Bangkok flights. The HKIA has also shown interest in such operations, and 5 low cost carriers are currently operating from Hong Kong (Table 3.15). However, the Macau airport is a rising competitor in this, given that it is less expensive on operational level⁵⁶.

Table 3.15: LCCs at HKIA

LCC	Destination	Movements ^a
Jetstar Asia	Singapore	14
Valuair	Singapore	28
Cebu Pacific	Manila	28
Orient Thai	Bangkok	14
	Phuket	14
Australia Airlines	Cairns	6 (Tue, Fri and Sat only)

Note : ^a Number of arrival and departure flights per week

Source : Press release AAHK (14 December 2004)

The main rationale for our lengthy discussion of the proposed privatization of the AAHK is the importance of the HKIA to our society. Several key drivers that are crucial for the growth of the sector in the future have been identified, but given the recent rapid and aggressive development of neighbouring airports and the more liberalized ‘open skies’ policies adopted by the Mainland, Hong Kong will be challenged as the main hub for air transport in South China. Every strategic decision made by the government and the AAHK about the HKIA will definitely influence its competitiveness in the regional aviation market, and in turn will influence the Hong Kong economy.

⁵⁶ It is currently engaged in discussions with Virgin Blue for a hub to serve the Chinese market.

4 Conclusions and Recommendations

4.1 Introduction

The HKIA is the most valuable and strategic infrastructure project that has ever been built in Hong Kong. Recent estimates have placed the contribution to Hong Kong's GDP of the aviation industry and other derived services, of which the new airport is an integral part, at about 10%. Any changes in its governance structure, decision-making process and operational features should therefore be undertaken with extreme care and be supported by detailed assessment. Although it is believed that the partial listing of the airport could achieve some of the objectives that have been stated by the government, such as raising revenue in the short term, it should be remembered that equity financing is typically more expensive than debt financing, and that the protection of public interest could be a complex matter after listing.

Investors, and particularly international fund managers, are looking for the intrinsic investment value of a stock, or the historical rate of return and future income stream. The profit of the AAHK in 2002/03 was equivalent to a less than 2% return on equity. Even though it is not uncommon for relatively low returns at this stage of airport development, as is typical with most long-term infrastructure developments of this magnitude, such a return would not be attractive to most investors at this time. Thus, the economic viability of the proposed listing poses some daunting problems for both the government and potential investors. It should also be noted that the current challenges with the listing of the Link REIT and the upcoming elections may pose additional political risk to the listing of the AAHK.

Looking ahead, Disneyland will commence operation in a few months, and it is likely

that more cities in mainland China will permit individual travel to Hong Kong in the coming years. These developments, together with the next phase of implementation of China's accession to the World Trade Organization and China's hosting of the Olympic Games in 2008, should ensure that the HKIA will achieve a much more profitable business profile by 2009, which may prove to be a better occasion for any possible public listing of the AAHK.

Other than the fact that correct timing will be vital for a successful listing, Articles 128, 129, and 130 of the Basic Law may also have a bearing on the legal basis for the public listing of the AAHK. These issues, although less relevant from an economic analysis standpoint, could easily sway the decision on privatization, particularly in view of the problems that have been encountered in the recent attempts to list the Link REIT and the increase in toll charges at the Eastern Harbour Tunnel.

In the following sections, we turn to the current issues that have been raised by the HKSAR Government in the form of a public consultation exercise. This is followed by a discussion of the case for the privatization of the AAHK, suggestions for some over-riding principles for AA NewCo, and recommendations for the continuous improvement of the AAHK should the privatization exercise be postponed or abandoned.

4.2 Responses to the Government's Consultation Document on the Partial Privatization of the Airport Authority

In this section, we attempt to provide responses to the Government's Consultation Document on the partial privatization of the AAHK based on some of the analyses that

have been provided in the previous chapters. An abbreviated list of the 21 questions that were raised in the document is provided in Appendix for reference.

- (i) We strongly support the notion that the government be given sufficient power to exercise various regulatory functions. To achieve this objective, it is very important for the government to clearly identify in the new Airport Authority Ordinance all of the data and information that is required to be supplied in detail by the AAHK for supervisory and regulatory purposes. Such information may include various financial accounts and operational information for the different types of business activities; reports of the justifications and methods that are used for the formulation of fee levels, cost of capital, asset and cost allocation; and other pertinent financial and operational information. There may also be a need to consider issues that are related to safety, noise, pollution, or traffic congestion around the airport in the regulatory framework.

- (ii) The government is seeking to ensure that it is empowered to appoint a minority number of additional members to the future board of AA NewCo. This is only necessary if the possibility of the government not being able to appoint even a minority of board members through its shareholding or control of AA NewCo at sometime in the future is considered. We consider such a scenario to be untenable at any time. The strategic and economic importance of the HKIA is such that it is prudent for the government to **always retain control of the majority of voting rights in AA NewCo.** Anything less may bring into question whether we are still faithful to the mission of continuing “the previous system of aviation management in Hong Kong” and ensuring that the government is still “responsible for the

management of our airports”.

A further concern that arises from the government’s proposal, and particularly from the way in which it is worded, is the future role of the government as a shareholder of AA NewCo. The proposal as stated may be taken to mean that the government would appoint a minority number of board members to specifically look after the public interest of Hong Kong. The other directors would only look after the commercial interest of AA NewCo, even though they may be nominated and voted in by the government, as would be the case immediately after the privatization of the AAHK or if the government retained control of the voting rights, as was suggested earlier. That would imply, by virtue of the minority board members who are appointed to represent the public interest, that the government’s involvement in the HKIA would be based on commercial considerations, rather than public interest.

- (iii) Given the strategic and possible national security importance of the airport, we suggest that if and when the management of the HKIA is privatized, at least half of the board members of AA NewCo should be **Permanent Residents who ordinarily reside in Hong Kong**, and that the Chairman should be a Hong Kong Permanent Resident with **Chinese nationality**, rather than a foreign national.
- (iv) We support the limiting of the voting rights by any single shareholder (including associates) other than the government to 10% **only if the government retains control of majority voting rights in AA NewCo.**

Otherwise, additional measures may be necessary to safeguard against the possible collusion of various shareholders in exercising their rights in decisions that may potentially be against the interest of Hong Kong.

(v) We support this in principle, but the term “**ordinarily resident**” should be replaced by “**permanently resident**”.

(vi) to (x) We support these proposals.

(xi) and (xii) In the context of the privatization of the AAHK, the choice between securing a better valuation at IPO by increasing airport charges versus keeping airport charges more competitive is indeed a difficult one. This problem actually reflects the difficulty that would be faced if the aim moves away from operating a strategic asset solely for the overall benefit of Hong Kong toward attempts to balance the public interest and minority economic interest in a privatized entity. On the one hand, it is difficult to find justifications to artificially diminish the investment of Hong Kong taxpayers in the AAHK in favour of subscribers to the shares of the AA NewCo listing, but on the other hand, raising the airport charges simply to achieve a better valuation of the AAHK share price for the IPO may have even more flaws.

To begin with, airport charges play an important role in the economics of the airport system, which in turn contributes to the growth and prosperity of Hong Kong. Many international air transport organizations, most

notably the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA), have developed guidelines and principles on this subject, and it is our Centre's belief that adjusting airport charges for the purpose of achieving a better valuation for a privatization exercise would run against the spirit of these principles at the very least. The argument that there is no strong evidence to suggest that the level of airport charges would sway airlines in their choice of destination is exactly the type of monopolistic problem that the ICAO, and the IATA have attempted to address in their guidelines, and is something that users fear the most.

Although it is arguable as to whether there is definitive evidence for the elasticity of airport charges, it is clear that the raising of airport charges cannot contribute to an increase in the demand for related airport services, and that, if anything, higher charges may reduce such demand and thus adversely affect the overall economy of Hong Kong. If the airport charges for the HKIA were raised to support a higher valuation at the IPO exercise and the subsequently adverse effects of such a decision on the overall economic benefit for Hong Kong were realized, then we would end up in an even more difficult position than we are in now. Keeping the airport charges at the established high level would continue to lessen the overall economic benefits for Hong Kong, and backing down from the higher level of charges would present a moral hazard for the government as far as the minority shareholders are concerned, as they would have been enticed into subscribing for shares at the higher valuation by the artificially (by hindsight) introduced level of airport charges in the first place. Hong

Kong would be in a difficult position, and we would find ourselves in a losing situation for all.

Thus, it can be concluded that **the establishment of airport charges should not simply be driven by the desire of the government to obtain a better valuation of its shares.** Airport charges should be reasonable (with a cost-based reference) and broadly competitive with comparable airports. In establishing airport charges, it is important to understand how charges may affect the overall Hong Kong economy (current evidence indicates that the aviation sector represents 10% of Hong Kong's GDP), and to appreciate that there are widely recognized and accepted practices in the establishment of airport charges that Hong Kong should refer to if there is deemed to be good reason to alter the current established practices of setting airport charges or the current level of charges.

The issue of airport charges when placed in the context of an airport authority that is entirely owned by the Hong Kong government solely for the overall benefit of Hong Kong is rather different, and is an internal valuation matter. The substantial amount of economic externalities and social benefits to Hong Kong should be viewed within the overall context of the Hong Kong economy in its entirety, instead of concentrating on a group of potential minority shareholders in a privatized company. The valuation of all such externalities, which would possibly include the contribution of the rather valuable land that was left vacant after the closure of the old Kai Tak airport, may even enter the equation.

(xiii) **Until the trade-off between Hong Kong's overall economic interest and the economic interests of shareholders is settled** and the role of the Hong Kong government as a shareholder on behalf of Hong Kong taxpayers after the privatization exercise is made clear, **there is no simple answer to the issue of the user pays principle.** We are not opposed to the adoption of the **user pays principle** in general. However, it would have been a much superior proposition if this principle had been **made subordinate to the over-riding principle that the AAHK will operate for the overall benefit of the Hong Kong economy.** It is, of course, obvious that this latter discussion can only be considered if the AAHK is not privatized.

(xiv) There are pros and cons for both the single-till and dual-till approaches to the determination of airport charges, and we do not find overwhelming analysis or research evidence that can be used to support either one of the approaches in the case of the privatization of the AAHK. In general, there is a tendency for airport operators to prefer the dual-till approach, whereas major airport users, such as airlines, may prefer the single-till approach. It is also worth noting that the major international aviation bodies, such as the ICAO and the IATA, tend to support the single-till approach. A more important consideration here is that a **dual-till approach would be likely to lead to higher airport charges for the aeronautical side of the equation.** The issue of single till versus dual till also involves the fundamental issue of a trade-off between Hong Kong's overall public interest versus the commercial interest of a privatized AAHK. Regardless of whether the guiding principles that underpin the proposed model of the

consideration of airport charges are said to be single till, dual till, or otherwise, we consider the comparison of these approaches to be an area where the phrase “the devil is in the details” very much applies. Thus we have **no strong position on either of the approaches at the current level of proposal detail.**

(xv) Should the government’s proposal in (xiv) be adopted, we would **support the consideration of a risk premium concept in the determination of the target return for aeronautical activities.** Nevertheless, the issue of risk premium should be examined carefully. On the one hand, core airport activities are natural monopolies, which means that they have little risk and should not demand any risk premium. On the other hand, as the recent experience of the September 11 incident and the SARS outbreak showed, aviation-related revenues can be reduced sharply overnight for a sustainable period of time. It is therefore important to ascertain how such downside risk should be assessed and factored into the consideration of the privatization exercise, and to establish whether users or the government as a representative of the wider interests of the entire community would be asked to assume some of the non-market risks. It is worth noting that in the US the federal government paid for a substantial amount of the additional insurance and security costs that were imposed upon the US airline industry after the September 11 terrorist attacks in 2001.

(xvi) The document proposes a bilateral negotiation mechanism between AA NewCo and airlines for airport charges within a set of broad parameters that are set out in the Ordinance. We expect **these broad parameters to**

include the setting and permission of a reasonable rate of return, the definition of a price-cap mechanism that is based on some kind of (CPI-X%) formula, and the establishment of high safety, service quality, and competitive positioning standards relative to airports that are comparable to the HKIA. Recent research and practice give adequate support for the use of a price-cap model for application in Hong Kong. We support this “flexible” and “light-handed” arrangement over decisions that are dictated either directly by the government or from results that are derived strictly from a formula. However, we do encourage further detailed study and research into the application of such a price-cap model for adaptation to the Hong Kong case, as this may be a crucial piece of the puzzle that will anchor much of the economic regulatory considerations of AA NewCo.

(xvii) In the case in which both parties are unable to come to a final agreement in *(xvi)*, the government has suggested that itself or a government-appointed panel should be empowered to adjudicate on the reasonable level of airport charges. **We are in support of the appointment of such an independent panel.** We would also like to suggest that the role of a relevant Legislative Council Panel should be studied, possibly along the lines of models for other similar bodies. A guiding principle in this process should be the transparency of the process and proper accountability to the public by the panel.

(xviii) to *(xxi)* We are in broad agreement with these proposed arrangements.

4.3 The Case for Partial Privatization of the Airport Authority

In the following sections, we provide our response to the reasons that the government has given for the privatization proposal (an abbreviated version of the stated reasons is provided in the underlined text at the beginning of each section).

4.3.1 Strengthen market discipline in the running of the airport for greater efficiency and more commercial opportunities.

Although stated as the main benefit of the proposed privatization, we suggest that less disruptive and more direct approaches should be explored to improve efficiency by the board and management of the AAHK before resorting to privatization. As the AAHK has always operated according to prudent commercial principles and the HKIA has been generally well managed, as stated in the justification for the privatization, the possible benefits of privatization for typical inefficient state enterprises are not applicable here for the most part. The same can be said for strengthening market discipline, although the specific targets of improvement need to be looked at in more detail, as the word ‘market discipline’ can encompass many concepts and issues. It is also conceivable that the good governance practices that are required by the Hong Kong Stock Exchange could be reviewed by the AAHK board for possible adoption without resorting to the actual listing of the Authority.

4.3.2 Enhance the AAHK’s access to the capital market.

There is no doubt that a listing on the Hong Kong Stock Exchange would provide additional avenues of access to the capital market. However, it should also be noted that being a highly successful operation that is fully owned and backed up by the

government of Hong Kong provides a more effective and efficient means of access to less expensive capital through the debt market or other means. A projection of the capital requirements of the AAHK in the short to medium term would be useful, along with an evaluation of various scenarios for the funding of those requirements with respect to the projected financial and operational position of the AAHK at that time. Given the high potential for improvement in the financial position of the AAHK in years to come, as stated in the opening section of this document, there is a strong likelihood that potentially superior alternatives will be available to satisfy future capital needs.

4.3.3 Introduce an additional quality stock to add diversity to the local financial markets.

Given that Hong Kong currently has over 890 companies listed on the Main Board alone with a market cap of over 6.5 trillion, the addition of AA NewCo would add little diversity to, or have any other appreciable effects on, the local market.

4.3.4 Offer an opportunity for Hong Kong people to participate in the success of a well-managed company with strong growth potential.

Conceptually and in reality (albeit indirectly), all of us in Hong Kong are owners of the AAHK and already participate its success and in the success of the HKIA. This applies to direct financial and commercial success, and, more importantly, the indirect effects that the success of the HKIA contributes to the overall economy of Hong Kong. Thus, this reason cannot be considered to be convincing justifications for the privatization exercise.

4.3.5 Proceeds from privatization will help strengthen government finance in the short to medium term.

Although it has been emphasized that it is not the foremost objective of the exercise in this case, this is often a major motivation behind many airport privatization exercises. This is also the most convincing support for some form of privatization for Hong Kong should the need to strengthen the government's finances in the short to medium term arise, and IPO could well be one of the good options. However, the original privatization proposal was floated when the Hong Kong economy was going through some testing times during the Asian financial crisis in 1998 and the subsequent global economic slowdown at the beginning of the new century. At that time, there was a need to re-balance the budget of Hong Kong and to seek out new sources of income for the government. Since then, we have moved on to much better times, most notably through the policy support that is provided by the Central Government in the form of the Closer Economic Partnership Agreement (CEPA) and the individual travel scheme for Hong Kong. The positive effects of these policies have been clearly witnessed in the past year, and are likely to provide a continuing impetus for the further growth of the Hong Kong economy in the near to medium term. Thus, at the very least, the short- to medium-term financial needs of the government have been significantly lessened, if not eliminated, for the time being.

In addition to the foregoing discussion of the five justifications, it is important that the concept of cost-benefit be brought into consideration. There are obviously costs that are involved in the privatization exercise, both in terms of monetary and other resources. The cost of continuing to maintain a listed company and continuously finding a balance between the public interest and the financial benefits of the minority shareholders in AA NewCo are significant costs that cannot be ignored. A glance at

the government's consultation paper indicates that many of the issues that are contained therein do not lend themselves to simple or easy solutions, and others are of the nature that if a less than optimal choice is selected, then the long-term repercussions would be tremendous in terms of the overall cost to the Hong Kong economy. This list of rather complicated issues is a clear reflection of the totality of the "costs" that are involved in the proposed exercise, not to mention the political and legal issues that may arise.

When we consider the cost considerations in the cost-benefit picture, together with the lack of strength in the justifications for the privatization exercise and the significantly diminished need for short- to medium-term props for the financial position of the government, we must conclude that the case for the partial privatization of the AAHK is not justified, either now or in the foreseeable future.

4.4 Guiding Principles for the Privatized AA NewCo

The HKIA represents a valuable and strategic infrastructural investment for Hong Kong. The mission of the HKIA, as stated in the Airport Authority Ordinance and again elaborated in Article 128 of the Basic Law, is to maintain the status of Hong Kong as the centre of international and regional aviation. Along these lines, it is important that any decisions concerning the HKIA or the AAHK, including those that are related to the proposed privatization exercise, demonstrate their contribution to the continuous improvement of the HKIA or the AAHK in accordance with this mission.

The current privatization proposal of the government and the subsequent decision on the partial privatization of the AAHK is the most important decision that has arisen

concerning the HKIA since its inception. In addition to the discussions and considerations of the various options that have been put forward in this privatization exercise, we would like to propose the following guiding principles as a key reference for analysis and decision-making should the decision to privatize be taken. More importantly, these should form the guiding principles for the standard of performance for AA NewCo to ensure that any decisions that are made are true to the mission.

- (i) AA NewCo will pursue continuous improvement toward the achievement of the established mission of the HKIA.**

- (ii) The overall service quality, and particularly the service quality of the aeronautical services, will not fall below the level of service quality level of the HKIA before privatization.**

- (iii) The overall level of charges (in relation to overall prices in Hong Kong and other relevant factors), and particularly the level of charges that are applicable to the aeronautical services, will not be higher than that before privatization.**

- (iv) The overall performance of the HKIA, as measured by relevant comparative studies, will not be worse than that before privatization.**

It is important to add that much more research will need to be conducted on the definition and establishment of a set of reliable and meaningful measurements of service quality, charges, and overall performance for the HKIA. Such work will be necessary irrespective of whether the proposed guiding principles are adopted. Currently available models and methodologies in the literature may need to be refined,

and a suitable and reliable methodology and set of measurements that are generally acceptable to the stakeholders of the HKIA will need to be devised.

4.5 In Pursuit of Continuous Improvement

Should the proposed partial privatization of the AAHK be postponed or shelved indefinitely, as our analysis advocates, we would like to suggest that many of the issues that have been discussed and the knowledge that has been gained in this privatization exercise be put to good use to improve the competitive positioning of the HKIA. This may include the following.

- (i) The adoption of improved governance and other practices that have been envisioned in the privatization exercise through a review of the practices that are required of listed companies, the engagement of consultants to assist in possible efficiency improvement, and attempts to build in systems that may achieve market discipline effects for the overall benefit of the organization.**

- (ii) Continuation of the projection of future capital needs, and evaluation and planning of the most cost-effective means to support the future funding needs of the development of the HKIA toward the established mission without it becoming a listed company.**

- (iii) Continuation of the study and implementation of appropriate regulatory frameworks and processes to ensure that the performance of the HKIA and the AAHK is on a continuous improvement curve.**

The devised frameworks should include the development and adaptation of reliable measurements of performance, improved mechanisms for the determination of airport charges and the adjudication of disputes, and a financial reward and penalty system that is linked to service standards.

Appendix

Consultation Document on Partial Privatization of the Airport Authority

Economic Development and Labour Bureau

November 2004

(i) As a guiding principle, *it is proposed that the legislative proposals should contain sufficient powers for the Government to exercise various regulatory functions, notwithstanding the Government's current intention to remain as a majority owner of the new Company in the foreseeable future.* This would enable the Government to effectively discharge its regulator's functions.

(ii) *It is proposed that the Government should be empowered to appoint a minority number of additional members to the Board of the new Company to represent the Government or the public interests, on top of any rights the Government may have as a shareholder.* The purpose is to ensure that apart from their fiduciary duty to the new Company, these additional Board members are legally empowered to advocate viewpoints on public policy grounds. As these directors will be in the minority, they would help ensure that the Board would carefully consider these viewpoints without pre-empting the Board's commercial decisions.

(iii) *It is proposed that more than half of the members of the new Company's Board, excluding the additional directors appointed by the Government, should be ordinarily resident in Hong Kong, and that the existing requirement for the AA Chairman to be a Hong Kong Permanent Resident should be retained.* These requirements would help ensure that the strategic airport facility will continue to be managed by predominantly Hong Kong residents.

(iv) *It is proposed that exercise of voting rights by any single shareholder (including associates), other than the Government, should be limited to not more than 10% of the total voting rights of all shareholders.* This would help prevent any single investor from having overwhelming influence on its operations and future development. There are similar restrictions in respect of some other privatized airports elsewhere.

(v) *It is proposed that the exercise of voting rights in the aggregate by shareholders who are not ordinarily resident in Hong Kong should be limited to not more than 49% of votes cast at a general meeting of shareholders.* This restriction would ensure that persons who are not ordinarily resident in Hong Kong would not be able to force a resolution at a general meeting of shareholders. Similar provisions exist in the Broadcasting Ordinance (Cap. 562)

and Telecommunications Ordinance (Cap. 106) in relation to broadcasting companies, and in overseas legislation governing some other privatized airports.

(vi) *It is proposed that the Government should be empowered to obtain information from the new Company for the purpose of enforcing relevant laws and regulations.* Similar power exists in the present AA Ordinance, and serves to facilitate effective regulation by the Government.

(vii) The Government would need to be satisfied that the new Company would continue to invest in the HKIA to meet demand. *It is proposed that the new Company would be required to submit capital investment plans to the Government as a regulator of the airport for information.* With such an arrangement, the Government would be able to initiate discussion with the new Company early if there are any deficiencies in the plans. There has been suggestion that these capital investment plans should be subject to approval by the Government. This is not supported as it may be perceived by investors as giving the Government too wide a power to influence the new Company's commercial decisions in respect of its investment.

(viii) *It is proposed that the Government should be empowered to give directions to the new Company in the public interest, with compensation to it under specified circumstances.* Similar provision exists in the present AA Ordinance, and serves as a means to enable the Government to intervene in the AA's action to safeguard public interest. A compensation mechanism is provided to protect the commercial interest of AA in case it is directed to act contrary to prudent commercial principles and thereby suffers financial loss through no fault of its own.

(ix) *It is proposed that the Government should be empowered to take over the new Company's assets in case of the new Company's default or under emergency situation, with compensation to the new Company under specified circumstances.* This is the ultimate safeguard of public interest and would enable the Government or its designated third party to maintain the operations of the airport in case of default by the new Company or under emergency situation. The provision would also ensure that there is no unfair expropriation of private property.

(x) *It is proposed that the Government should be empowered to impose financial penalties on the new Company for breaches of relevant laws and licensing conditions; and should retain powers to suspend or revoke the aerodrome licence of the new Company in justifiable cases such as substantial breakdown of services at the airport.* These are

essential to ensure that the new Company would maintain suitable standards in operating HKIA.

(xi) *Do you consider it essential to preserve taxpayers' \$30.7 billion investment in AA in the privatization exercise; and if so, do you consider it reasonable and acceptable to increase airport charges over a period of three to five years in order to achieve this?*

(xii) *Do you attach more importance to minimizing any increase in the airport charges in the next few years; and if so, do you consider it acceptable if taxpayers' investment in AA as measured by its valuation at IPO is diminished?*

(xiii) There has been general support for an economic regulatory framework that is fair, predictable, transparent and simple to administer. *It is proposed that the regulatory framework should also subscribe to the user pays principle; allow the new Company a reasonable return on its investment; and provide incentives for enhancing efficiency and increasing capacity to cater for demand.*

(xiv) *It is proposed that only airport charges (i.e. currently landing, parking and terminal building charges) paid by airlines should be regulated*, as they concern those core airport activities which are necessary for the operation of the airport, but cannot be economically duplicated or produced outside the airport perimeter. This would avoid over-regulation and is in line with the practice in most other privatized international airports. Some airlines have suggested that the airport should adopt a so-called "single-till" approach where the profits from both aeronautical and commercial activities should be taken together in calculation of the target return, so that the profits from the new Company's commercial activities could contribute towards keeping airport charges more competitive. We consider the currently proposed arrangement a better alternative because excluding commercial revenues from the regulatory framework should offer more incentive for the new Company to explore commercial opportunities. Making the aeronautical operations a commercially viable business on its own would also better encourage the new Company to maintain its aeronautical services at high standards. The objective of keeping airport charges competitive will be achieved through setting a lower target return for its regulated activities as per item (xv) below.

(xv) In line with the user pays principle and to ensure adequate investment in new facilities, the new Company would need to have a reasonable return on its aeronautical activities. But in view of the importance of maintaining the competitiveness of the airport, *it is proposed that the level of the new Company's target return for aeronautical activities should*

commensurate with the risk of the aeronautical business, which may not necessarily be the same as the average cost of capital of the new Company as a whole. The exact formula for computing the target return, including the risk premium to be applied, will be determined by the Government prior to IPO after further analysis of AA's business plan.

(xvi) *It is proposed that the new Company should be allowed to negotiate on a commercial basis with airlines' representatives on the level of airport charges every three years or as a need arises, within a set of broad parameters set out in the Ordinance.* These parameters may include references to the relative competitiveness of HKIA in the region and the general economy of Hong Kong. This would allow the new Company and primary users of HKIA to work out commercial arrangements best suited for the evolving aviation industry without unnecessary regulatory intervention.

(xvii) There have been diverse views on how airport charges should be adjudicated in case the new Company and airlines cannot come to an agreement through commercial negotiation. *It is for consideration whether the Government or a Government appointed independent panel should be empowered to adjudicate on the reasonable level of airport charges* taking into account factors like inflation, return on investment, etc. It will also receive representations from both the new Company and airlines.

(xviii) *It is proposed that the new Company should be required to draw up a set of service standards, and on the basis of which a financial reward and penalty system should be devised to link the actual service standards to the level of airport charges.* A similar system is being implemented in London's Heathrow and Gatwick Airports.

(xix) *It is proposed that the new Company should continue to hold and make use of the land on the airport island in order to retain flexibility in planning and developing necessary facilities in support of airport operations, and that the existing controls over land uses on the airport island, including limitation on AA to use the land only for airport-related purposes and the requirement for AA to obtain prior Government approval for its building plans should continue.*

(xx) As regards activities outside the airport island, *it is proposed that the existing restrictions on the range of airport-related activities that AA may conduct should be retained.* However, in view of the status of the new Company as a listed company, it may be no longer appropriate to require the new Company to seek the Financial Secretary's prior approval for its commercial activity. *It is for consideration whether such approval requirement should be replaced by a new provision empowering the Government to direct*

the new Company to divest an investment or desist from undertaking an activity if it is found to be outside the range of permitted activities.

(xxi) *It is proposed that statutory provisions be made to prohibit the new Company from engaging in anti-competitive activities and abuse of its dominant position in relation to its land use and scope of business.* Such provisions would draw reference from similar provisions in the Telecommunications Ordinance (Cap. 106) and Broadcasting Ordinance (Cap. 562) and overseas regulation.

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