

Capacity Determines the Future of the Hong Kong Aviation Industry

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The Hong Kong International Airport (HKIA) has been named the World's Best Airport eight times since the award was first given out in 2000. This impressive record is a testament to the fact that the HKIA has the best facilities and services in the world. With the existing runway capacity expected to reach its practical limit in 2020, the question we need to ask ourselves is: *Are we going to let the foreseeable over-capacity drag us down and hand over the World's Best Airport honor to another city?*

Of course, the real issue here is not the honor of the title itself but the economic implications of losing it. Since the Hong Kong Airport Authority unveiled its Mater Plan 2030 in October last year, one of the most contentious issues is whether a third runway should be built (option 2). Various consultation papers and reports have already covered things like the number of jobs it can create, expected returns from the economic growth it can bring, and the impact on the environment etc. Some are of the opinion that there are no urgent needs to expand the airport's capacity by building a third runway. Their argument is that we can simply invest in improving the infrastructure and facilities so as to achieve 100% utilization rate. Once the airport is equipped to maximize its handling capacity, we can enjoy the economic benefits it can bring for years to come. In what follows, we will investigate from six different perspectives whether this "ideal" scenario can be materialized, and if it is, whether it is sustainable.

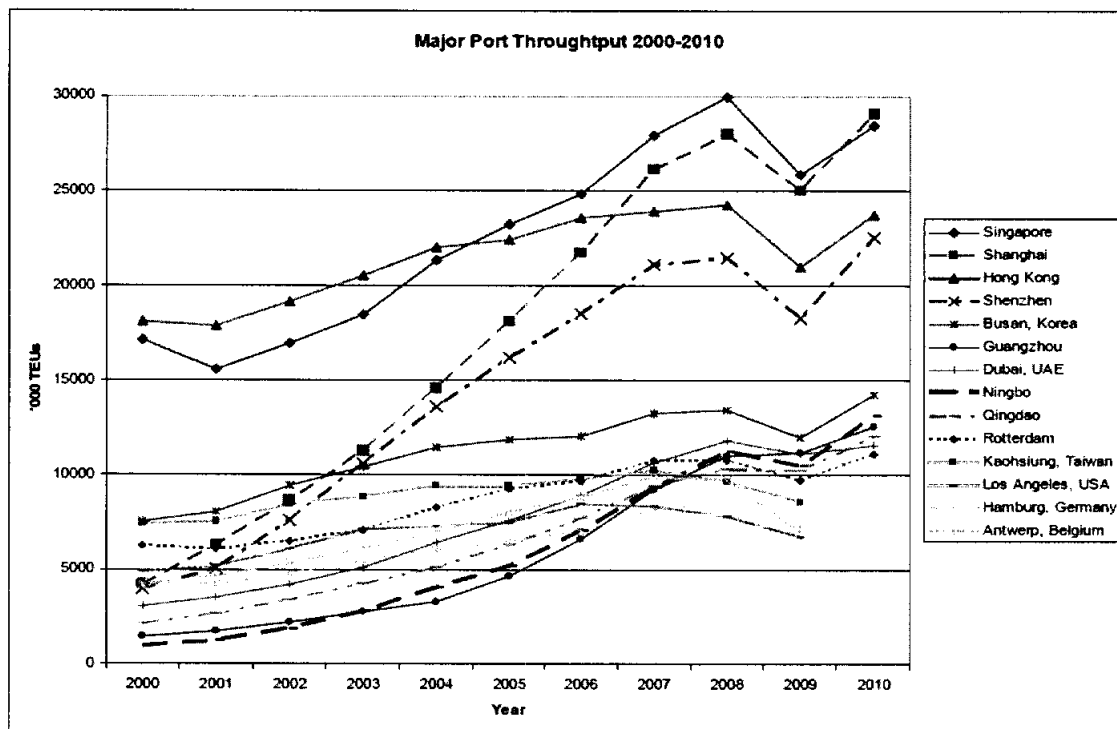
1. The Consequence of Under-investment: Lessons from the Ocean Freight Industry

From the 90's to the beginning of the twenty-first century, Hong Kong was crowned the busiest container port in the world in terms of the number of containers it handled each year. In the last six years, Hong Kong has been slowly losing its leadership position – many of the large container shipping companies have been gradually moving their freight routes from Hong Kong to the 5 main ports in Mainland China. Many workers in the sea freight and logistic industry, such as container truck drivers and godown employees, are facing insufficient work and even the risk of being laid off.

In 2000, five of the ten largest seaports in the world in terms of throughput are located in Asia while the rest are in Europe and North America (see figure 1). What this represents is that a significant amount of world trade took place between these three regions. The top-ten ranking started to change dramatically in 2005. By 2010 eight of the top ten seaports are in

Asia, six of which belongs to China, and the other two are in Europe and the Middle East. The only U.S. port that was on the list, Los Angeles, is no longer one of the top ten and Hong Kong has fallen from number 1 to number 3. Shenzhen and Guangzhou, the two direct competitors of Hong Kong, have moved into the number 4 and number 7 positions respectively and their total cargo volume has already exceeded that of Hong Kong. Since they started developing their port facilities in early 2000, they have experienced annual throughout growth rate as high as 50%. The annual growth rate in Hong Kong over the last ten years, on the contrary, has been in the single digits (see figure 2). Many of the container shippers have been gradually shifting their Asia port away from Hong Kong to one of the 5 main ports in the mainland. Some of the reasons include:

- a. Good infrastructure
- b. Sufficient docks for large container vessels
- c. Complementary services
- d. Attractive prices



Data source: AAPA World Port Rankings

Figure 1: Major Port Throughput 2000-2010

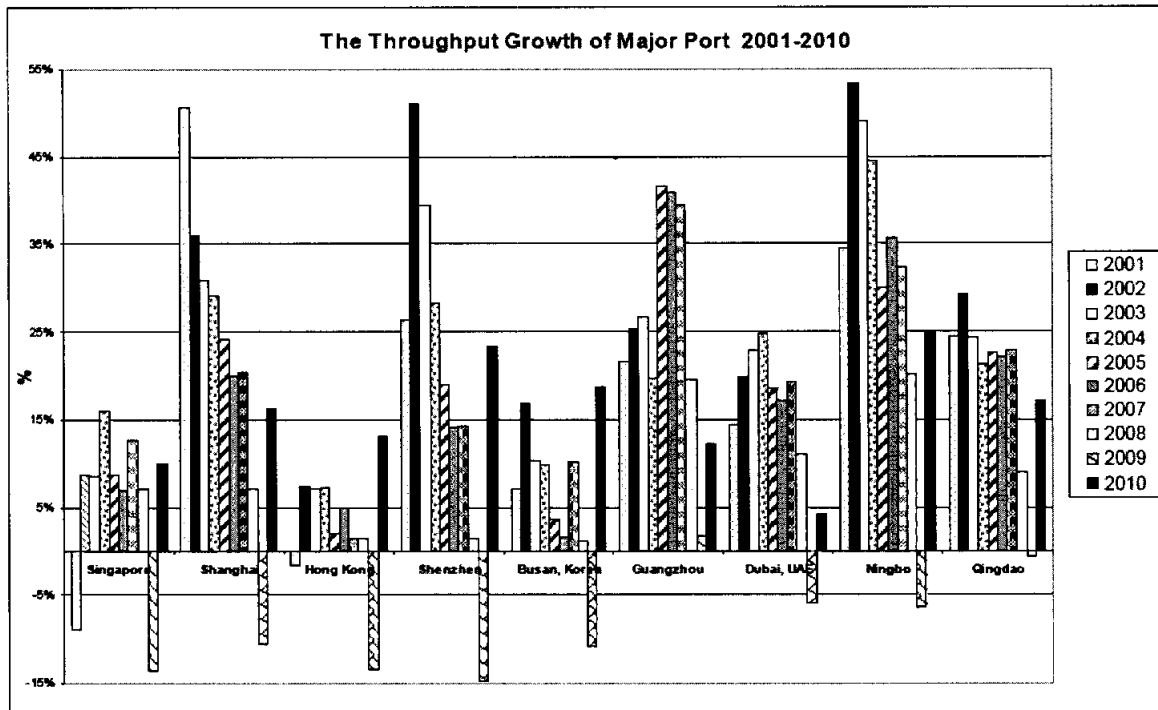


Figure 2. The Throughput Growth of Major Port 2001-2010

While it is true that Hong Kong can start developing its ocean freight industry, it will take up to 10 years just to catch up to the current state of those in China. But we must also remember that large shipping companies will have taken root in the mainland during that period. Will the container port industry follow the footsteps of Kaohsiung which has fallen out of the top-ten list from its number 3 position in less than a decade? Taking the experience of the ocean freight industry, are we going to let the aviation industry suffer the same fate?

Since statistics of global air freight tonnage are first kept in 2000, the HKIA has been maintaining the number two position. It became number one in 2010 (with a 23% increase in tonnage), replacing U.S. Memphis International Airport which has held the number one position for ten years (source: Airports Council International). If the HKIA does not keep pace with the growth in the international market, will the aviation industry of Hong Kong face the same predicament of the sea freight industry and end up watching airlines bypassing Hong Kong one by one? If and when that happens, what will happen to the two hundred thousand plus workers whose jobs are directly or indirectly related to the aviation industry?

2. The Key to Success in the Aviation Industry is Flexibility – Capacity Determines Flexibility

The nature of air transport (passenger and cargo) is very different from that of ocean transport. Time and convenience are the major factors of the former while cost is the deciding factor of the later. The money-makers of air transport are business class (for passenger), express courier and freight consolidation (for cargo). The primary considerations of passengers and cargo agents are the frequency of flight, the number choices of routes, convenience and flexibility of transfer and transshipment, and the ability to handle last-minute responses. Prices are their secondary concern. When our capacity is stretched to its limit, airlines will be forced to keep only the more lucrative routes and give up developing the less profitable ones. The result is that it will limit the choices of both passengers and cargo shippers. At the same time, the expansion of Guangzhou and Shenzhen airports is already underway in full force: Guangzhou has already begun to build a third runway in 2010 and its plan is to increase the number to five in the future; Shenzhen has already finished its second runway and planning for the third. Compared with the HKIA, our competitors have enough excess capacity to handle years of future growth with no pressing needs to add any capacity (see Table 1). By the time their expansion is done we will be closer to our saturation point. When they start waving their hands to airlines currently stationed in Hong Kong, do you think they will choose to stay with us or move their base just like many of the shipping companies did? Federal Express once considered moving their Asia Pacific Hub to Hong Kong but ended up choosing Guangzhou.

Table 1. Comparison between Hong Kong International Airport and Guangzhou Baiyun Airport

	Hong Kong International Airport	Guangzhou Baiyun Airport
Airlines	95	50
Top Tier International Airlines	Around 40	14
Mainland China Airlines	8	16
Countries & Cities reached	More than 160	100
Mainland China Cities	45	55
Air Traffic Movements (ATMs) per annum	306500 ATMs (81.5% of maximum ATMs)	211309 ATMs

Data Source: the 2010 statistics of the two airports

3. Demand for Aviation has Changed; Emerging Markets Are the New Driving Force

Demand for passenger flights and air cargo routes have been increasing rapidly around the world, especially in Asia. When the HKIA started its operation in 1998 its capacity was built to handle the projected growth in the next 40 to 50 years. Recent data have shown that it will reach its capacity 20 some years earlier than expected. What it tells us is that the role Hong Kong plays in international aviation is far more important than expected. In the past 10 years, the average growth rate of passenger and cargo transport has been around 4-8%, which is much higher than the initial estimate. In the long run, civil aviation will become as common as riding the subway which translates into a tremendous growth in demand.

Furthermore, after the two recent financial crises airlines realized that they cannot just concentrate on the growth of their Europe-U.S. routes. New opportunities are bubbling up in South America, the Middle East, Australia, Southeast Asia and other emerging markets. For future growth, Airlines must develop new routes and/or increase flight frequency on existing ones to fulfill the rapidly increasing demand. With the current utilization rate of the HKIA running as high as 81.5% (ATMs per annum), it is not equipped to handle the new demand. The HKIA must increase its capacity in order to encourage existing airlines to add new routes and increase flight frequencies. Additional capacity can also allow airlines that want to fly to or through Hong Kong but are kept out because of insufficient capacity. Not only that it will give passengers and cargo agents more choices and flexibility, more competition will also help bring down airfares and freight rates.

4. Transit Routes are the New Stars; Added Capacity Brings Business Opportunities

Growth in air transport will bring new business opportunities. In the Kai Tak era, "transfer routes" were only 23% of all flight routes. During the second year of the HKIA in operation, transfer routes have already risen to about 30%. Given the business savvy and the high adaptability of entrepreneurs in Hong Kong, air transport and its related industries (such as tourism, trading, logistics, food and beverages, retails and other related service industries) will be have no problem finding new business opportunities and find ways to meet the

growing demand. Taking these related benefits into account, the economic benefits that an expansion will bring is actually much higher than the “direct, indirect, and related benefits” in the Master Plan.

“Opportunities are always reserved for those who are well-prepared”. Those who start preparing only when they are certain of the rate of return will miss the boat. While investment decisions should always be made based on careful analyses, expected returns and risk-minimizing, some uncertainty is inevitable and therefore should not be an excuse for Hong Kong to not equip itself for future growth.

5. Demand Patterns are Inflexible; Over-Capacity Severely Lowers Quality of Services

Some studies have pointed out that there are many non-peak periods throughout the day at the airport. A suggested alternative to adding capacity is to manage the demand and redistribute the “load”. That is, divert passengers to airport in the Pearl River Delta region during peak periods. While this is possible in principle, implementing it is another story. The Cross Harbour Tunnel (Hung Hom) is a case in point. If we divide each day into even time periods, it turns out that the usage rate in nearly half of the time periods is actually below capacity (typically after mid-night and before dawn). Does it mean that we really don’t need the Eastern and Western Crossing Tunnels or implement traffic control? Diverting auto traffic between the three harbour tunnels may mean only 10 minutes or so difference in travel time. But diverting flights between various airports in the Pearl River Delta region will mean hours or even more than half a day difference in travel time because of flight schedules and the time it takes to go to another airport. We will discuss how the HKIA can collaborate with airports in the Pearl River Delta regions in more details below.

Traffic in general can be roughly divided into “peak” versus “non-peak” hours. We cannot divert air travel demands from peak to non-peak hours, just like we cannot mandate half of the labour force to work at night. Some suggest using levying a surcharge during peak hours in order to divert some traffic during those hours. The MTR has tried that from 1988 to 1993 without much success. Due to the geographical advantage of Hong Kong, people can reach countries and regions that accounts for half of the world’s population in roughly 4 hours.

Naturally, air passengers would prefer flights with “early departure and late return”. This is something the HKIA cannot control but can only accommodate the best it can.

Furthermore, when the airport is operating near capacity, it will not be able to handle any unanticipated incidents. One only has to look at what happens when there is a minor traffic accident in the Cross Harbour Tunnel. It can paralise traffic at both ends of the harbour for hours. Data have shown that the HKIA has already had to operation near or even over its capacity during certain periods or time slots. When an airport is frequently operating over its capacity, it will mean that it is operating near capacity on the average and result in unnecessary delays and its quality of services will suffer. From the operations management point of view, operating at full capacity is never encouraged. Not only that it will lower the quality of the products or services, it also means that the enterprise has no room to grow. Because of that, business enterprises typically leave an appropriate amount of spare capacity in order to handle not only routine setup, service and maintenance, and unexpected events.

6. Synergy Can Only Be Achieved with Expanded Capacity

Some people question if the expected future growth in demand for the HKIA is exaggerated when all the airports in the Pearl River Delta region are developing rapidly at the same time. With the rapid development of the Mainland and other emerging markets in Asia (e.g. India and Malaysia etc.) the number of passengers who will choose air travel will increase many fold. One thing for sure is that we don't have to worry about not having sufficient demand to match the increasing supply of airport capacities. But if Hong Kong wants to derive the largest economic benefits from the growing market, we must maintain our hard-earned position as the World's Best Airport. That is, we are able to accommodate the largest number of choices in terms of flights and destinations. At the same time, we also need to maintain our superb quality of services so that we are the top choice of passengers as well as cargo shipper because we have the most convenient and reliable transport hub in the world.

This is also what it takes to create synergy with our neighbouring airports. Most business travelers would prefer direct flights with efficient services and would not spend 2-3 hours to travel to Guangzhou or Shenzhen for a transit. Leisure travelers, on the other hand, mostly prefer discount fares and probably don't mind having the take a few hours on a transit. We

can achieve a win-win situation by cooperating with the airports in the Pearl River Delta region. In order to do so, our airport needs to have the capacity to attract more leisure travelers we can divert to other Pearl River Delta airports. If not, Hong Kong's position as a central hub will likely be replaced by Singapore or Guangzhou airport, and HKIA will become a second tier airport. When our capacity is limited we can only focus on serving business travelers. The leisure travelers today may be our business travelers tomorrow. If HKIA can continue to provide the best services available, it will no doubt be the top choice of air travelers as well as cargos.

In today's competitive world, the golden rule is "progress or regress". There are no permanent champions in this world. The HKIA is still the crown jewel of international airports today with the largest volume of air freight. But that does not mean it can meet the ever higher consumer expectations and the challenges post by our neighboring airports with our existing facilities and services. The HKIA needs continuous improvements, and expansion is a must. Should we choose Option 1 or Option 2? Or implement Option 1 first and build the third runway later? Before we make a decision, we need to ask ourselves a few questions:

1. If we go for Option 1, will we be able to build the third runway when we need one? (It may be necessary to tear down some existing facilities first. If this is the case, it will be more cost effective to simply implement Option 2.)
2. If we choose to postpone building the third runway for a few years, will we be able to handle the increasing demand?
3. If we delay building the third runway, we may have a more accurate estimate on future demand and thereby reducing the risk. If we do, will the construction cost increase multi-fold just like what happened to the High-Speed Rail and the Hong Kong – Zhuhai – Macao Bridge?