The growth in Chinese aviation has been nothing short of extraordinary. In 1978, China was only ranked 37th place in the world measured by revenue passenger kilometers (RPKs). Since then, the country has witnessed 17% annual traffic growth. By 2005, China has become the second largest aviation market, only behind the United States (US). By 2010, the profitability of Chinese carriers had soared as Cathay Pacific recorded the world's largest net profit of US$1.8 billion, closely followed by Air China in second place, while China Southern and China Eastern commanded fifth and ninth places respectively. In fact, the combined profit of all Chinese airlines accounted for over half of the global total in 2010.

The Chinese government has played a major role in shaping its aviation industry amidst a fast transforming economy. In the past decade, three particularly important policy decisions were made: airline consolidation; opening up of domestic aviation market; and adoption of liberal international aviation policy. In 2002, the Chinese government instigated airline consolidation among the carriers. This created three equally sized and spatially balanced airline groups, namely, Air China, China Southern and China Eastern, in the hope of building a strong and profitable airline industry that was capable of opposing foreign competition. Afterwards, the Civil Aviation Administration of China (CAAC) lifted its restriction on private investment for domestic airlines. By the end of 2008, the CAAC approved 14 new scheduled passenger carriers, with the majority of them being controlled by domestic private investors. However, constraints remained as many of these new carriers were prohibited from serving the densely populated and economically prosperous east coast region which was dominated by the extensive route networks of the Big Three incumbents.

In a recent study, the authors found that the new entrants had generally less than 5% penetration on the 50 busiest routes. The CAAC's strategic intention of limiting the new carriers to outlying regions appeared to be twofold – firstly to minimize the impacts on the incumbents, and secondly to provide economic support to peripheral regions. Not surprisingly, the domestic market has been under the tight control of the incumbent airlines. In 2000, Air China, China Southern and China Eastern together controlled 47% of domestic market and 91% of international market measured by RPKs. By 2010, 58% of the domestic market was being controlled by the Big Three, while their proportion of the international market had
slightly reduced to 89%6. Following consolidation of the Chinese market, the load factor of the Big Three substantially increased from around 60-65% in 2000 to 80% by 20107. And the size of the Big Three has also grown exponentially and in 2009, China Southern, China Eastern and Air China were ranked the 4th, 11th, and 16th largest airlines, respectively, in the world in terms of total scheduled passengers carried, according to IATA World Air Transport Statistics 2010.

Since the early 1990s China has adopted an export-oriented development strategy. Establishing direct air links to important international markets has been one of the top priorities for regional governments. With pressure from central and regional governments, the CAAC gradually shifted its long-standing protective international aviation policy towards a liberal regime. One of its primary strategies was to prioritize its air cargo legislation as it would benefit China’s rapidly growing economy and further boost international trade. Moreover, it was generally considered that liberalizing the cargo market would not severely impact Chinese carriers8. Consequently, a number of cargo traffic rights were offered to foreign airlines on a unilateral basis with the biggest move being the establishment of full liberalization between China and the US for cargo operations in 2004.

Liberalization of cargo operations triggered a number of vertically integrated carriers such as DHL, FedEx and UPS to establish operating bases at Chinese airports. Subsequently, air cargo surged at China’s primary airports and at Shanghai Pudong Airport, for example, freight traffic recorded an average growth rate of 31% per year from 2000 to 2010 making it the third largest cargo airport in the world with 3.2 million tons of cargo in 20109. However, the Chinese carriers did not have cargo capacity to capitalize from the economic boom as there were only 87 freighters in the entire Chinese fleet by the end of 2010 and they were competitively disadvantaged in most of the logistical areas of the supply chain when compared to the integrators. In a recent speech, the Administrator of the CAAC, Mr. Li Jiaxiang, revealed that the international air cargo market share of Chinese airlines was only 32% in 201010. The inadequate freight capacity of Chinese carriers is especially evident at Shanghai Pudong Airport, where 87% of the cargo traffic was handled by foreign airlines in 200811.

In 2003, the CAAC formally stated that it would liberalize international aviation in a “proactive, progressive, orderly and safeguarded” way. Of the many liberal bilateral agreements signed between China and foreign countries, the accord reached with the US in 2004 is particularly noteworthy12. From 2001 to 2004, the Chinese carriers had more scheduled seats available on the China-US routes than their US counterparts. As the skies between the US and China became increasingly open, the Chinese carriers were unable to fulfill their allocation of traffic rights, while the US carriers fully capitalized on fulfilling their bilateral obligations. Subsequently, the market share of the US airlines increased from 42% in 2004 to 61% by 2010, according to the OAG data. Also, Chinese carriers encountered financial difficulties when operating on the China-US routes. Air China for example struggled and made losses of CNY 600 million

6 Source: ICAO database.
7 The load factor improvement is mainly due to the capacity rationalization as a result of airline consolidation and Big Three’s well-managed capacity growth. More focusing on domestic market also plays an important role as Chinese airlines traditionally have lower load factor on international routes.
8 Chinese carriers in general, generated far less revenue from air cargo than from the passenger side of the business. For example, China Southern’s cargo revenue only accounted for 8.5% of the total revenue in 2001, while China Eastern accounted for 17.2% in the same year, and cargo comprised 18.8% of total revenues for Air China in 2003.
12 In the 2004 China-US bilateral agreement, the number of flights between the two countries more than quadrupled – from 54 to 249 and restrictions were lifted which allowed US carriers access to any Chinese city and it also allowed them to designate unlimited code-sharing agreements with Chinese airlines.

IATA Economics: www.iata.org/economics
(US$73 million) by operating flights to the US in 2005, while China Southern is still losing money after over ten years of operation on the Guangzhou-Los Angeles route.

By contrast, anecdotal evidence suggests that the same routes were among the most profitable for US carriers. The heavy loss sustained by the Chinese carriers is partly attributable to “weak branding” as they have continuously struggled to attract foreign passengers. A study of the Guangzhou-Los Angeles route by China Southern Airlines, for example, typifies the extent of the problem as 90% of the passengers were Chinese. However, the demographics of citizens that travel between China and the US is heavily skewed as around 70% of the passengers are US travelers, which exacerbates the branding problems that face Chinese carriers.

Based on the monthly average ticket prices charged by Chinese and US carriers on the transpacific route from July 2006 to May 2009, the authors found that the fares charged by the Chinese carriers were almost 20% lower than those of their US counterparts. Yet this pricing mechanism was unable to attract foreign visitors and the low yield significantly contributed to the losses. Apart from the China-US route, Chinese airlines are also losing market share to foreign carriers at Chinese airports. This is particularly the case in Shanghai, where the market share of foreign carriers increased from 53% in 2001 to 67% in 2009, while in Guangzhou it was even more prominent as the market share of foreign airlines’ doubled from 28% to 56% during the same period.

The airline industry is characterized by the effect of joint-economies-of-production between domestic and international operations. This effect is particularly evident in the hub-and-spoke network as substantial economies are generated because domestic traffic is funneled to a central hub, where this aggregated traffic is then channeled to international markets – a process that ensures high load factors and enhanced revenues for network airlines. The cornerstone of the CAAC’s current strategy is to develop Beijing Capital Airport (main base of Air China), Shanghai Pudong Airport (main base of China Eastern) and Guangzhou Baiyun Airport (main base of China Southern) into international hubs in an effort to improve the Big Three’s international competitiveness. However, international expansion has been hindered so far because of the pre-occupation of Chinese airlines with large, fast growing and lucrative domestic markets.

According to the OAG data, the domestic seat capacity of Air China, China Eastern and China Southern accounted for 80%, 74% and 92% respectively of the total input in 2000. A decade later the share of the domestic capacity for these big three incumbents had increased even further to 91%, 92% and 95% respectively, indicating that international operations had a far lower strategic priority – from a global perspective this was a unique situation. In an analysis of the hub configuration of Air China at Beijing Capital Airport in 2009, the authors found that Air China’s international flights were concentrated on short-haul Asian markets, while its presence in Europe and America was very limited. This made Air China an ideal alliance partner as international flights from its Star Alliance partners could now connect to its vast network.

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18 Analyzing the data from CAAC’s Statistical Data on Civil Aviation of China shows that between 1985 and 2007, the yield, adjusted by inflation, of domestic operations had an average growth rate of 2.3% per year, while the yield of international operations declined by 0.5% year on year.
assembly of domestic flights. The over-reliance on international partners will, however, further weaken Air China’s international presence and brand perception.

To improve Chinese airlines’ international competitiveness, some scholars in China argue that a highly competitive domestic market should be safeguarded and more freedom should be given to the new airlines as it could enhance the efficiency of Chinese carriers, which will in turn empower them to be more competitive internationally. Nevertheless, the recent amalgamation of China Eastern’s largest rival Shanghai Airline, and Air China’s takeover of Shenzhen Airlines, strongly indicates that the government is in favor of further consolidation. To some extent, this makes economic sense as it would allow Chinese incumbents to provide blanket coverage of their domestic markets and more feed to international markets.

However, the real pressure facing Chinese carriers is stemming from the rapid expansion of the high speed rail network which is providing fast connectivity among almost all of the major cities. This may force Chinese carriers to expand their presence much further into the international market, which would be a significant “game changer.” However, this will take time because international operations of Chinese carriers remain weak as only 7% of passengers at Shanghai Pudong Airport are transferring, while only 4% are doing so at Beijing Capital Airport (see note 16). Essentially, the development of international hub there is still at the preliminary stage. Moreover, hub airports and their base carriers have not been supporting and cooperating with each other very effectively. Other problems such as airport congestion and inflexible visa policies are also hampering Chinese carriers’ hub building efforts.

To conclude, China offers a unique opportunity to explore the active role played by the state in shaping the airline industry in a fast transforming economy. The government directed airline consolidation has substantially increased the operating performance of the major Chinese carriers. Their sizes are now comparable to world’s top airlines. Their high profitability, however, is mainly a consequence of the buoyant domestic market, while Chinese airlines’ international competitiveness is still weak. In the longer term, Chinese airlines will have to develop an extensive hub-and-spoke network to enhance their ability to compete internationally. For policy makers, strategic use of aviation policy to build a strong and profitable airline industry is still a formidable task lying ahead.

*The views expressed in this article are the authors’ and not necessarily those of IATA.*