



Benchmarking the performance of Chinese airlines: An investigation of productivity, yield and cost competitiveness



Kun Wang^a, Xingli Fan^b, Xiaowen Fu^{c,*}, Yiran Zhou^d

^a Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University, Hong Kong

^b Academy of Civil Aviation Science and Technology, Beijing, PR China

^c Institute of Transport and Logistics Studies, The University of Sydney, 173-175 Phillip Street, Sydney CBD, NSW 2000, Australia

^d School of Economics, Peking University, Beijing, PR China

ARTICLE INFO

Article history:

Available online 8 January 2014

Keywords:

Chinese airlines

Airline productivity

Yields

Unit cost competitiveness

ABSTRACT

In the past decade, the Chinese airline industry experienced extraordinary growth in size and profitability. However, no quantitative study has investigated the performance of Chinese airlines in terms of productivity and cost competitiveness. This study investigates the leading Chinese airlines' productivity, yield, cost competitiveness and input prices, and benchmarks them against major airlines around the world. It finds that Chinese airlines' productivity has improved significantly in the past decade but still lags behind that of industry leaders. Chinese carriers enjoyed high yields and low input prices in the domestic market, which led to high profitability in recent years. However, their cost advantage has been diminishing. To sustain long-term growth, Chinese airlines need to adopt the industry's best practices in a timely manner. Both the aviation markets and input markets in China should be further liberalized.

© 2013 Elsevier Ltd. All rights reserved.

1. Introduction and background

In the past few decades, the Chinese aviation industry has experienced tremendous growth, driven by the country's fast-expanding economy. In terms of market size, the number of air passengers grew at an annualized rate of 14.9% between 1990 and 2010. Since 2005 China has been the world's second-largest aviation market, second only to the United States. Chinese carriers are now among the most profitable airlines in the world. In 2010 the total earnings reached RMB35.1 billion (USD5.18 billion), accounting for about 60% of the industry's global profit. The Chinese airlines' profits this year were twice those of airlines in the United States and four times those of European airlines. Fig. 1 illustrates the rapid growth of Chinese airlines in terms of RPK and RFTK in the 2001 to 2010 period. When benchmarked with the world largest aviation market in US, China experienced faster growth in air traffic volume although its market size was still much smaller than that of the US. Even with the SARS epidemic in 2003 and the global financial crisis in 2008, Chinese airlines achieved traffic growth in every single year. Traffic growth was mainly led by the domestic market, whereas the international sector had not been fully explored.

Other than the booming Chinese economy, the driving forces for the Chinese airlines' strong growth in size and profitability remain unclear. There have been major changes in the Chinese aviation market during the past decade. Recent studies (see for example Zhang and Chen, 2003; Liu and Luk, 2009; Zhang and Round, 2009, 2011; Lei and O'Connell, 2011; Homsombat et al., 2011; Lau et al., 2012; Zhang et al., 2013) have pointed to major deregulation since the late 1990s; many new airlines have been allowed into the domestic market, including both (provincially) state-owned firms and privately owned carriers. In 2005 foreign ownership of airlines was allowed up to a cap of 49%. Route regulations have been removed for most destinations, except for a few mega-airports such as Beijing, Shanghai, and Guangzhou. In most cases airlines are allowed to set their own prices, by offering price discounts off the nominal standard fares set by the Civil Aviation Administration of China (CAAC). Distribution channels are also now competitive. In addition to an increasing number of ticket agents, airlines now increasingly rely on sales through their websites and online travel portals such as Ctrip, eLong, and Taobao. Many airports have been commercialized and (partially) privatized. Regulations in the international markets are also being relaxed gradually. All these deregulation efforts and industry developments may help to explain the overall competitiveness and productivity of Chinese airlines.

At the same time, there is clear evidence that the Chinese aviation industry has not achieved global competitiveness. As

* Corresponding author. Tel.: +61 2 9114 1731; fax: +61 2 9114 1722.

E-mail address: xiaowen.fu@sydney.edu.au (X. Fu).

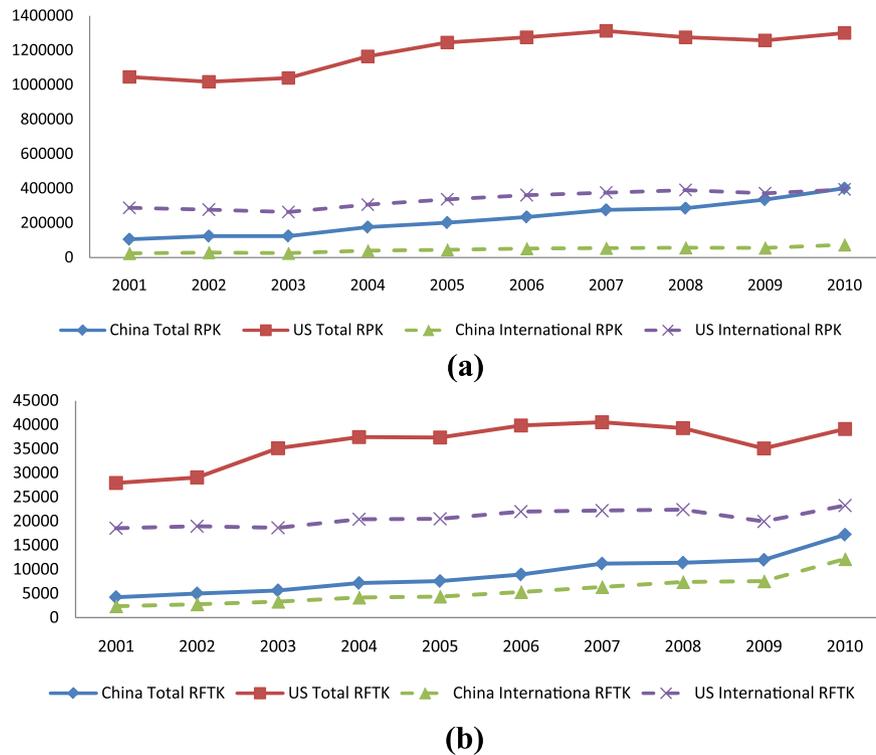


Fig. 1. Revenue passenger kilometer (RPK) and revenue freight tonne kilometer (RFTK) for China and US.
Source: Statistical data on civil aviation of China and the U.S. Department of Transport.

observed by Fu et al. (2012), Chinese airlines' revenue and profits are mostly derived from domestic markets. Despite their leadership in size and profit, Chinese carriers still lack the confidence to freely compete with their international peers. Many regulatory measures remain in both domestic and international markets. Zhang et al. (2009) observed that there are still substantial regulations in areas such as aircraft purchase and fleet buildup, pilot recruitment, fuel purchase, airport charges, and route entry and pricing for low-cost carriers. Chinese low cost carriers are thus not aggressive competitors as those in Europe or North America (Fu et al., 2011). Despite the continuous expansion of the overall market, the top three airline groups (the so-called "Big Three", which include Air China, China South, and China Eastern) account for more than 70% of the domestic market. These airlines are all majority state-owned, and the implementation of anti-trust/competition laws is neither frequent nor strict. Clearly, there is insufficient competition in the aviation market, which is probably a major contributing factor to Chinese airlines' record profits in recent years.

Fig. 2 benchmarks market concentration conditions in the domestic markets of China and the US. Both markets have experienced significant growth in the sample period as shown in Fig. 1. However, the HHI index in mainland China was clearly higher than the case of US, suggesting a highly concentrated domestic market in China. This is also demonstrated by the number of carriers in each market. Note that in mainland China, large airlines often control many subsidiary airlines that serve medium hubs. Therefore, the effective competitors are fewer than the numbers reported. The effects of the various regulation/deregulation policies are also evident: CAAC directed nine of the largest Chinese state-owned airlines to merge into three airline groups (Big Three) in year 2003. This led to a substantial increase in market concentration. However, in recent years there appears to be a deregulation trend:

private investments in airlines are allowed and route entry regulation has been removed on most routes. This explains the decline of market concentration. Market concentration in the US domestic market has been quite stable, except that the number of airlines has declined due to airline restructuring efforts which led to mergers and acquisitions, and the bankruptcy of a few carriers.

In summary, there have been some major deregulation efforts in the Chinese aviation market in recent years. However, significant regulations remain and the market is still not as competitive as in mature markets in North America and Europe. Market shares are heavily concentrated with a few state-owned mega-carriers which have considerable market power in domestic market, but could barely compete in international markets despite record profits in recent years (Fu et al., 2012; Zhang et al., 2013). The growth of low-cost carriers has been limited and various regulations remain in the international market. Other than the country's booming economy, it is unclear what factors have driven Chinese airlines' strong growth in size and profitability. As a result, it is difficult to evaluate Chinese carriers' competitiveness against major international airlines, or to precisely evaluate the effects of the aviation policies adopted by the Chinese government.

This study quantifies the recent developments in the Chinese aviation market by investigating the performances of leading Chinese carriers during the 2001 to 2010 period. Both Total Factor Productivity (TFP) and Partial Factor Productivity measurements are calculated for the Big Three Chinese airlines, which are then benchmarked to some of the leading airlines in Asia Pacific, North America and Europe. Comparisons of average yield, unit costs and input prices are also made. These investigations allow us to assess the overall performances of Chinese airlines, and map the evolutionary path of such performance measures over the sample period. This data are used to evaluate the effects of the various aviation

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات