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Low cost carrier competition and route entry in an emerging but regulated aviation market – The case of China

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ABSTRACT

Although China lags behind other liberalized aviation markets in low cost carrier (LCC) development, its largest LCC, Spring Airlines, has achieved rapid growth in traffic volume and revenue, as well as consistent profitability, since its inauguration in 2005. Our empirical study on the Chinese domestic market suggests that Spring adopts a “cream skimming” strategy to enter high-priced routes, allowing the carrier to achieve both a very high load factor and considerable profitability. Spring’s capacity and market share on individual routes are constrained to low levels, likely due to government regulation and/or a “puppy dog” strategy adopted by the carrier. As a result, Spring is able to achieve fast growth without triggering price wars. To incumbent full service carriers, high speed rail (HSR) services impose much more significant competitive pressure than low cost carriers. Similar to LCCs in developed markets, Spring prefers to serve markets with high traffic volumes out of its operational base in Shanghai. Overall, Spring’s entry decision is not significantly affected by competition, either from full service airlines or HSR services. Our investigation suggests that LCCs have potential to introduce more competition but are yet to be a “game changer” in China. Further deregulation of the domestic market is needed.

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1. Introduction

The Chinese aviation industry has experienced rapid growth during recent decades. The number of air passengers grew at an annualized rate of 14.9% between 1990 and 2010 (CAAC, 2012), and since 2005 China has been the world’s second largest aviation market in terms of scheduled capacity. Despite such phenomenal growth, some legacy regulations remain untouched and the aviation market exhibits some distinctive characteristics in terms of network configuration, inter-modal competition, airline cost competitiveness and profitability (Zhang and Chen, 2003; Pan et al., 2007; Liu and Luk, 2009; Lei and O’Connell, 2011; Fu et al., 2012; Lau et al., 2012; Zhang et al., 2014; Wang et al., 2014a, 2014b). Among others, one puzzling feature is the extremely low penetration rate of low cost carriers (LCCs). As of June 2013, there is only one LCC, the Shanghai-based Spring Airlines, serving the domestic market. Although Spring has been consistently profitable since its establishment, it has not brought about the significant fare reduction and traffic volume increase triggered by successful LCCs in deregulated markets. After several years’ development, the LCC sector accounts for less than 3% of the Chinese

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domestic market, with no new entrant LCCs.¹ There has not yet been a clear explanation for the under-development of the LCC market in China, despite the success of Spring Airlines.

Both facilitating and impedimentary factors for LCC growth can be found in China. On the positive side, the market for tourists and so-called “visiting friends and relatives” (VFR) travelers has grown rapidly due to strong economic growth and an increasing middle class population in China.² Leisure passengers accounted for about half of the Chinese aviation market in 2010, growing from only 30% in 1999 (CAMIC, 2010). These leisure travelers are likely to be price sensitive, and as such are an ideal market segment for LCCs. Despite fast growth, air travel propensity in China is still low, only 0.24 in 2012 (see Fig. 1b). This number is expected to grow substantially in the years to come as the average income level in China continues to increase with the overall economy (See Fig. 1a). Although few cities have a secondary airport, the total number of commercial airports in China has increased from about 130 to nearly 190 over the past decade, and is expected to reach 230 by 2015 (CAAC, 2011).³ There are an increasing number of small and medium-sized airports which operate under capacity. Many of these airports have been commercialized and/or (partially) privatized, and as such have strong incentives to increase traffic throughput to improve their financial performance. The progressive liberalization in international markets⁴ has allowed carriers like Spring to enter into some overseas markets. The ticket distribution market is becoming competitive. According to CNNIC (2014), 12.1% of the internet-users in China booked air tickets online in 2013, and a total of 181 million Chinese used online portals to book air tickets, train tickets, hotels and travel packages. Online travel portals such as C-trip and eLong are getting more market shares, which should reduce the market power of the incumbent full service carriers (FSCs). In addition, price regulation has been effectively abandoned since 2002 (Zhang and Round, 2008, 2011). These changes should facilitate the entry of LCCs into the Chinese aviation market and improve their competitiveness.

However, LCCs may face some explicit and implicit impediments in serving the market. The Chinese aviation market is very concentrated, with the top 10 airports accounting for approximately half of the domestic market in terms of scheduled capacity (Fu et al., 2012). Most of these large airports are experiencing capacity shortages, making it difficult for new airlines to get desired slots. In addition, airlines still face some constraints in aircraft purchase and pilot recruitment. Li and Zheng (2008) concluded that 80% of the costs incurred by Chinese airlines are uncontrollable, because the fuel supply, airport charges and taxes are all regulated. There may be limited room for an airline to reduce its operating costs substantially. Finally, although many Asian LCCs have aggressively expanded into international markets (Homsombat et al., 2011, 2014), China is conservative in aviation liberalization and it has been quite challenging for private airlines to serve international destinations (Fu et al., 2010; Adler et al., 2014). In summary, there are both positive and negative factors influencing LCC development in China, but no study has yet provided a convincing explanation for the paradox of the stagnant LCC development in China despite the sustained profitability of Spring Airlines.

Numerous studies have been carried out on LCCs in developed countries where aviation markets are fully deregulated. The effects that LCCs have on pricing have been well documented. In general, competition from LCCs lowers the FSC prices on a route substantially and stimulates significant traffic volumes on the route and in adjacent markets (Whinston and Collins, 1992; Windle and Dresner, 1995, 1999; Dresner et al., 1996; Richards, 1996; Morrison, 2001; Hofer et al., 2008). Morrison (2001) estimated that Southwest, the largest LCC in North America, saved U.S. air passengers US\$12.9 billion in 1998, equivalent to 20% of the revenue for the domestic passenger market. Boguslaski et al. (2004) examined Southwest's route entry during 1990–2000 and confirmed that the airline was more likely to enter dense routes and to target low income and leisure passengers. Southwest avoided operating at other FSCs' hub airports and tended to expand its network from airports where it already provided services, with a preference for short- to medium-haul routes. Oliveira (2008) investigated the entry pattern of Gol, Brazil's most successful LCC. His study concluded that at an early stage, Gol adopted an entry strategy similar to that of Southwest to enter short haul and dense markets. Over time, however, Gol added more long-haul routes into its network. Fu et al. (2011) estimated an almost ideal demand system (AIDS) for passenger services out of Chicago. Their estimation confirmed that there is significant product differentiation between FSCs and LCCs and that an airline's fares are sensitive to competition from carriers of the same type (i.e. LCC pricing is more sensitive to competition from other LCCs than from FSCs).

If the results obtained from these studies can be directly applied to the Chinese aviation market, one would expect intense price competition between LCCs and FSCs, especially on dense, short-distance routes linking secondary airports. This should lead to a high penetration rate of LCC services in the leisure market. However, as described in Section 2 below, this is not

¹ China West Air, a subsidiary of the Hainan Airline Group based in Chongqing, has announced its intention to transform into a low-cost carrier (CAPA report in July 2013, <http://centreforaviation.com/analysis/hnas-china-west-air-to-become-a-low-cost-carrier-the-catalyst-for-a-lcc-boom-in-china-117061>). During our interviews with senior executives of the airline in Sep 2012, we learned that the airline had been profitable, with load factors generally above 90%.

² Ernst and Young (2013) estimated that the middle class population in China was around 150 million, and as many as 500 million Chinese could enter the global middle class over the next decade. McKinsey & Company (2013) concluded that as of 2012, 71% of urban households in China could be classified as “mass middle class”, “upper middle class” and “affluent”. This number could increase to 84% by 2022.

³ Currently, only Shanghai is served by two airports. The cities of Beijing and Chengdu are building their second airports. In China's “12th Five-Year Plan for China Civil Aviation Development”, CAAC (2011) decided that priority would be given to capacity expansions at hub airports and building new feeder airports.

⁴ Li et al. (2010) noted that instead of approving substantial regulatory changes all at once, some regulators adopted a progressive liberalization strategy by removing various restrictions gradually, or progressively increasing the upper limits on number of destinations and number of airlines into the markets. It appears that China has largely followed such a strategy. For example, China revised its Bilateral Service Agreement (BSA) with the US in 1994, 1999, 2004, 2007 respectively without committing any (full) open-skies agreements. For more discussions on the liberalization process of China, please refer to Zhang and Chen (2003), Lei and O'Connell (2011), and Fu et al. (2014, 2015).

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