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Pricing dynamics between airline groups with dual-brand services The case of the Australian domestic market

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ABSTRACT

The Australian aviation industry achieved substantial growth after the abolition of the "two-airline-policy" in 1990. With Virgin's purchase of Tiger Airways, a new duopoly between two airlines groups, each consisting of a full service airline (FSA) and a low cost carrier (LCC), emerged in the domestic market. In this study, we analyze the pricing dynamics among the four airlines of the duopoly groups, using panel data of online fares on the four most densely travelled routes in the domestic market. Our empirical results suggest that market segmentation allows the FSAs to charge significantly higher prices than the LCCs. Still, there is clear evidence of competition within and across the market segments, and the airlines' pricing responses are asymmetric. Virgin's price responses to Qantas and Jetstar are moderate. In comparison, more than one third of Qantas's fare changes and less than half of Jetstar's fare changes are in response to Virgin's fare adjustments in the previous period. Despite Qantas and Jetstar's large market share, after lengthy and costly price wars in previous years, the Qantas group still responds to Virgin as if competing with an entrant. All four carriers adopt revenue management practices, but the pricing of Qantas and Jetstar does not seem to be coordinated. Our study identifies a complex competition pattern between airline groups offering dual-brand services, and suggests that the Australian domestic market has not reached a stable equilibrium.

1. Introduction

Air transportation not only contributes to passengers' wellbeing and logistics services, but also provides essential inputs to economic activities in other sectors such as tourism, trade, investment, and supply chain activities. It is very important for an economy to have access to high quality aviation services at competitive cost levels. This is particularly the case for Australia, where passengers rely almost exclusively on aviation to reach the rest of the world. In the domestic market, there are often long distances between populations and economic centers (Donehue and Baker, 2012). The plan to link major cities with high-speed rail, despite the extensive policy debates and numerous studies carried out in the past half a century, remains on paper. As a result, unlike many other markets such as Japan, China and Europe, there is little substitution or competition between air transport and rail services (Hensher, 1997; González-Savignat, 2004; Román et al., 2007; Fu et al., 2012, 2014; Zhang et al., 2017a,b). It is therefore important for Australian policy-makers to ensure that the nation has a well-performing and efficient air transport system. The Australian aviation industry has experienced and continued facing a range of tough and complex challenges since deregulation. Airlines operating in this

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environment have to constantly adjust their pricing and competition strategies for survival and growth. This paper aims to study how Australia's major airline groups interact by analyzing the pricing dynamics among the four airlines of the duopoly groups, using panel data of online fares on the four most densely travelled routes in the domestic market.

Douglas (1993) claimed that the Australian domestic market is a natural duopoly, which means that the market is too small relative to the cost structures of the airlines, to support three major airlines operating jet aircraft. Douglas argued that as long as the incumbent matches the price reductions of an entrant, the new airline's attempts to increase the market share by price reduction will fail and this will only lead to losses for both the new and existing airlines. This may have justified Australia's earlier "two airline policy", which mandated a duopoly between Ansett and Trans Australia Airlines (acquired by Qantas in 1992). Following the successful deregulation of the U.S. domestic aviation market, Australia abolished the two airline policy under the Airline Agreement Termination Act in 1990, along with many restrictions and regulations regarding prices, control of flight routes, and carrying capacity, and new airlines were allowed to enter all domestic routes (Forsyth, 1998). The first low cost carrier (LCC) Compass I was established in 1990 but quickly failed. Compass II commenced operations in 1992 but collapsed in 1993. The entry of Compass triggered price wars in the domestic market and airfares became cheaper and the airlines reported major losses of the year (Douglas, 1993). Impulse Airlines was established 1992 and operated between 1994 and 2004. It was merged with Qantas and ceased operation in 2004 after the launch of Jetstar, an LCC owned by Qantas. In 2000, Virgin Blue entered the market with a low cost model, and filled the market gap caused by the failures of Compass I and Compass II (Forsyth, 2003a).

The oligopoly market structure did not last very long, however. Shortly after the entry of Virgin Blue, Ansett went bankrupt, which gave Virgin Blue an opportunity to quickly expand its network (Whyte et al., 2012). With growth of 300% in passenger numbers in its first three years, Virgin Blue became the second largest carrier in Australia (Whyte et al., 2012). The market soon again evolved toward a duopoly between Qantas and Virgin, albeit in a different form. To compete with the rising Virgin Blue, Qantas created a low cost subsidiary, Jetstar, in 2003, under what is known as the airline-within-airlines (AinA) strategy in the industry. Over time, Virgin Blue gradually shifted away from the LCC model by introducing priority check-in, in-flight entertainment, and meals and beverages for its premium passengers to capture the corporate and government markets (Whyte et al., 2012). It also created a frequent flyer program and eventually became a full service airline (FSA) and rebranded itself as Virgin Australia in 2012. In 2013, Virgin purchased 60% equity in Tiger Airways Australia, another major LCC in Australia. Tiger Airways, which was renamed Tigerair (still referred to as Tiger in this paper), became 100% owned by Virgin in 2014 after Virgin acquired the remaining 40% stake from Singapore Airlines. As a result, the domestic market has returned to the duopoly market structure, this time between two airline groups: the Qantas group (FSA Qantas plus low cost subsidiary Jetstar) vis-à-vis the Virgin group (FSA Virgin Australia plus low cost subsidiary Tiger).

The Australian aviation market is now far more liberal than in the days of the "two airline policy" before the 1990s. Although there has been some debate on foreign investment and subsidies, the barrier to establishing an airline in Australia is generally low and foreign companies can compete in the domestic market through local subsidiaries. Nonetheless, the regulator has been cautiously maintaining sufficient competition in the market. For example, the proposed merger between Qantas and Air New Zealand in 2004 was rejected by both the Australian Competition and Consumer Commission and the New Zealand Commerce Commission, mainly due to the concern that competition may be reduced. The airline industry is not perfectly contestable. Although fierce competition between Qantas and Virgin has been observed, it is unclear whether sufficient competition can be maintained between two dominant airline groups that have a long history of multi-market contact.[1] Thus, it is important for policy makers and industry practitioners to develop a good understanding of the market dynamics in the era of the "new duopoly".

A study of the Australian market will also contribute valuable insights to the aviation literature. Although the issues of product line choice and multiproduct competition have been extensively discussed in the economics and management literature (Gilbert and Matutes, 1993; Porter, 1980, 1996; Klemperer and Padilla, 1997; Johnson and Myatt, 2003, 2006), few studies have empirically analyzed these strategies in the aviation industry. In fact, the previous attempts of FSAs to introduce low cost brands using the AinA strategy were largely unsuccessful in North America and Europe until a few carriers in the Asia-Pacific, notably Qantas, managed to sustain such dual-brand operations (Morrell, 2005; Graham and Vowles, 2006; Gillen and Gados, 2008). Homsombat et al. (2014) analyzed route entry and pricing patterns during 2005–2012, when Virgin alone fought against the Qantas/Jetstar group and other rivals including Tiger Airways. Such "asymmetrical" competition is clearly different from a duopoly between two airline groups that both have dual-brand operations (i.e., full service and low cost services jointly provided). With the "asymmetrical" market structure, Homsombat et al. (2014) and Zhang et al. (2017a,b) found that Qantas used Jetstar as a fighting brand against other LCCs, namely, Virgin and Tiger. However, the aviation industry is yet to understand the market dynamics of the new duopoly market structure after Virgin had moved to an FSA and acquired the LCC Tiger.

In this study, we aim to fill these gaps in the literature by analyzing the pricing dynamics between the two duopoly airline groups in the four most densely travelled routes in Australia. Unlike most studies that use the average fares available from industry databases *ex post* (Berry, 1992; Dresner et al., 1996; Windle and Dresner, 1995, 1999; Boguslaski et al., 2004; Goolsbee and Syverson, 2008; Wang et al., 2014; Zhang et al., 2014; Fu et al., 2015), in this study air fares are collected online prior to the flight departure. This allows us to capture the dynamic pricing behavior of the airlines over time. Hence, our study not only identifies the competition patterns among airlines, but also offers insights into the revenue management practices[2] in a new setting of dual-brand marketing.

[1] Previous empirical studies have found that multimarket contact between airlines may lead to reduced competition and high fares. See for example, Evans and Kessides (1994), Gimeno (1999), and Zou et al. (2012).

[2] The goal of revenue management is to maximize the revenue for a flight through effective price strategy, control of availability and inventory control of seats

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