



Price effects of airlines frequent flyer programs: The case of the dominant firm in Chile [☆]



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ABSTRACT

Frequent flyer programs create a switching cost for the consumer and allow firms to obtain rents, for example, by exploiting the principal agent problem existing between the employee who travel and purchases the ticket and the employer paying for that ticket. In Chile LAN is the dominant airline in domestic markets and the only one that has a frequent flyer program (FFP); it faces some competition from two small carriers. Using a unique dataset for Chile, collected by ourselves from airlines websites in 2011 and 2012, we estimate the impact of the dominant airline FFP. For this purpose, we compare for each route the fares between airlines and between weekday trips (that accumulate full miles and are mainly for business purposes) and weekend trips (that accumulate less than full miles and are mainly for leisure purposes). The results show that the differential premium LAN is able to charge for weekday trips due to the FFP is around 35%. Three particularities of the Chilean market help the econometric identification: there is only one hub for all airlines (the capital city of Santiago), there is no business class in domestic flights, and none of the airlines is a low-cost carrier.

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1. Introduction

In the air transport industry in Chile there are no legal relevant restrictions to enter the domestic market, there is no fare regulation for entrants,¹ and the role of government is defined by law as one of minimum intervention. However, the evolution of the industry over the last decade has prompted public concern and debate about the degree of competition in the domestic passenger air transport markets, especially in routes where there is only one airline. The main reason is that there exists a dominant airline in Chile, LAN, with a market share persistently above 75% for more than a decade. In addition, LAN has a frequent flyer program (FFP) that might exacerbate its market power and could make entry more difficult for potential competitors.

It has been well established in the literature that FFPs may generate switching costs for travelers and/or barriers to entry for potential entrants and, therefore, create market power for the airlines that have them. In fact, the main strategic barriers to entry in air transport markets are the dominant airport presence by an airline (Ciliberto and Williams, 2010; Berry, 1990,

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¹ The dominant firm has to comply with a self-regulatory plan intended to limit the ability to set higher prices in those domestic routes it faces no competition. However, the plan – approved by the antitrust tribunal – is quite ineffective as the constraints that the benchmarking imposes on the monopolized routes are largely non-binding. There mainly two reasons for this. First, the data is self-reported by LAN to the enforcement agency and to our knowledge has never been audited. Second, LAN operates under two different legal firms (LAN and LAN Express, undistinguishable for the consumer), which LAN exploits to game the regulatory scheme.

1992; Borenstein, 1990, 1991; Reiss and Spiller, 1989), which might limit access to airport facilities, and the frequent-flyer programs, which are sunk costs that an entrant has to pay to compete with an incumbent (Lederman, 2008; Cairns and Galbraith, 1990). From the point of view of a potential entrant, FFPs reduce the expected demand on a certain route and therefore may impede a profitable service on that route. Moreover, the FFPs may become a barrier to entry even if the incumbent has no network advantage or hub dominance (Basso et al., 2009).

Theoretically, a firm that can discriminate between consumers who pay for their airline tickets and consumers whose tickets are paid by someone else can create an artificial compatibility among services that are not otherwise related. The artificial compatibility generates barriers to entry, which persists even if the incumbent does not have a cost advantage with respect to the entrant (Cairns and Galbraith, 1990; Borenstein, 1991). Furthermore, FFPs also have an additional strategic potential, e.g. by raising the rewards on a certain route after entry has occurred, a strategy called ‘marketing mix reaction after entry’ (Shankar, 1997; Roberts et al., 2005).

As it is already well known, FFPs incentivize consumers to fly always with the same airline because there is a minimum number of miles required to obtain a free ticket and also some other non-pecuniary benefits – such as upgrades, extra luggage allowance or access to VIP lounges – and rewards are non-linearly increasing in the number of miles flown. Once the consumer realizes the advantage of concentrating his trips on one airline, he will do it with the airline offering more destinations and/or frequencies from where he lives. As a result, a frequent flyer program creates a competitive advantage for larger airlines serving more markets. This competitive advantage is not related to any efficiency, service characteristics or technology. However, it allows larger airlines to have a greater fraction of passengers with higher yields (Borenstein, 1989, 1996).

The empirical evidence indicates that the magnitude of these effects is not negligible. The results of Lederman (2008), for example, show that fares increase between 7% and 18% and that 25% of the “hub-premium” is explained by the role of frequent flyer programs. Berry et al. (2006) show that hub airlines can charge higher prices only to business travelers. This evidence is consistent with the findings of Lee and Prado (2005) who find no evidence of a hub premium for tourist travelers. This evidence suggests that the hub premium is related to the existence of frequent flyer programs and the agency problem identified by Cairns and Galbraith (1990).

Levine (1987) points out that principal-agent problems between the traveler (principal) and the travel agent (agent) and or between a firm (principal) and its business traveler employee (agent) have contributed to the success of FFPs as well as to the emergence of complex fare structures after the deregulation of the market in the early eighties. FFPs reward the agent for directing business to one airline at the expense of the principal who pays for the tickets. Moreover, as reported in Stephenson and Fox (1992), FFP have caused companies not only to pay higher fares but also for unnecessary travels. Along the same line of argument, but in a more general case, Borenstein (1996) identifies also the principal-agent problem as one of the key for the success of repeat-buyer programs in limiting entry and increasing profits. The result, in the case of airlines, is that the successful use of a FFP allows them to generate rents by exploiting the principal-agent problem between the business traveler and his employer. Basso and Feres (2012) analyze the optimal pricing policy for a monopoly that second-degree price discriminates between leisure travelers and business travelers whose fare is partially paid by their employers, showing that the agency problem can be exacerbated by the presence of adverse selection. Furthermore, Basso et al. (2009) develop a duopoly model and show that while a FFP for a single firm will give it an advantage, competition with FFPs may result in higher prices but lower profits.

The main goal of this paper is to estimate the effect that LAN’s FFP has on domestic flight tariffs in Chile. In general, it is difficult to separately identify the effect of a hub premium from the effect of a FFP. However, in Chile there is only one hub, which is obviously the same for all airlines (89% of all transported passengers in 2012 either departed from or arrived to Santiago); and only one of the airlines has a FFP program. To identify the effect of the FFP and separate it from other non-observable characteristics of LAN flights, we look at tariffs from flights where passengers earn full miles and others where only a fraction of the total miles are accumulated. We compare the fare differential between LAN and its main competitor for weekday trips (presumably for business purposes) with weekend trip (presumably targeted to tourists) in different routes. We control for the percentage of earned miles, the degree of competition, and other fare and route characteristics. To this aim, we make use of a unique data set collected by ourselves from several airlines’ websites over two periods of 8 weeks each in 2011 and 2012.

The results allow us to conclude that the differential premium LAN is able to charge in weekday flights – targeted mostly to business travelers – due to its frequent flyer program is about 35% above its competitors’ price. This premium is obtained for an adjusted fare of LAN that takes into account the benefit in terms of “extra trips” the traveler obtains by accumulating miles on the FFP.²

The contribution of the paper is twofold. First, as far as we know, it is the first paper that estimates the premium in a market where only one of the competitors has a FFP (which may explain why our estimated premium is larger than the ones found for some other markets). This might be relevant from a policy perspective for relatively small countries where there

² Naturally, one may wonder why LAN’s main competitor does not have a FFP if the premium is that large. A theoretically plausible explanation can be found in Basso et al. (2009): for some parameter configurations, the (sub-game perfect) equilibria of a duopoly game is with only one airline having a FFP. Moreover, although not explicitly considered in their paper, if one airline had a first-mover advantage the sub-game perfect equilibrium is that the first airline develops the FFP and the second one does not develop it. This is true for the same parameter region that the simultaneous move game of Basso et al. (2009) have equilibria with only one FFP.

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