Intelligence MEMOS

From: Ambarish Chandra and Mara Lederman

To: Canadian Air Travellers

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Re: **Canadian Airfares Show how Competition Yields Nuanced and Uneven Effects**

Price discrimination is the practice by which firms charge different consumers different prices for similar goods. It can take many forms ranging from simple discounts for students, to complex pricing menus for different cellphone packages to highly personalized, perhaps even individualized, prices in online markets.

As economic and social activity continues to move online, firms' ability to price discriminate will only increase. Therefore, understanding the effects is both critical and timely.

Few industries practice price discrimination as ubiquitously and effectively as airlines, which have developed sophisticated techniques for charging different travellers different prices for identical seats.

We investigated how changes in Canada`s market structure affected fares when airlines price discriminate. Did competition reduce fares for high-end travellers, thereby compressing the fare distribution? Or did it only reduce fares for price-sensitive passengers, who may be willing to switch airlines, resulting in greater fare dispersion between travellers? This question is not only theoretically ambiguous but previous empirical research has delivered conflicting results.

Our research reveals a more nuanced view: both effects may operate simultaneously. We developed a model with three types of travellers: price-sensitive leisure travellers, mid-range travellers, and high-end business travellers. The first type only flies if airfares are low enough. The second type must fly but will shop around for the cheapest option. The third type must not only fly but are loyal to their preferred airline due to frequent flier program status and rewards and the fact they rarely pay personally.

What impact does competition have on each type's fares? Our model illustrates that competition most affects fares for the mid-range travellers as they are the ones who can be charged high prices by a monopolist, but not duopolists. The cheapest fares have little room to fall with competition, while the most expensive fares will not fall because this group is brand loyal and unlikely to switch.

We conducted a 10-year study of Canadian airfares, from 2002 to 2011, and our results fully bear out these predictions. The largest effects of competition occur in the middle of the price distribution. Notably, our study used Canadian data while much of the previous work has used the US industry. With only a handful of carriers, little codesharing, and limited connecting service, many Canadian routes transitioned between a monopoly and duopoly structure during our period of study, allowing us to directly measure how fares change as markets move between these two market structures.

Our analysis indicates that when Air Canada faces competition from an additional rival, its median fares fall by about 8 percent while its cheapest and most expensive fares do not fall at all. This pattern of results is even more pronounced when Air Canada faces competition from Porter Airlines at Toronto's downtown airport, suggesting greater substitutability between Porter's flights and Air Canada's, at least for some travellers. In contrast, competition from WestJet out of its Hamilton hub has little impact on Air Canada's fares.

Our study reveals that how competition affects the structure of prices depends importantly on the underlying drivers of differences in willingness-to-pay between consumers. While we show how this plays out in one of the oldest price-discriminating industries, it can also inform public policy in other new industries where network effects raise serious concerns about market structure and power.

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