Chapter 5

Conclusion

This thesis focuses on international airline competition in the deregulatory in-
ternational airline industry and in particular on the competitive advantage that
national carriers may exhibit on route markets that depart from their domestic
country.

Chapter 2 posits and tests the hypothesis that national carriers are able to
charge a fare premium on routes that originate in their domestic country. The
empirical analysis takes advantage of the network configurations of two leading
European national carriers: Air France and Lufthansa. The networks of these
carriers contain a large number of one-stop connecting flights that share an identi-
tical main, intercontinental, flight leg, while the feeder legs depart from a mixture
of domestic and foreign airports. Reduced form fare regressions with fixed effects
on the main flight leg show that such flights from and to domestic airports are
characterized by about 9 per cent higher fares, even after controlling for the num-
ber and identity of competitors on the route market and a large range of origin
demand characteristics.

To illustrate the economic significance of these results, a comparison with
the airport dominance premium is instructive. The reported domestic country
premium is equal to the premium an airline would be able to charge after an
increase in its airport-specific market share of about 60 percent.
These findings contribute to the literature on airline market power by establishing an important distinction between the sources of market power in domestic versus international airline industries: while airport dominance is key in domestic settings, domestic country advantages play a main role in international contexts. This distinction is not without consequences for policy makers. For instance, domestic aviation policies that aim at controlling airline market power by reducing airport dominance will not be as effective internationally. Instead, international competition policy needs to ensure that carriers are enabled to compete effectively at foreign airports. To generalize the findings about national carriers’ ability to exercise market power, the research agenda should focus on the impact of different market circumstances, such as different levels of liberalization signed between governments and the presence of low-cost carriers or multiple national operators.

Chapter 3 analyzes consumer loyalty advantages of national carriers in their domestic countries using geocoded data from a major international frequent flier program. A geographic regression discontinuity approach is used to estimate discontinuities in program activity at the national borders of the program’s sponsoring carriers in the open-border Schengen area of Europe. Using this innovative identification strategy, it is documented that foreign consumers earn 60% less miles. This difference in program activity is strongly driven by the extensive margin: foreign consumers are 70% less likely to be program members. On the intensive margin, partial identification results (i.e., bounds) that control for discontinuities in membership composition at the border, are suggestive of lower purchase frequency and transaction size by foreign members as well.

These results contribute to the academic debate on why, even in the European ‘single’ market, national carriers maintain a dominant position in their domestic-originating route markets. Explanations for this phenomenon have generally focused on supply-side factors, such as legacy privileges, historical airport slot rights, and ongoing bilateral regulation on extra-EU routes. Conversely, the large loyalty advantages uncovered in this analysis offer a demand-side perspective. More research analyzing how carriers can overcome their loyalty disadvantage on foreign grounds is warranted to enrich the policy discussion about a competitive international airline industry.
Chapter 4 examines the impact of codeshare agreements between national carriers and their foreign partners on consumer choice behavior in non-stop international route markets. Findings from a discrete choice framework applied to Australian stated preference data show that while consumers are willing to pay the largest premium for flights operated by their national carrier, Qantas (6 - 8.5%), they are also willing to pay a substantial premium for flights that are codeshared by Qantas (4.5 - 6%). The valuation for flights that are, respectively, operated (3 - 5%) or codeshared (2 - 4%) by the neighboring national carrier, Air New Zealand, is significantly lower. The analysis rules out quality improvements and frequent flier programs as the underlying drivers of the codeshare effect, and explores two alternative explanations: misconceptions about codesharing and codesharing as a quality signal. The observed choice patterns are consistent with signaling, but not with misconceptions.

The signaling mechanism that emanates from partnering up with local national carriers, constitutes a novel mechanism through which international codesharing can lead to higher fares. Studies on international codeshare agreements that make clean assumptions about consumer information, may overestimate consumer valuation of the other benefits of codesharing. It is conceivable that similar signaling effects arise from different types of horizontal agreements, such as global alliances between airlines. Therefore, further research along these lines may be fruitful.

Policy makers that want to design effective aviation policies and carriers that are looking to run efficient international operations need to keep track of the changing nature of airline competition on deregulatory international markets. The findings presented in this thesis provide several guidelines that are relevant for this challenging task.

From an aviation policy point of view, Chapter 2 suggests that international markets are far from fully integrated. Despite the many steps towards liberalization that have been taken in recent years, national barriers still prevent the emergence of full-scale competition between carriers on international routes. Further removal of restrictions on foreign competition constitutes an obvious next step for the industry to become more competitive. In this light, the movement
towards more liberal aviation agreements between countries represents a clear step in the right direction. Nonetheless, from Chapters 3 and 4 it becomes apparent that competitive barriers in the international airline markets are at least partly driven by consumer preferences. This may limit the ability of liberalization in promoting an integrated international aviation market. Moreover, due to increasing national sentiments among both policy makers and consumers, it is not evident that national barriers will fully disappear over time.

On the other hand, it has been suggested that given the large fixed component in airline cost structures, some markup over marginal costs is necessary for airlines to make non-negative profits in the long run and therefore the industry will never reach the fully competitive ideal. Under these circumstances efficient pricing would imply that markups are higher where demand is less price sensitive (Ramsey pricing), which appears consistent with our findings. Indeed, in Chapter 1 we find that fares are higher (lower) in domestic-originating (foreign-originating) markets, while the findings of Chapter 2 and 3 are suggestive of domestic (foreign) demand being less (more) elastic.

From a managerial perspective, the results of Chapters 3 and 4 indicate that national carriers have been successful in protecting their domestic consumer base. At the same time, these findings indicate that carriers need to find different ways to reach foreign consumers. Supplying a product variation aimed towards a specific foreign market has proven to be difficult. Rather, as shown in Chapter 4, engaging in partnerships with local national carriers might be a more viable strategy of entering a foreign market. This is also consistent with observed behavior of carriers, who massively engage in global airline alliances. Although restrictions on foreign ownership and control may mainly motivate the popularity of global alliances, carriers might also take into account the marketing benefits of these partnerships. For the same reason, one might continue to see airline consolidation through the formation of holding-structures that maintain the external perception of individual airlines with their own distinct branding (e.g., Air France - KLM), even after the abolishment of foreign ownership and control restrictions.

\footnote{See, for instance, the story of Lufthansa’s subsidiary Lufthansa Italia (e.g., Routes-online, 2011).}
Importantly, these kind of competitive strategies may potentially increase the competitiveness of the industry and therefore enhance social welfare. For instance, successful foreign market entry provides consumers with more alternatives to choose from and, possibly, lower fares through increased competition. In a similar vein, airline alliances or holding structures may be beneficial from both the carrier and the consumer perspective: carriers reap the benefits of increased cooperation and scale, while consumers maintain an array of differentiated products to choose from. Nonetheless, whether such strategies indeed lead to higher social welfare depends on a host of other aspects — such as the potential for collusive behavior and the cost, from a carrier perspective, of maintaining (relationships with) multiple airline brands.

In the end, policy makers are tasked with defining a competitive framework that ensures that competition between carriers on international routes benefits society as a whole. In defining such a framework, the policy maker should take into account all kinds of market imperfections, such as environmental externalizations, network effects, and competitive barriers. This thesis helps towards a better understanding of the latter of these imperfections, but it is important to stress that policy makings needs to be informed about these other imperfections as well.

More broadly, this thesis demonstrates that insights on airline competition established in domestic airline industries are not always directly transferable to international contexts. This is important, since the analysis of competition between airlines is predominantly conducted in domestic settings. In order to gain a more comprehensive understanding of the nature of competition between domestic and foreign airlines, research that addresses the particular cultural, geographical and institutional aspects of international aviation remains warranted.