

博士論文（要約）

Econometric Studies of Market Structure and Policies:

Airlines and Alcoholic Beverage

(市場構造と政策の計量経済分析：航空とアルコール飲料)

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This dissertation consists of four empirical studies of airline and alcoholic beverage industries. In addition to investigating their market structure, the dissertation evaluates some past policy decisions. The results are expected to facilitate policy making for these industries.

Chapters 2, 3, and 4 empirically study the airline industry. Chapter 2 investigates the mutual influence of traffic volumes across routes serving the same airport. National and local governments implement various airport policies, such as airport pricing to deal with flight delays at congested airports and subsidies to stimulate demand for local airports. While these policies may resolve the problems of a given airport by affecting the market outcomes of the routes serving the airport, they may also influence other routes that do not serve that airport. For example, a reduction in landing fees at Haneda Airport is likely to increase the traffic volumes on routes to or from that airport. The increased traffic between Haneda Airport and New Chitose Airport increases the number of users of New Chitose Airport. This, in turn, may affect the traffic volumes on other routes serving New Chitose Airport (e.g., the New Chitose-Fukuoka route) if an increase in users of an airport affects the routes serving that airport through, for example, economies of scale and airport congestion.

Through a simple regression analysis, the chapter shows that an increase in passengers on a given route has a positive effect on the number of passengers on other routes sharing an endpoint airport with the given route. This result implies that a change in policy of an airport is likely to influence not only the routes that serve that airport but also those that do not.

Chapter 3 analyzes how airport charges influence airfare, flight frequency, and welfare. Airlines and passengers pay airport charges. Airport charges are based on the number of passengers (e.g., passenger service facility charge), number of flights (e.g., landing fees), or other charges (e.g., charges for using check-in counters and boarding bridges). Airport charges relate to various policy issues in the airline industry, including airport congestion, sustainability of airlines, air noise, and competition between airports, because they affect the incentives of airlines in setting fares and flight frequency.

The chapter estimates a structural model endogenizing airfares and flight frequency and evaluates the revision of the airport charge system implemented at national management airports in Japan in 2004–2005, which raised the per-passenger charges and reduced the per-flight charges. The chapter obtains the following four results. First, about 97.2 percent of the increase in per-passenger charges is passed through on airfare, while per-flight charges have little effect on airfare. Second, both types of charges significantly reduce flight frequency. Third, revision of the system increased airport revenue, but decreased consumer surplus, producer surplus, and total surplus. Fourth, the

effects of airport charges on airport revenue are overestimated when airfares and flight frequency are treated as exogenous variables.

Chapter 4 examines the economic impact of the merger of Japan Airlines (JAL) and Japan Air System (JAS) in October 2002 and its remedial measures, and discusses the decision taken then by the Japan Fair Trade Commission. JAL and JAS were two of the three major airlines in Japan, and they competed directly on 33 routes. Their combined market share of the domestic passengers was about 50 percent. The competition authority concluded that the proposed consolidation was unlikely to constitute a breach of Article 10 of the Antimonopoly Law so long as appropriate remedial measures were taken by the parties and the Ministry of Land, Infrastructure, Transport, and Tourism.

Chapter 4 performs a simulation analysis with an estimated structural model, in which airlines set both the fares and flight frequencies on each route. By comparing supply models, the hypothesis that the merger caused collusion between airlines is rejected. Cost model estimates reveal that the marginal costs of the merging airline were significantly reduced mainly from the expansion of its domestic network. The simulation estimates suggest that while the merger increased social surplus summed across all the domestic routes by 6.8 percent, it increased the fares and decreased consumer surplus on the JAL-JAS duopoly routes. The chapter also shows that the social surplus was reduced by ending the remedial measures relating to airfare before the target date.

Chapter 5 analyzes the market structure and tax system of the alcoholic beverage industry in Japan. The chapter especially focuses on the World Trade Organization (WTO) dispute of 1995 in which the EU, the US, and Canada requested for consultations with Japan, claiming that a Japanese law taxed the locally produced alcoholic beverage *shochu* more favorably than several other import-dominated distilled alcoholic beverages. This is a dispute on national treatment obligation, an important principle of non-discrimination adopted by the WTO that requires foreign products to be treated no less favorably than national products.

The chapter estimates a structural model of the alcoholic beverage industry in Japan. The demand estimates obtained from a random-coefficient discrete-choice model reveal own- and cross-price elasticities of alcoholic beverages. The estimated structural model indicates that the optimal tax rates of distilled alcoholic beverages significantly differ across beverages. Following the recommendation of WTO in 1996, however, Japan made all distilled alcoholic beverages taxable at the same rate in 2000. A simulation analysis indicates that the revised tax rates improved but did not maximize social welfare.