

INTRODUCTION

In the fields of air and surface transportation, The Brattle Group advises transport companies and operators, international governments, and regulatory agencies on restructuring, regulatory reform, public policy, and strategy. Our team of international experts provides economic analysis and expert testimony in major litigation matters for airports, toll roads, railways, and ports worldwide.

We work extensively with major international companies, regulators, private investors, and associations, and our work in the transportation sector covers issues spanning tariff regulation, regulatory advice, and quantification of damages in litigation, including:

- Advice on regulation and regulatory accounting during tariff review processes
- Application of European State Aid regulation to remuneration of investments in infrastructures
- Regulatory due diligence and projection of regulated revenues in M&A processes
- Advice in regulation and calculation of damages in litigation

REPRESENTATIVE ENGAGEMENTS

AIRPORTS

Airport Tariffs. Brattle experts have assisted several airports during the tariff review process. Assistance included the calculation of the tariff according to regulation or, alternatively, validation of the calculation carried out by airports. We also conducted a critical assessment of regulatory provisions compared to regulatory best practices and assessed the consistency of tariff calculation with tariff regulation.

Cost of Capital. Brattle experts provided assistance to several airports in their cost of capital calculations. Assistance included a critical assessment of the methodology used by the regulator for the calculation of the weighted average cost of capital (WACC) compared to best practices and the estimation of each parameter included in the calculation.

Litigation. A Brattle principal provided regulatory advice to an airport in a litigation proceeding on the calculation of the regulatory asset base for tariff purposes. The engagement involved a review of regulatory precedents, a detailed analysis of the index used to calculate the current value of assets, and an assessment of the compliance of calculation with regulatory prescriptions.

Assessment of Airports' Business Plans. Within the tariff review process, Brattle experts assessed the feasibility of airports' business plans under specific tariff sets. The analysis involved the projection of cash flows under specific tariffs' trends and the calculation of the internal rate of return in order to assess the profitability of the investments, as well as the calculation of the tariffs required to achieve a pre-determined rate of return.

Noise Charge. Brattle experts were retained to assist Italian airports during the process for introducing a noise charge in the areas where airports are located. We identified negative externalities and the costs to be compensated for by the tax, and we proposed two alternative methodologies as a starting point for the calculation of the noise charge to be applied to airports.

Regulatory Due Diligence. Brattle assisted investment funds performing regulatory due diligences in view of the acquisition of stakes for an Italian airport. We conducted an in-depth analysis of tariff regulation to assess risks and opportunities and the projections of the airport's regulated revenues over the concession's duration. We also provided a view on regulation and market expected trends.

Air Cargo Data Collection Strategy. For the public authority responsible for the operation of one of the largest international gateway airports in the country, Brattle staff conducted a comprehensive review of sources of information on air cargo movements. Based upon the results of this review, we worked with authority staff to devise a strategy for monitoring trends in shipments by ultimate origin and destination, commodity, carrier and type of service, and for factoring this information into an improved process for planning and executing air cargo facility improvements.

Airport Privatization and Development. For the government of a Mexican province, Brattle staff developed a framework for use in evaluating proposals for airport privatization and new airport development.

Evaluation of Delay Reduction Strategies. For an international gateway airport, Brattle staff evaluated the impacts and effectiveness of a wide range of strategies for reducing delays. The policies considered included regulatory constraints on aircraft size, diversion of service to adjacent airports, a variety of pricing and slot allocation mechanisms, and expansion of facility capacity. To carry out these evaluations, a detailed airspace simulation model was developed.

AIRLINES

Wings/Skyteam International Airline Alliance Competitive Impacts. Following the acquisition of KLM by Air France, the "Wings" airline alliance, which had been anchored in Europe and the U.S. by KLM and Northwest Airlines, was merged into the "Skyteam" alliance, which had been anchored in Europe and the U.S. by Air France and Delta Airlines. Members of the enlarged Skyteam alliance petitioned regulatory authorities in Europe and the U.S. for a grant of antitrust immunity that would have provided alliance members with broad freedoms to coordinate capacity and pricing decisions worldwide. Working for a non-Skyteam international air carrier, Brattle experts provided detailed comments to the relevant regulatory authorities on the likely competitive impacts of acceding to the Skyteam request. Through an extensive empirical study of prices, capacity and frequencies, we showed that growth and/or consolidation among international airline alliances, combined with rising levels of single carrier airport dominance on both sides of the Atlantic, had reduced the extent of inter-alliance competition on North Atlantic routes, slowing the growth in consumer benefits flowing from these alliances. These reductions in inter-alliance competition raised significant questions about the public policy rationale for substantial expansion in antitrust immunity being requested by Skyteam members.

Expert Testimony in Private Antitrust Litigation. For a major international air carrier accused of monopoly leveraging and attempted monopolization of a key market, Brattle staff prepared a report analyzing the carrier's use of corporate discounts and travel agent override commissions, and rebutting arguments that these agreements could be construed as exclusive dealings.

Economic Costs of Airline Delays. For the U.S. Federal Aviation Administration, Brattle experts and a consortium of university researchers conducted a comprehensive analysis of the economic costs associated with air traffic delays. This project involved extensive analysis of the performance of the air traffic control system over a multi-year period, and a series of quantitative analyses of the effects of delay on airline scheduling behavior, airline costs, air travel demand, passengers, businesses, and the economy as a whole. Our work focused on the effects of delay on businesses and the strategies adopted by business travelers to cope with these effects, schedule disruption, and air transportation system unreliability. Drawing together information from a diverse collection of data sources, we developed an econometric model of choice of departure time that quantified the extent to which travelers “padded” their schedules, departing early on delay-prone routes in order to assure their ability to make key destination commitments.

Empirical Analysis of the Impacts of International Airline Liberalization. For an international air carrier based in the Asia-Pacific region, Brattle experts conducted an empirical analysis of the effects of international airline liberalization on air traffic and economic development. Drawing upon a consistently defined set of international air service measures and databases of bilateral and multilateral air service agreements maintained by the World Trade Organization and the International Civil Aviation Organization, this study considered all international air services around the world and measured differences in the effects of liberalization associated with level of development and continental vs. island state status. The study found that the shift from restrictive to more liberalized air service agreements was associated with increased instability in the amount of air service provided between two countries. The study also found that the benefits of full air service liberalization (“Open Skies”) were disproportionately concentrated in more highly developed countries, and that for smaller, less developed countries the amount of air service provided was maximized under the adoption of partially liberalized air service agreements, rather than traditional restrictive or fully liberalized “open skies” agreements.

AIR TRAFFIC MANAGEMENT

Economic Analysis of Overflight Charges. For the International Air Transport Association, we conducted an analysis and critique of a proposed change in the structure of air traffic control user charges levied on foreign carriers entering the U.S. and overflying its territory. Our expert pointed out a number of serious flaws in the empirical analysis that formed the basis for the new system of charges. Implementation of the new charges was halted by a federal judge.

Economic Analysis of Air Traffic Technology. For a major aerospace and defense contractor, Brattle experts conducted a detailed analysis of the economic benefits to aircraft operators of digital data communication linkages between aircraft operators and air traffic management centers. We constructed an airspace simulation model that accounted for the effects of adverse weather conditions, changes in airport operating conditions and runway configurations, schedule induced congestion, airport operating capacities, and the delay reductions achievable through the updated air traffic management procedures enabled by digital data communications capabilities. This analysis provided estimates of likely delay reductions by carrier, aircraft type, and tail number at any location.

AEROSPACE

Business Jet Market Definition. For a European manufacturer of high-end business jet aircrafts, a Brattle expert offered testimony on the structure of the market within which these aircraft are sold and the relationship between this market and the market aftermarket retrofits and modifications. Our testimony examined the turnover of the existing fleet of high-end business jet aircrafts, trends over time in resale values, the relationship between new

aircraft sales and trade-ins of previously owned aircrafts, and the factors influencing the commercial success of aftermarket modifications.

Competitive Analysis of Business Jet Market. For a major manufacturer of business jet aircrafts accused of monopoly leveraging and attempted monopolization, a Brattle expert conducted an analysis of the structure of the business jet aircraft market, evaluating the extent to which availability of comparable models from other manufacturers constrained the ability of the defendant in the dispute to exercise market power.

TOLL ROADS

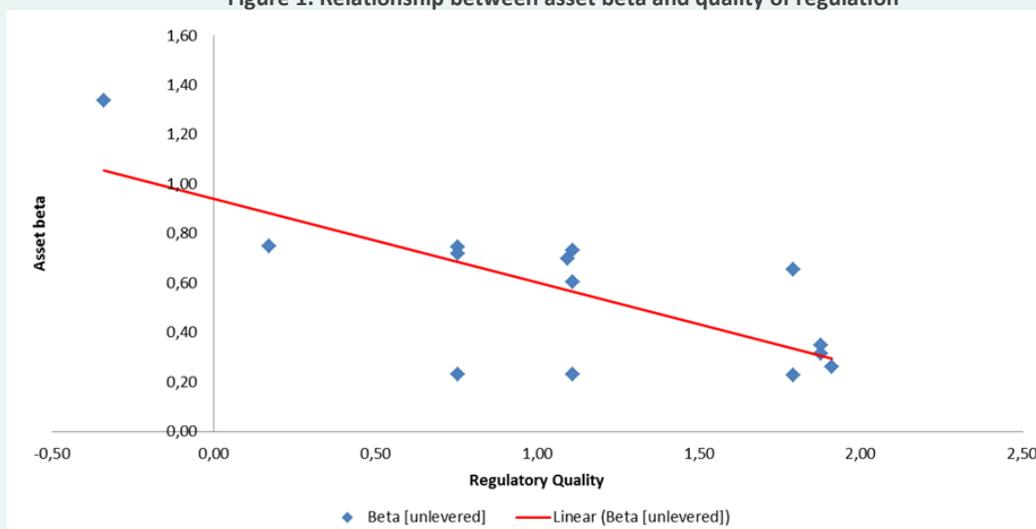
State Aid. Brattle experts have assessed compliance with the European State Aid regulation on the extension of concessions proposed by the Italian government to compensate selected toll road concessionaires for the imposition of public service obligations including, among others, the obligation to increase tariffs in line with inflation. We conducted an analysis of the investments required to comply with obligations, assessed the impact of the amount on the Italian economy in terms of increase in output and in labor units, and estimated the extension of concession required to compensate concessionaire for imposing specific tariff dynamics.

Calculation of Damages. A Brattle principal assisted a toll road concessionaire in the calculation of damages related to tariff freeze from the Italian government. The engagement consisted of an assessment of the increase in the regulatory risk perceived by the market and its impact on the value of the concessionaire calculated with two alternative methodologies.

Case Study: Calculation of Damages Related to Toll Road Tariff Freeze

In 2013, the Italian government froze toll road tariff updates for a concessionaire. The change in tariffs had been approved by the regulator, but the Government had a different view on the interpretation of criteria at the basis of calculation and asked for a more detailed analysis. The tariff freeze increased uncertainty on tariff calculation and on the timing for tariff approval, which, in turn, increased the regulatory risk of the perceived by the market. A higher regulatory risk implies a higher cost of equity. Brattle experts estimated the increase in the cost of equity on the basis of the relationship between the asset beta of a sample of comparables and the quality of regulation (Figure 1).

Figure 1. Relationship between asset beta and quality of regulation



The increase in the cost of equity has been used for damages estimation. The estimation was carried out using two alternative methodologies: a top-down approach based on the impact that an increase in the cost of equity has on the market value of the concessionaire, and a bottom-up approach based on the impact that the increase in the cost of equity has on the gross operating margin of the involved concessions. The results of the analysis are a range for the value of damages.

Cost of Capital. Brattle experts assisted the Association of Italian Toll Road Companies in the submission to the Italian government a view on the equity risk premium (ERP) to be applied in the calculation of WACC. The project included a critical assessment of the methodology to calculate the ERP and an estimation of the value of the ERP to be applied in the case of Italy.

Tariff Review. A Brattle principal assisted a large concessionaire in the periodic tariff review for a subset of its concessions. An analysis of the business plans of the concessions was conducted, as well as a critical assessment of the tariff update criteria and compliance with cost-orientation criteria.

Assessment of Business Plans. Brattle experts assessed the sustainability of concessionaires' economic and financial plans on the basis of prevailing regulation. The work included projections of cash flows and calculation of the internal rate of return.

RAILWAYS

Tariff Regulation. During the beginning of the privatization process for a railway company, Brattle experts assessed the impact of the transition from a tariff model based on tariffs that were set administratively and updated each year for inflation, to a more cost-oriented tariff model set on the basis of the company's costs. The project entailed identifying rules for tariff calculation on the basis of regulatory best practice, the building of a model for calculation of tariffs, and a sensitivity analysis whereby the impact on the value of the company was assessed under different regulatory scenarios.

Regulatory Strategy Development. For a major U.S.-based freight railroad, The Brattle Group developed a system of models to predict traffic levels and revenues by carrier for the North American freight rail market under alternative scenarios regarding market structure and regulatory policy. This modeling system incorporated detailed representations of the North American rail and highway networks, algorithms for determining shipment routing under alternative operating policies, and a series of statistical models capturing the underlying structure of freight traffic flows.

Fairness Review of Railroad Privatization. For a provincial government, Brattle staff assisted in conducting a fairness review in connection with the privatization of a government-owned railroad. This engagement involved review of and commentary upon the bidding procedures employed in the transaction, analysis of the extent to which different bidders addressed and resolved policy concerns expressed by government officials, and advising government officials regarding the extent to which the various bids received reflected the full market value of the operation.

Competitive Effects of a Major Rail Merger. The Brattle Group analyzed the competitive impacts of the merger of the two largest short line holding companies in North America. The work involved a detailed examination and market analysis of all points of contact between the railroad systems of the two merging parties. A Brattle expert served as the principal competition witness for the merging parties, providing both written and oral testimony to the regulatory authorities charged with evaluating and approving the merger.

Comparative Analysis of the Regulatory Structures Applicable to the Rail Sector in Australia, North America, and Europe. In connection with an application to a national regulatory body for rail access rights, The Brattle Group assisted in the preparation of a briefing paper analyzing international differences in the regulatory structure applicable to the rail sector, and discussed how these differences shaped subsequent development of the industry.

New Rail Line Development. Brattle staff participated in an investigation of sources of potential traffic and the market potential associated with a proposed major new rail line linking the Alaska Railroad to the rest of the North American freight rail network. This analysis included an evaluation of mineral resources in the sub-arctic regions through which the railroad would be routed, an assessment of the feasibility of exploiting these resources commercially, and an evaluation of the long-term economic effects of developing this largely uninhabited region.

POSTAL

International Arbitration. The Brattle Group provided expert testimony on behalf of a global provider of courier services in an investor dispute filed under an international free trade agreement. This dispute alleged that the respondent national government had granted the national postal operator monopoly control over basic postal services and other special privileges, and then allowed the postal operator to compete with private entities in the competitive courier service market without exercising adequate regulatory oversight to assure that the postal operator complied with the equal treatment provisions of the free trade agreement to which the national government was a signatory. Brattle's work involved a thorough review of the postal operator's pricing and cost allocation procedures. Our testimony also defined what equal treatment meant in the context of courier services, and analyzed evidence indicating the extent to which the postal operator was complying with its equal treatment obligations.

ADDITIONAL TRANSPORTATION EXPERTISE

Trade Secret Misappropriation. For a major auto manufacturer contemplating litigation over an alleged theft of trade secrets, Brattle staff developed a system of economic forecasting models to calculate the effects of the theft of sales of the company's products in a number of major international markets. Results of this confidential investigation played a key role in the company's subsequent decision to seek redress through the courts.

Long-Term Mobility Trends. For a consortium of U.S., European, and Japanese auto manufacturers and related firms, Brattle staff played a key role in a major investigation of long-term trends in mobility. This study was worldwide in scope, addressing urban, rural, and intercity passenger and freight transportation in both the developed and the developing world. Its particular focus was on the sustainability of the current transportation system, and the extent to which exhaustion of fossil fuels, environmental constraints, infrastructure shortages, or institutional barriers were likely to constrain mobility over the next several decades.

Competitive Analysis of Navigation Technology. For a major supplier of navigational information, technology and products the Brattle Group provided expert testimony on the economic effects of various forms of anticompetitive behavior engaged in by a competitor. The practices in question had to do with exclusionary contracting practices, threats of patent litigation targeted at competitors customers, and efforts to tie patent licenses to the purchase of unrelated software and services. Dr. Neels' testimony addressed issues both of antitrust liability and antitrust damages.

Patent Infringement in Rail Car Manufacturing. For a major North American rail car manufacturer involved in a patent infringement lawsuit, Brattle staff offered expert testimony on the economic value of an innovative car design relative to existing designs, and on the damages imposed on the manufacturer as a result of infringement of its patents on this new design.

SELECT CLIENTS

- Aeroporti di Roma
- Aeroporto di Verona Valerio Catullo
- Fiji Airways
- AISCAT – Associazione Italiana Società Concessionarie Autostrade e Trafori
- ASSAEROPORTI – Associazione Italiana Gestori Aeroporti
- ASTM
- Autostrada Torino Milano
- Genesee & Wyoming, Inc.
- Raccordo Autostradale Valle d'Aosta
- RailAmerica
- Railway Supply Institute
- Rete Ferroviaria Italiana
- Società Iniziative Autostradali e Servizi
- Tangenziale di Napoli
- Union Pacific Railroad

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ABOUT US

The Brattle Group provides consulting and expert testimony in economics, finance, and regulation to corporations, law firms, and governments around the world. We aim for the highest level of client service and quality in our industry.

We are distinguished by our credibility and the clarity of our insights, which arise from the stature of our experts, affiliations with leading international academics and industry specialists, and thoughtful, timely, and transparent work. Our clients value our commitment to providing clear, independent results that withstand critical review.

For more information, please visit brattle.com.