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## **EFFECTS OF EMISSION TRADING SCHEME ON MARKET ENTRY STRATEGY IN THE AVIATION INDUSTRY**

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### **Abstract**

Air transport is one of the main sources of greenhouse gas emissions. This work investigates the strategic interplay between non-cooperative and cooperative decisions confronting potential competitors entering the market under the regulation of EU Emission Trading Scheme (EU-ETS). Employing a three-stage decision-making framework, the research analyzes the equilibrium outcomes for both non-cooperative and cooperative strategies for incumbent airlines when facing the entrant threaten from new entrants. The corresponding analytical results and numerical experiments indicate that the incumbents' responses to market entry threats are influenced by the intensity of competition, the total market size and the allocation of carbon quotas. The findings of this work suggest that incumbents tend to cooperate when blocking the potential competitors from entering, and when new entrants' entry is accommodated, the decision to cooperate is dependent on the market size, with an inclination for collaborate in a relatively larger market. Furthermore, the study reveals that the EU-ETS exerts a significant impact on the market dynamics and incumbents' strategic choices, thereby contributing substantially to the advancement of carbon reduction aims. The allocation of carbon quotas emerges as a deterrent for new entrants when skewed in favor of incumbents. Moreover, the strategic allocation of complimentary carbon quotas by environmental authorities is vital for nurturing competition and promoting the expansion of the air transport industry. The insights derived from this work provide important managerial implications, serving as a strategic guide for incumbent airlines, potential new entrants, and government entities in fostering market opportunities and advocating sustainable practices within the industry.

*Key words:* airline strategic alliance, emission trading scheme, entry accommodation, entry deterrence, market entry

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