

How Competition Transforms Rail Ticket Availability

Shtele Evgeniia, Beria Paolo

Abstract

This study investigates how competition influences ticket availability, rather than pricing, in Italy's high-speed rail market. Specifically, it examines how the entry of new operators affects the timing and accessibility of low-cost, non-flexible tickets. While previous research has largely focused on price effects, this study shifts attention to availability, an equally critical yet overlooked factor for cost-sensitive passengers.

Using detailed ticket sales data across major city pairs, the analysis applies survival analysis methods—including non-parametric estimators and Weibull regressions—to model the time until low-cost tickets become available or sell out. This approach is novel, as survival models have not previously been applied to ticketing data or availability timing. A difference-in-differences design compares treated and untreated routes before and after competitor entry, controlling for exogenous trends and validating results with placebo tests and alternative time windows.

The findings show that competition significantly enhances access to affordable tickets, reducing the average unavailability window by half within three months of entry. This insight is particularly relevant in today's liberalised transport markets, where ticket access, rather than just price, can strongly influence consumer welfare.

By introducing a new methodological perspective and addressing an underexplored outcome, this research contributes to both transport economics and competition policy. It offers practical implications for policymakers and rail operators seeking to promote equitable access and customer satisfaction in competitive rail systems.

Keywords: Ticket availability, On-track competition, Survival analysis, Effects of competition