Demand functions for intercity passenger transportation in the Portuguese market: an econometric approach on own and cross-price sensitivity in the context of modal choice

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Abstract:
The Portuguese market for intercity travel was studied in terms of the demand choice for three competing modes: train, coach and automobile. A horizontal differentiation model of separate demand functions was estimated econometrically from a set of 12 year data. The emphasis was put on own-price and cross-price sensitivity, but disposable income was also included.

The study’s main limitations concern a lack of qualitative data to account for comfort and commercial speed delivered by the various transport modes, as well as the very scarce number of observations, due to the relatively recent nature of two of the services offered (“Express” – fast – coaches, and motorway automobile transportation), the data collection procedures, and the rarity of intra-year variability in public transportation’s prices.

Expected standard behaviour: normal good, own-price sensitive and, to a lesser degree, sensitive to substitutes’ prices, was found not to be followed entirely by any of the means of transportation. Demand for coaches suggests they behave as an inferior good (regarding income), but otherwise view the other modes as price substitutes. Conversely, the remaining competitors behave as normal goods; trains’ users regard the other modes as complements - given their network’s lack of reach; and motoring appears not to regard public transports as substitutes.

Keywords: Horizontal Differentiation; Inter-modal Choice; Transport; Econometrics; Demand functions; Cross-price sensitivity
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References


