

Air Connectivity and Regional Economic Development: An Empirical Analysis of Portuguese Municipalities

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Abstract:

This study addresses a central question in regional economics: *Does improved air connectivity lead to positive economic impacts in local municipalities?* To explore this issue, this work examines all mainland Portuguese municipalities, analyzing how changes in air connectivity at their nearest airport — among the three primary airports (Francisco Sá Carneiro, Humberto Delgado, and Gago Coutinho) — affect key municipal economic indicators such as employment, gross value added, exports, tourism activity and productivity.

Methodologically, this study employs a municipal distance-decay measure of airport exposure in conjunction with a spatial fixed-effects econometric framework, enabling us to capture how the influence of an airport varies as geographic distance increases. Specifically, we construct a panel dataset that combines comprehensive information on air connectivity, measured by passenger volume, with detailed economic data on firms and municipalities over multiple years. We also incorporate various spatial weighting matrices and test multiple specifications of airport exposure to ensure the robustness of our empirical results.

The expected findings center on two main hypotheses. First, we anticipate that enhanced air connectivity will stimulate economic growth by promoting labor mobility, expanding access to broader markets, and attracting new business investments. Second, we hypothesize that higher levels of air connectivity will boost core economic indicators by lowering transportation costs and improving supply-chain logistics, thereby increasing the competitiveness of local industries. Moreover, we expect these benefits to be heterogeneous across regions, reflecting local characteristics and pre-existing economic structures. For instance, regions with a strong tourism sector may experience comparatively lower productivity gains but more pronounced effects on tourism indicators, whereas municipalities with a more diversified industrial base might display more balanced improvements across multiple economic measures.

Preliminary evidence strongly supports these hypotheses. Our estimates indicate that municipalities in closer proximity to airports experience statistically significant increases in employment, GVA, exports, tourism, and productivity. Moreover, these effects remain

robust to alternative specifications of airport exposure and different spatial weighting matrices, underscoring the validity of our conclusions. In summary, this research provides compelling evidence that investments in airport infrastructure and enhancements in air connectivity can play a pivotal role in stimulating regional economic development.

Keywords: Air Connectivity; Regional Economic Growth