

1. Assessing the Economic Impacts of Transportation Infrastructure Policies in Brazil

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ABSTRACT: In this paper we use a fully operational interregional CGE model implemented for the Brazilian economy, based on previous work by Haddad and Hewings (2005), in order to assess the likely economic effects of road transportation policy changes in Brazil. Among the features embedded in this framework, modeling of external scale economies and transportation costs provides an innovative way of dealing explicitly with theoretical issues related to integrated regional systems. The model is calibrated for 109 regions. The explicit modeling of transportation costs built into the interregional CGE model, based on origin-destination flows, which takes into account the spatial structure of the Brazilian economy, creates the capability of integrating the interstate CGE model with a geo-coded transportation network model enhancing the potential of the framework in understanding the role of infrastructure on regional development. The transportation model used is the so-called Highway Development and Management, developed by the World Bank, implemented using the software TransCAD. Further extensions of the current model specification for integrating other features of transport planning in a continental industrializing country like Brazil are discussed, with the goal of building a bridge between conventional transport planning practices and the innovative use of CGE models. In order to illustrate the analytical power of the integrated system, we present a set of simulations, which evaluate the economic impacts of physical/qualitative changes in the Brazilian road network (e.g. a highway improvement), in accordance with recent policy developments in Brazil. Rather than providing a critical evaluation of this debate, we intend to emphasize the likely structural impacts of such policies. We expect that the results will reinforce the need to better specifying spatial interactions in interregional CGE models.