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Economics of tourism investment in data scarce countries

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ABSTRACT

Ex-ante economic impact analyses are required to demonstrate the development impact and viability of multilateral loans. These assessments are often performed under tight timelines, in data scarce environments and with limited opportunity for primary data collection. This paper develops a framework for assessing tourism interventions under these challenging conditions and evaluates a US$15 million tourism investment in Belize. This paper contributes to the literature by: (i) developing a generalizable approach to building economy-wide models in data scarce environments; (ii) generating realistic expectations of agent responses with quasi-contingent valuation and auto-regressive integrated moving average methods. Applying the first economy-wide model for Belize, results show that the investment would stimulate GDP by 3% and reduce unemployment from 12% to 10% by 2040.

Introduction

As a requisite to the preparation of loans and grants extended by multi-lateral development banks, an ex-ante economic impact assessment is required to evaluate the potential development impact and economic viability of the investment. These economic impact assessments are performed within tight time frames to respect the overall project approval cycle, which limits the amount of primary data that may be collected. Further compounding the challenge is that these intensive assessments are

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undertaken in the data scarce environments characteristic of many developing countries. This paper develops a framework for assessing development interventions in data scarce environments and illustrates its application to Belize's Sustainable Tourism Program (STP II). STP II is a US$15 million loan from the Inter-American Development Bank (IDB) to the Government of Belize to foster tourism development in emerging destinations and enhance participation of low income people in the tourism value chain.

Building on the framework developed in Banerjee, Cicowiez, and Gachot (2015a, 2015b), this paper contributes to the literature in two important ways: (i) the paper develops a generalizable approach to building dynamic computable general equilibrium (DCGE) models for development impact and policy analysis in data scarce environments; (ii) realistic expectations of agent behavioral responses to development interventions are required to calibrate model simulations. To estimate business as usual tourism arrivals and expenditure, auto-regressive integrated moving average (ARIMA) methods were used. To estimate agent response to the intervention, a survey-based quasi-contingent valuation approach was developed and implemented. These projections and information on investment structuring and costs were used to calibrate the model shocks. In addition to the methodological contributions, this paper develops the first social accounting matrix and DCGE for Belize which will facilitate future development impact and policy analysis for generating evidence-based advice for the country.

Approved in October 2015, the goal of STP II is to increase the tourism sector's contribution to socioeconomic development while maintaining and enhancing natural and cultural capital (Lemay et al., 2015). The predecessor to STP II is the Sustainable Tourism Program I, a US$13.2 million IDB loan executed between 2008 and 2013. The emphasis of STP I was on consolidating the overnight foreign leisure visitor market through investment in the key destinations of Ambergris Caye, Placencia, Cayo and Belize City.

An important strategic divergence from STP I is STP II's focus on emerging destinations. Consistent with the priorities set forth in Belize's National Sustainable Tourism Masterplan, the destinations selected for investment are Corozal District, Toledo District, the Mountain Pine Ridge, Chiquibul, Caracol Complex in Cayo District, and Caye Caulker. While Caye Caulker is not so much an emerging destination, its current level of development and vulnerability to natural disasters and climate change warrant investments in terms of urban planning and disaster risk management. The specific objectives of STP II are to: (i) increase tourism employment and income through enhancement of the tourism product; (ii) promote disaster and climate resilience and environmental sustainability, and; (iii) improve tourism sector governance and create an enabling environment for private investment (Lemay et al., 2015).

The tourism sector is composed of many sub-sectors including hotels, restaurants, food and beverages, transportation, and tours. Tourism development interventions themselves target diverse sectors such as the construction sector, basic public services, capacity building and education. Given the strong inter-related nature of the tourism sector and other sectors, tourism interventions generate significant spillovers (Banerjee et al., 2015a, 2015b; Vanhove, 2005). DCGE models are considered a powerful analytical framework to represent the intersectoral linkages characteristic of the tourism sector and capture the direct, indirect and induced impacts of investment interventions (Banerjee et al., 2015a, 2015b; Taylor, 2010).

DCGE models and their use in development impact and policy analysis are data-intense, which in the case of data scarce Belize, presents the core challenge addressed by this paper. This paper is structured as follows: section two presents the basic structure of a DCGE model and the approach to constructing its underlying database, the SAM. Next, the approach to estimating tourism demand with auto-regressive integrated moving average (ARIMA) methods is described followed by the estimation of *with program* tourism demand through a quasi-contingent valuation experiment. The Section "Costs and break-even demand" presents the investment structuring and the estimation of break-even demand, and a preliminary cost-benefit analysis considering only direct benefits and costs. The Sect ion "Estimating economic returns" describes the calibration of the model shocks, results and analysis. The final section discusses the methodological frontier of ex-ante economic analyses of development impact and policy analysis.