



Productivity growth and income in the tourism sector: Role of tourism demand and human capital investment



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HIGHLIGHTS

- Tourism demand model for tourism sector with monopolistic competition is proposed.
- The role of agriculture and land for tourism and agriculture are incorporated.
- A simplified OLG approach is developed.
- The role of consumption, human and the number of children is considered.
- With an elastic demand, increase of labor productivity has positive growth effects.

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ABSTRACT

This paper proposes a model for the demand for tourism in the context of a developing country. The parameters of the model are a tourist sector characterised by monopolistic competition, where human capital is the main factor of production and hotels have market power. Additionally land use is marked by demand from both agricultural and tourism sectors. From the household side, a simplified OLG approach is developed to consider consumption, human activity and the number of children. A dynamic framework is therefore identified to investigate the long-run consequences of increasing labor productivity and lowering the fertility rate. If the supply-side policy leads to economic growth, the tourism led growth hypothesis is theoretically confirmed. It is concluded that an increase in labor productivity generates positive growth effects only if the demand for tourism is elastic, otherwise negative results arise.

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1. Introduction

It is a well-known and accepted policy advice that increasing labour productivity with the intention to raise international competitiveness of sectors will be favourable for a country. This paper investigates if this apparent fact is valid in the case of tourism.

To examine this from a developing economy perspective, a theoretical model is developed whilst accounting for the following stylized facts: a relatively huge agricultural sector, growing service

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sector, a small industrial sector and high fertility rates. Additionally, the countries under consideration should have a relatively high dependence on the tourism sector for growth and development. According to the World Bank (2017), in 2014, the low income countries' share of the agricultural and fishery sector with respect to the total gross domestic product (GDP) was about 31%, whereas the share was 1.7% in OECD countries. The fertility rate on average was 4.8 children per female in low-income countries compared to 1.7 children per female in OECD countries in the same period. The countries that in most part fulfil these stylized facts are Maldives, Aruba, Seychelles, Former Netherlands, Antilles, Bahamas Anguilla, Vanuatu, Cape Verde, Antigua and Barbuda, Belize, Malta, Fiji, St Lucia, Dominica, Barbados, Mauritius and Sao Tome and Principe. Also, many African countries have the potential to become coveted tourist destinations.

It is widely accepted that an educated and skilled labour force is a precondition for developing a competitive tourism industry (Christie, Fernandes, Messerli, & Twining-Ward, 2013; Zeng, 2008). However, it must be noted that human capital accumulation in most developing countries is still lagging behind compared to the rest of the world (Barro & Lee, 2010). Thus, we concentrate on the growth effects that can be generated in the tourism sector by increasing human capital. The latter simply refers to the increase of the labour productivity. This policy option is chosen because subsidizing education leads to a decrease of the number of children (Stauvermann & Kumar, 2017). Moreover, a reason why some countries are not able to catch up with other countries in economic development or achieve a sufficiently high level is because of the high fertility rate. These facts are accommodated in the modelling by extending the model of Stauvermann and Kumar (2016a) who assume imperfect competition in the tourism industry and a perfectly competitive agricultural sector and other services. The approach is appealing because the relatively high fixed costs in the tourism sector clearly indicates the market is not perfectly competitive. While there are few studies which consider imperfect competition in the market of tourism (Candela & Cellini, 2006; Caserta & Russo, 2002; Claude & Zaccour, 2009), the impacts are examined using only partial equilibrium models.

Additionally, most of the general equilibrium models of tourism (Brida, London, & Rojas, 2013; Schubert & Brida, 2008; Chao, Hazari, Laffargue, Sgrò, & Yu, 2008; among others) do not focus on small open economies. Most part of the empirical literature investigates the role of tourism using econometric estimations without using theoretical models (Song, Kim, & Chang, 2010; Brida & Pulina, 2010 and the references therein). While these studies are useful in providing the magnitude and direction of influence of tourism on growth, most of these models are missing the micro-economic foundation of macroeconomic model building (Stauvermann & Kumar, 2016a).

The model of Stauvermann and Kumar (2016a) can be interpreted as an extension of Schubert, Brida, and Risso (2011) who attempt to overcome some of the limitations. Schubert et al. (2011) study the effects of foreign income growth on important economic variables of a small economy which is fully specialized in tourism using an AK production function. They derive the result that output growth of the destination country is determined by the income elasticity of tourism demand times the growth in the output of the source country. The model of tourism demand of Stauvermann and Kumar (2016a) differ from Schubert et al. (2011) in that the former assumes that the composite tourism good is produced by the use of land, and intermediate services are produced by labour that is supplied in a market with monopolistic competition. Additionally, Stauvermann and Kumar (2016a) use an Overlapping Generations (OLG) approach (Diamond, 1965; Samuelson, 1958) to model the consumer side of the domestic economy instead of using the continuous time approach (Cass, 1965; Koopmans, 1965) with an infinitively long living consumer. Usually tourism is interpreted as a non-traded good to differentiate the tourism from other export sectors. In the early studies of Hazari and Sgrò (1995) and Hazari and Kaur (1995), tourism sector is assumed to be perfectly monopolistic and that monopoly power may lower the welfare of domestic residents. Other studies, like Brida et al. (2013) analyse the effects generated by human capital accumulation. Chao et al. (2008) investigate the role of tourism in terms of job creation and capital accumulation. Schubert and Brida (2008) explore the effects caused by the subsidisation of the tourism industry. In contrast, Chao, Hazari, and Yu (2010) derive the economic consequences resulting from quotas and aid. They explore the role of tourism with reference to the Dutch disease phenomenon and welfare using a specific factor model. Thus, to our best knowledge, except for a few

studies such as Hazari and Sgrò (1995), and Hazari and Kaur (1995) which characterize tourism sector as monopolistic, and Schubert et al. (2011), which consider endogenous growth, there are no studies that examine both imperfect competition in the tourism sector and endogenous growth.

As highlighted, we model the monopolistic competition in the tourism sector similar to Stauvermann and Kumar (2016a) which follows the theoretical insights from Dixit and Stiglitz (1977), Ethier (1982) and Romer (1989, 1990). Furthermore, we assume that local residents do not consume the tourism good. Subsequently, we note that the degree of market concentration in the tourism sector influences the income and welfare.

The advantage of using the OLG approach is the opportunity to integrate parents' endogenous decisions about the level of education and the number of children. This extension makes it possible to examine the effects of overpopulation and human capital creation on the tourism sector development. The aim of this paper is to analyse how a specific supply-side policy affects tourism development when there is an enhancement of human capital to make labour more productive. This question has some relevance because in the empirical literature investigating the relationship between tourism and economic growth, two hypotheses have been derived. On the one hand, there is the so called tourism-led growth hypothesis which means that tourism is the driver of growth and on the other hand, the growth-led tourism hypothesis which implies that the development of the tourism sector is driven by economic growth of other sectors. Studies validating the first hypothesis are Balaguer and Cantavella-Jordá (2002) for Spain, Fayissa, Nsiah, and Tadasse. (2008) for 42 African countries, Brida, Carrera, and Risso (2008) for Mexico, Brida, Pereyra, Risso, Such Devesa, and Zapata Aguirre. (2009) for Colombia, Proença and Soukiazis (2008) for Portugal, Li, Zhang, and Zhu (2008) for OECD countries, Brida and Risso (2009) for Chile, Brida, Lanzilotta, Lionetti, and Risso. (2010) for Uruguay, Narayan, Narayan, Prasad, and Prasad. (2010) for Fiji, Solomon Islands, Papua New Guinea and Tonga, Payne and Mervar (2010) for Croatia and Tang and Tan (2015) for Malaysia. In contrast, Kumar and Kumar (2012) and Kumar (2014a, b) found evidence for the second hypothesis for Fiji, Vietnam and Kenya, respectively. The validity of both hypotheses are confirmed by Dritsakis (2004) for Greece, Durbary (2004) for Mauritius, Cortez-Jimenez and Paulina (2006) for Italy and Spain, Massidda and Mattana (2013) for Italy, Oh (2005) for Korea, Kim et al. (2006) for Taiwan, Nowak et al. (2007) for Spain, Lee and Chang (2008) for non-OECD countries, Seetanah (2011) for 19 island economies, Shahbaz, Kumar, Ivanov, and Loganathan (2017) for Malaysia, and Kumar, Stauvermann, Patel, Kumar, and Prasad. (2016) for Cook Islands. Although the number of empirical investigations is numerous, studies along these lines fail to provide adequate answers to why a specific hypothesis is confirmed. However, the theoretical investigation in this paper shall provide some answers on the conditions in which tourism sector can become a driver of growth.

The rest of the paper is organized as follows. In the next section, we introduce the model and derive the equilibrium. Then in the following section, we analyse the effects created by an educational subsidy. In the last section we conclude.

2. The model

For our analysis we modify Diamond's (1965) OLG model to represent the consumption side of the economy. An advantage of the OLG approach is that we do not have to assume that parents are 'perfectly altruistic' in the sense of Barro (1974) with respect to their children. The latter assumption implies that parents are well informed about the utility of their children. Alternatively, Cass (1965) and Koopmans (1965) approach assumes that a

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