How strong is the linkage between tourism and economic growth in Europe?

Nikolaos Antonakakis [a,*], Mina Dragouni [b], George Filis [c]

[a] University of Portsmouth, Economics and Finance Subject Group, Portsmouth Business School, Portland Street, Portsmouth PO1 3DE, UK
[b] University College London (UCL), Institute for Sustainable Heritage, The Bartlett, UCL Faculty of the Built Environment, Central House, 14 Upper Woburn Place, WC1H 0NN London, UK
[c] Bournemouth University, Department of Accounting, Finance and Economics, Executive Business Centre, 89 Holdenhurst Road, BH8 8EB Bournemouth, UK

ABSTRACT

In this study, we examine the dynamic relationship between tourism growth and economic growth, using a newly introduced spillover index approach. Based on monthly data for 10 European countries over the period 1995–2012, our analysis reveals the following empirical regularities. First, the tourism-economic growth relationship is not stable over time in terms of both magnitude and direction, indicating that the tourism-led economic growth (TLEG) and the economic-driven tourism growth (EDTG) hypotheses are time-dependent. Second, the aforementioned relationship is also highly economic event-dependent, as it is influenced by the Great Recession of 2007 and the ongoing Eurozone debt crisis that began in 2010. Finally, the impact of these economic events is more pronounced in Cyprus, Greece, Portugal and Spain, which are the European countries that have witnessed the greatest economic downturn since 2009. Plausible explanations of these results are provided and policy implications are drawn.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

Europe is considered as a prominent tourist destination, holding approximately a 40% share of the global tourist arrivals in 2011 (European Commission, 2012). For this reason, the European Union (EU) has placed much emphasis on the tourism sector as an engine of economic prosperity for its member countries (Lee and Brahmasrene, 2013), given that the tourism sector does not merely represent a significant revenue stream, but also a vital source of employment and entrepreneurial vitality. In a global scale, the tourism industry accounts for 5% of the world GDP and almost 30% of world exports of services (UNWTO, 2012a). Furthermore, tourism development has been established as a popular strategy for economic growth not only in Europe but worldwide (Andereck et al., 2005; Matarrita-Cascante, 2010), thus a lot of interest and research have been generated on the link between tourism growth and economic growth.

Yet, there is still no consensus on both theoretical and empirical grounds on whether tourism promotes economic activity, or economic activity leads to tourism growth. This could be due to the fact that changes in economic and/or tourism conditions can alter the nature and magnitude of the relationship between these two series over time, among others. Nonetheless, its examination in a time-varying

framework has been largely ignored in the literature. On top of that, and in light of the recent economic developments of 2007–08 global financial crisis and its subsequent European debt crisis, it is thus warranted to examine whether and how these incidents have affected the relationship between tourism and economic growth. The determination and the extent of the aforementioned time-varying relationship are valuable for informing current and future EU and national policy frameworks (Chen and Chiou-Wei, 2009). Therefore, the aim of this paper is to investigate the link between tourism growth and economic growth, by paying particular attention to its time-varying nature and its relation to the global financial and European debt crisis.

From a theoretical perspective, Lanza and Pigliaru (2000) were among the first to investigate the link between tourism and economic growth. Based on their observations that countries with relatively large tourism sectors exhibit higher than average economic growth, they developed a Lucas-type two-sector model. In this model, production in one of the sectors (called tourism) depends on endowments of a natural resource, and showed that countries with relative abundant natural resources will specialize in tourism and achieve a faster rate of economic growth.

On empirical grounds, studies seeking to determine the link between tourism and economic growth, have established four empirical regularities that can be translated into the following four main hypotheses (Chatziantoniou et al., 2013). The first two hypotheses postulate a unidirectional causality between the two variables, either from tourism to economic growth (tourism-led economic growth hypothesis — TLEG) or its reverse (economic-driven tourism growth hypothesis — EDTG). The third and forth hypotheses support the existence of a bidirectional relationship between tourism and the economy (bidirectional causality

* Corresponding author at: Vienna University of Economics and Business, Department of Economics, Institute for International Economics, Welthandelsplatz 1, 1020 Vienna, Austria. Tel.: +43 1 313 36 4141; fax: +43 1 313 36 90 4141.
E-mail addresses: nikolaos.antonakakis@port.ac.uk, nikolaos.antonakakis@wu.ac.at (N. Antonakakis).

hypothesis — BC) or that there is no relationship at all (no causality hypothesis — NC), respectively.

According to the TLEG hypothesis, there is a flow of benefits from tourism to the economy, which spillover through multiple routes (Schubert et al., 2011). In particular, it is believed that tourism (i) increases foreign exchange earnings, which in turn can be used to finance imports (McKinnon, 1964), (ii) it encourages investment and drives local firms towards greater efficiency due to the increased competition (Balaguer and Cantavella-Jorda, 2002; Krueger, 1980), (iii) it alleviates unemployment, since tourism activities are heavily based on human capital (Brida and Pulina, 2010) and (iv) it leads to positive economies of scale thus, decreasing production costs for local businesses (Andriotis, 2002; Croes, 2006). Other recent studies which find evidence in favour of the TLEG hypothesis include Sugiyarto et al. (2003), Durbarry (2004), Parrilla et al. (2007), Croes and Vanegas (2008), Proenca and Soukiazis (2008), Fayissa et al. (2011), Pratt (2011), Dritsakis (2012), Eeckels et al. (2012), Ivanov and Webster (2013), Surugiu and Surugiu (2013).

Even though much of the recent evidence is in favour of the TLEG, there is a strand of the literature that paints the opposite picture, i.e. that it is the tourism sector which is affected by economic fluctuations (Narayan, 2004; Oh, 2005; Payne and Mervar, 2010; Tang, 2011). As Payne and Mervar (2010) explain, the EDTG hypothesis maintains that the tourism growth of a country is mobilised by the application of well-designed economic policies, governance structures and investments in both physical and human capital. These create a positive economic climate that encourages tourism activities to proliferate and flourish, given the availability of resources, infrastructure and political stability.

Pertaining to the readily available information, bidirectional causality could also exist between tourism income and economic growth (see, inter alia, Lee and Chang, 2008; Chen and Chiou-Wei, 2009; Seetanah, 2011; Apergis and Payne, 2012; Ridderstaat et al., 2013). From a policy view, a reciprocal tourism-economic growth relationship implies that government agendas should cater for promoting both areas simultaneously. Finally, there are some studies that do not offer support to any of the aforementioned hypotheses, suggesting that the impact between tourism and economic growth is insignificant (Katircioglu, 2009; Po and Huang, 2008; Tang and Jang, 2009).

To provide a synopsis, the tourism-economic growth relationship has been the subject of considerable study and debate. The current empirical work, along with its diversified results, illuminates that there is not a generally applicable hypothesis which can be a priori accepted as axiomatic. More importantly, the examination of the said relationship in a dynamic setup has been largely ignored, given that the aforementioned studies are conducted on a static environment. It is only recently that Lean and Tang (2010), Arslanturk et al. (2011), and Tang and Tan (2013) challenged the stability of the tourism-economic growth relationship, showing that it changes over time.

More specifically, Tang and Tan (2013) use rolling sub-sample TYDL Granger causality analysis (Dolado and Lutkepohl, 1996; Toda and Yamamoto, 1995) with monthly data of industrial production and international tourist arrivals from January 1989 to February 2009 for Malaysia. Although their findings support the TLEG hypothesis, they show that the tourism-growth link changes over time by becoming either more or less pronounced. Arslanturk et al. (2011), using a rolling-window Vector Error Correction Model, show that the impact of tourism receipts on Turkish GDP is negative until 1983 and turns into a positive effect in the post-1983 period. Tang and Tan (2013) also focus on Malaysia, using a recursive Granger-causality test to study the time-varying relationship between international tourist arrivals and industrial production. Their results reveal that the positive effect of tourism on economic growth is not stable over time. Nevertheless, their studies focus solely on Turkey and Malaysia.

In this light, there is scope for extending this strand of the literature to other regions and countries. The purpose of this study is to investigate the relationship between tourism and economic growth in a time-varying environment, focusing on Europe for the period 1995–2012. To that end, we employ the novel measure of a VAR-based spillover index, developed by Diebold and Yilmaz (2012), to evaluate the link between the two factors. The choice of a VAR model is justified by the fact that such models help to alleviate the endogeneity problem observed in the tourism-economic growth relationship by treating all variables as potentially endogenous and explicitly modelling the feedback effects across them. The VAR-based spillover index has already attracted considerable attention in the economic literature (see, inter alia, McMillan and Speight, 2010; Yilmaz, 2010; Bubák et al., 2011; Antonakakis, 2012; Zhou et al., 2012; Antonakakis and Badinger, 2014) and this is its first application to the tourism context.

Our findings suggest that: first, the tourism-economic growth relationship is not stable over time in terms of both magnitude and direction, indicating that the tourism-led economic growth (TLEG) and the economic-driven tourism growth (EDTG) hypotheses are time-dependent. This is the main contribution of this study, as previous studies on the time-varying fluctuations concern only the magnitude of this relationship and not its direction (see, for instance, Lean and Tang, 2010; Arslanturk et al., 2011; Tang and Tan, 2013).Second, the aforementioned relationship is also extremely economic event-dependent, as it is influenced by the Great Recession of 2007 and the ongoing Eurozone debt crisis that began in 2010. Finally, the impact of these economic events is more pronounced on Cyprus, Greece, Portugal and Spain, which are the European countries that have witnessed the greatest economic downturn since 2009 and their tourism sector plays a prominent part in their economies.

The rest of the paper is organised as follows. Section 2 describes the methodology and the data sets used. Section 3 presents the empirical results and Section 4 draws the conclusions of the study along with the policy implications.

2. Methodology and data description

2.1. Empirical methodology

This study employs the spillover index by Diebold and Yilmaz (2012), which generalises the original index, first developed by Diebold and Yilmaz (2012). Spillovers allow for the identification of the inter-linkages between the variables of interest. Diebold and Yilmaz (2009) framework allows the estimation of the total spillover index, whereas Diebold and Yilmaz (2012) extend the work of Diebold and Yilmaz (2009) in two respects.

First, they provide refined measures of directional spillovers and net spillovers, providing an 'input-output' decomposition of total spillovers into those coming from (or to) a particular source/variable and allowing the identification of the main recipients and transmitters of shocks. Second, in line with Koop et al. (1996) and Pesaran and Shin (1998), a generalized vector autoregressive framework is used by Diebold and Yilmaz (2012), where forecast-error variance decompositions are invariant to the ordering of the variables (in contrast to Cholesky-factor identification used in Diebold and Yilmaz, 2012). In the context of the present study, this is particularly important since it is hard, if not impossible, to justify one particular ordering of the tourism and economic growth variables, given the fact that there are four distinct hypotheses dealing with their relationship.

Following Diebold and Yilmaz (2012), we estimate a VAR model, which takes the following general form (for a detailed description of the VAR model, see Lutkepohl, 2006):

$$\mathbf{y}_t = \sum_{i=1}^{q} \mathbf{B}_i y_{t-1} + \varepsilon_t, \tag{1}$$

where $\mathbf{y}_t$ is $N \times 1$ vector of endogenous variables, $\mathbf{B}_i$ are $N \times N$ are autoregressive coefficient matrices and ε_t is a vector of error terms