A multi-level approach to the study of production chains in the tourism sector ☆

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ARTICLE INFO

ABSTRACT

This paper proposes a multi-level approach to analyse the production chains in which two characteristic tourism activities – the hotel and travel agency industries – participate. Firstly, from a *macroeconomic* perspective, input-output techniques are used to identify the most significant tourism production chains from the regional input–output table of Andalusia (Spain). Secondly, from a *microeconomic* perspective, a different approach is taken based on the concept of Global Value Chains (GVC). In this respect, the structure and main agents participating in the tourism GVC are presented, and the role of small and medium-sized enterprises (SMEs) in the hotel and travel agencies industries in Andalusia is put forward. Finally, these two approaches are compared and connected, exploring some characteristics of these tourism production chains at the *mesoeconomic* level of analysis.

1. Introduction

The idea of visualising production processes by sequencing them into production chains has a long tradition in Economics which goes back to the Austrian School. In this respect, input-output (I–O) techniques pose a powerful methodological approach to delimite the structure of production chains from a *macroeconomic perspective*, identifying I–O linkages between sectors (for a review of the situation and perspectives of I–O analysis, see Lahr & Dietzenbacher, 2001). I–O techniques have been applied on many occasions to study production chains in tourism and to measure the total effect – direct and indirect – of tourism activity on national and regional economies (for instance, Briassoulis, 1991; Fletcher, 1989; Liu, Var, & Timur, 1984; Sun, 2007).

More recently, from a *microeconomic perspective*, a new approach to the study of production chains based on the concept of Global Value Chains (GVC) has emerged (Gereffi, 1999; Gereffi, Humphrey, & Sturgeon, 2005; Humphrey & Schmitz, 2002). A Value Chain could be defined as a set of activities starting with the very conception of the product, passing through production and marketing, to distribution and even disposal or recycling after use. The essential idea in value chains is that each link adds value to the product. Nevertheless, nowadays, the different activities within each value chain are frequently carried out by different firms often located in different countries. Thus, the concept of GVC stresses the fact that value chains are more and more frequently organized spread across the world, as result of a fragmentation process (Arndt & Kierzkowski, 2001). This concept of GVC is different from Porter's (1985) value chain, which is a basic tool for firm analysis. Porter tries to systematically explore all the activities performed within the firm, and their interactions in order to identify sources of competitive advantages which cannot be appreciated looking at the firm as a whole. On the contrary, GVC analysis is interested in the relationships between the different agents participating in the value chain mainly large multinational corporations and local Small and Medium-sized Enterprises (SMEs). The concepts and the methodology of the GVC approach were introduced and have mainly been applied for the case of industrial activities (Gereffi, 1999; Humphrey & Schmitz, 2002; Pietrobelli & Rabellotti, 2007). However, there have been only a few attempts to use them to analyse the tourism sector (see Clancy, 1998, 2002).

Therefore, both I–O and GVC approaches conceive production processes as a set of subsequent activities which ends in the final demand. Nevertheless, some substantial differences between them can be pointed out. In this paper, these complementing factors and differences between I–O and GVC approaches to the study of production chains are discussed. The article explores how these

two conceptual and methodological frameworks can be combined to provide a more complex picture of the production chains in the tourism industry. In this respect, a multi-level approach to the study of tourism production chains is proposed in this paper which aims at analysing the main characteristics of these chains from the macroeconomic, mesoeconomic and microeconomic perspectives.

In order to present this methodological approach, the production/value chains of the tourism industry in Andalusia are analysed in this paper. Specifically, the study presented has a focus on the production chains in which two characteristic tourism sectors participate: the hotel and the travel agency industries. Though these two sectors do not exhaust the whole scope of the tourism phenomenon, they represent the backbone of the tourism industry.

Andalusia, a region located in the south of Spain, is an important international destination. In terms of receptive tourism, it is equivalent to Thailand, while it more than doubles other well-known destinations such as Cuba, the Dominican Republic, or Argentina. During 2008, a total of 25.1 million tourists visited the region, according to the Andalusian tourism survey (Instituto de Estadística de Andalucía, 2009a). 61.2% of them were Spanish, whereas the remaining 38.8% were foreigners. The tourism sector -the most significant industry in the region − produced goods and services valued at €18.335 million in 2007, contributing 12.5% to the regional GDP (Exceltur, 2009).

This paper is organized in three main sections. The first one illustrates the application of the I−O techniques to analyse production chains in tourism. The second one addresses the issue of GVCs in the tourism industry. In order to do this, a study about the role of SMEs in the tourism industry in Andalusia is put forward as an example of the application of the GVC concepts and methodology in tourism research. The third section compares the previous two methodologies and explores the way to connect them studying production chains at the mesoeconomic level of analysis. The paper concludes with some final considerations about the potential of this methodological approach to the study of the production chains, its limitations and some possible extensions.

2. The input-output (I−O) approach: tourism production chains in Andalusia

This section illustrates the application of I−O analysis to the study of tourism production chains using the I−O tables of Andalusia estimated by the Institute of Statistics of Andalusia for the year 2005 (Instituto de Estadística de Andalucía, 2009b). In order to identify the production chains in tourism, it is necessary to face the problem that tourism does not appear as a specific sector in the I−O tables. Tourism activity implies the consumption of very diverse goods and services that, however, can be also purchased by locals. Therefore, there are not specific sectors or products with a full tourist character. Thus, when intending to identify production chains in the tourism industry, only a mere approximation is possible. Nevertheless, some goods and services can be considered as *characteristic* or specially *connected* with tourism. *Characteristic products* are those which would not exist in any significant quantity or whose consumption may be reduced in the absence of tourism. The World Tourism Organization proposes a closed list of characteristic products of tourism (WTO, UN, OECD, & Eurostat, 2008). *Connected products* are those which are consumed by visitors in quantities which are significant for the supplier and/or the visitor but which do not appear in the list of characteristic tourism products. As mentioned in the introduction, in this paper the tourism industry will be represented by two main sectors which show a marked tourism character: the hotel services and the travel agency services. Both types of services are included as specific sectors in the I−O tables of Andalusia for 2005 − the travel agency sector also encompasses some
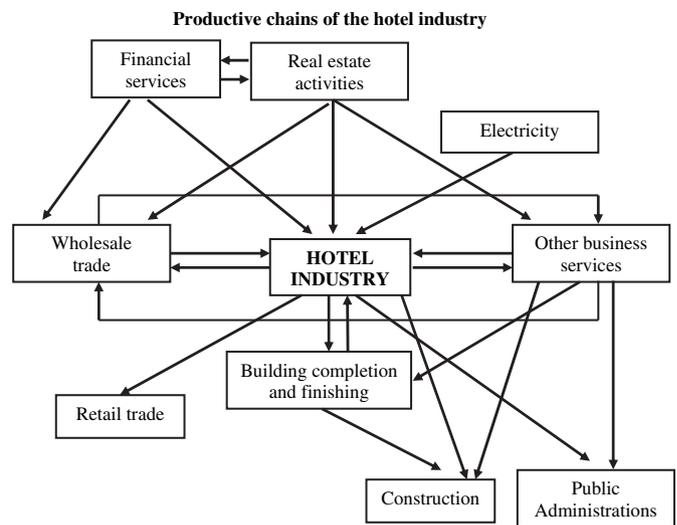

Fig. 1. Productive chains of the hotel industry.

supporting services for transportation − and therefore the production chains in which they participate can be identified using I−O techniques (see Fig. 1 for the hotel services and Fig. 2 for the travel agency services).

From a methodological perspective, the extensive literature on I−O analysis puts forward different methods to delimitate production chains (see, for instance, Sánchez-Chóliz & Duarte, 2003; Cai & Leung, 2004; Dietzenbacher & Romero, 2007). In this exercise, a combined method based on the use of production and distribution technical coefficients and the elements of the Leontief and Ghosh inverses was employed, as is next described.

Let z_{ij} (the typical element of the matrix **Z**) denote the domestic intermediate deliveries (in money terms) from industry i to industry j. The typical element f_i of column vector **f** denotes the final demand for the goods and services produced by industry i (domestic consumption, domestic investments, government expenditures, and gross exports). The typical element w_j of the row vector **w**′, gives the primary inputs of industry j (labour costs,
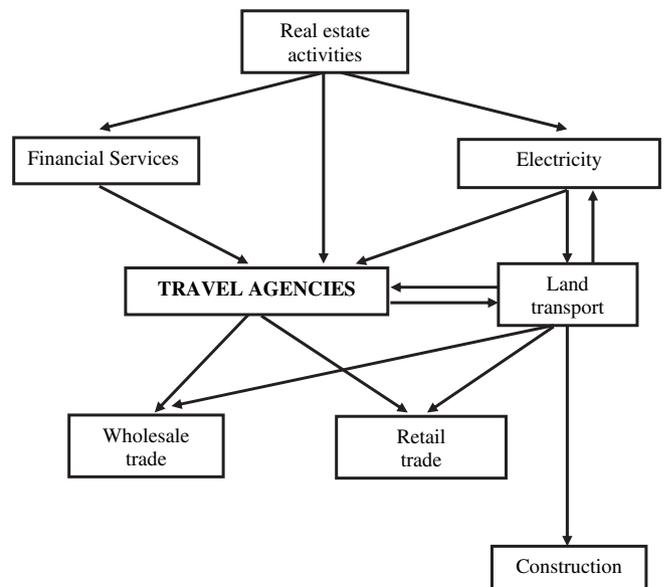

Fig. 2. Productive chains of the travel agencies and support services for transportation.