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They arrive with new information. Tourism flows and production efficiency in the European regions

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ABSTRACT

Firms productivity is crucially influenced by knowledge spillovers generated either by other firms located nearby or by direct contacts with consumers or by foreign demand in the case of traded products. In this paper we propose a new channel of efficiency-enhancing knowledge diffusion, which can be exploited by local firms to extract relevant information on consumer preferences: direct contacts with tourism flows. Tourists have the peculiar feature of being external consumers, who directly arrive to the destination region and this represents a remarkable advantage for the local enterprises, as the latter can exploit the new information and increase the overall efficiency level of the local economy. More specifically, we examine, within a spatial estimation framework, tourism flows as determinants of regional total factor productivity, controlling also for other intangible factors (such as human, social and technological capital) and for the degree of accessibility. We apply the analysis to a sample of 199 European regions belonging to the EU15 member countries, plus Switzerland and Norway. The empirical results show that tourism flows enhance regional efficiency and that a positive role is also played by intangible assets, infrastructures and spatial spillovers.

1. Introduction

In the modern economy knowledge is commonly recognized as the most important factor in increasing the competition among firms and regions. Thus, a growing attention has been devoted to the mechanisms through which firms acquire information on new products and processes in order to enhance their productivity. Following different theoretical approaches, the literature has identified and analysed several channels of knowledge diffusion. These mechanisms operate, often in a complementary way, through contacts with other firms and final consumers, both at the national and the international level. Knowledge can be conveyed via interactions with suppliers and competitors in the market, trade embodied in goods, foreign direct investment (FDI), direct contacts with customers in the local market and, in the case of exporter firms, in the external ones as well.

It is worth remarking that all these mechanisms may present some shortcomings which, at least for some firms, may limit the possibility of acquiring valuable information. In particular, enterprises operating in closed narrow markets receive a limited amount of useful information because of the small number of localised firms and final consumers and this can negatively influence their efficiency levels. At the same time the fixed costs required to access larger markets prevents them from being exposed to international knowledge spillovers.

In this paper we propose a new channel of knowledge diffusion which can be exploited by local firms to extract information on consumers' preferences beneficial to enhance their efficiency: direct contacts with tourism flows. Tourists have the peculiar feature of being external consumers (national and international) who directly arrive to the destination region and this represents a remarkable advantage for the local enterprises. In this case even firms too small to afford the high fixed costs to enter the external markets can enjoy the information spillovers generated by tourist flows: this exposure produces beneficial effects on their productivity and consequently on the efficiency level of the whole local economy.

To the best of our knowledge, this is the first time that the influence of tourism flows on the regional production efficiency level is formally analysed. At the same time the fact that tourists represent an important channel conveying new ideas which enhance the destination region performance is already part of the policy-makers understanding in Europe (European Commission, 2009).

There are a number of newspaper stories and anecdotic evidence on how local firms have extracted information by direct contact with tourists. The wine sector in Sardinia, a small Italian

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island in the Mediterranean Sea, which recently specialised in tourism, provides a significant example. Wine production, based on excellent local varieties of grapes, has a long tradition but the product used to be mainly sold in the local market which was characterised by a preference for low-quality, very strong and thick red wine. On the contrary, incoming tourism flows directly revealed in the local market the international wine demand preference for less strong, smoother and more flavoursome wine; this information on international preferences gave rise, among the local producers, to a rapid change in their products. Today wine is one of the most important exported good in Sardinia and the continuous contact with tourism flows also functions as a significant marketing vehicle.

More generally, the theoretical mechanisms linking tourists information spillovers to firms production efficiency are similar to those analysed in the economic literature on international trade (see the survey by Barba Navaretti & Tarr, 2000) and also in the management literature on customer knowledge (Joshi & Sharma, 2004). The hypothesis is that a local firm by means of continuous interactions with tourists acquires new knowledge related to demand for products and services which can be used to enhance its efficiency and competitiveness. An important feature is that, contrary to international trade, tourists convey information on external consumer preferences to local firms without additional costs for them. Hence, tourists can be seen as an important source of information for generating new products or for increasing the quality of the existing ones and, in general, for improving firms' production efficiency. Consequently, at the aggregate level the presence of sizeable tourism flows brings about a higher level of productivity for the whole region. These mechanisms are reinforced if tourists come from relatively richer countries and, compared to local consumers, exhibit preferences for higher quality goods. For instance, Brau (2008) shows that tourists signal their preferences for high quality natural environment destinations and this may induce firms to adopt environmentally-friendly production processes, which are the ones that make intensive use of the most innovative, efficiency-enhancing production technologies.

More specifically, the paper examines the effects of tourist arrivals on regional efficiency levels, measured by total factor productivity (TFP), controlling also for other specific regional characteristics (such as infrastructures, human, social and technological capital), which are also supposed to have a significant influence on TFP levels (Easterly & Levine, 2001). The analysis is carried out over the period 2002–2004 for a sample of 199 European regions belonging to member countries of the EU15 plus Switzerland and Norway. Moreover, we control for the presence of spatial association among regions by following a spatial model specification approach.

The paper is organised as follows. Section 2 briefly reviews the existing literature. In Section 3 we present a detailed description of the data. In Section 4 the econometric issues are discussed, while the estimation results are presented in Section 5. Section 6 summarises the main findings and Section 7 outlines the future research projects.

2. Literature background

In this section we shortly review four channels of information diffusion already proposed by the literature and then we suggest a new mechanism of knowledge transmission based on tourism flows.

The first channel focuses on the transmission of knowledge among firms at the local level. A growing body of literature emphasises the local nature of knowledge, which is still costly and difficult to transmit across areas (Jaffe, Trajtenberg, & Henderson, 1993). Extensive empirical evidence suggests that location and proximity are crucial in explaining knowledge spillovers (Audretsch & Feldman, 2004). Evidence of localised knowledge spillovers for the European regions is provided by Bottazzi and Peri (2003) and Moreno, Paci, and Usai (2006). Firms tend to agglomerate in specific places to facilitate the exchange of information and expertise based on two types of externalities. One is the Marshall specialisation kind of externality: the concentration of a particular industry within a given region facilitates the diffusion of technologies and knowledge across similar firms since geographical proximity eases the interaction among individuals sharing similar specific competences. The second is based on Jacobs diversity externalities and considers inter-industry spillovers as the most important source of new knowledge creation since the exchange of complementary knowledge leads to cross fertilisation of ideas, which in turn favours innovation. The management literature has also deeply analysed the role of supplier and competitor firms in the transmission of knowledge (Tseng, 2009) and in general the relationship among firms in local production systems (Albino, Garavelli, & Schiuma, 1999).

Another view, reinforced by the wide diffusion of internet and e-information, considers knowledge as a public good and therefore information spillovers are not locally bounded but can freely spread over space. However, in a recent analysis of patent citations flows among the European regions, Paci and Usai (2009) show that knowledge flows are still locally bounded. Overall, localised knowledge spillovers constitute an important underpinning for the competitive advantage of the regions (Maskell & Malmberg, 1999).

The second channel of knowledge diffusion is identified at the international level through the trade of goods. The idea is that an economy can enhance its level of total factor productivity through trade flows since it benefits from the stock of knowledge of partner countries embodied in traded goods (Coe & Helpman, 1995). This mechanism may be reinforced in the case of less developed countries as they can extract more valuable information on consumer demand and technology by exchanging goods with richer markets (Nicita & Olarreaga, 2007). However, it has been remarked that trade is costly, especially for small firms located in traditional sectors and in backward regions, which may not afford the fixed costs required to penetrate the external markets.

The third channel of technology transfer is represented by FDI, which is essentially a form of international movements of firms. In this case the local economy can benefit from the knowledge transfer originated by multinationals through a general contagion and imitation effect (Findlay, 1978) and also via employees' mobility (Glass & Saggi, 2002). Several empirical studies have investigated FDI as a source of international knowledge spillovers (Lee, 2006; Van Pottelsberghe de la Potterie & Lichtenberg, 2001). At the same time multinational firms may locate their plants in a foreign market to take advantage of knowledge spillovers from the local area since they are closed to both local firms and consumers (Cantwell & Iammarino, 2003). In this sense the FDI transmission channel can be seen as a connection between the national and the international channels.

The fourth channel of information diffusion is the contiguity between firms and final consumers. In the so called customer-active paradigm (Von Hippel, 1978) firms tend to see in customers and users the most important source of information for innovating, for creating new products and for increasing the quality of the existing ones (Foxall & Johnston, 1987). Recently, the management literature has focussed on customers' knowledge by trying to understand how enterprises absorb information from customers (and in general from the external environment) and how they transform this intangible asset into their own knowledge (Campbell, 2003; Tseng, 2009). In particular, it has been remarked that enterprises need a flexible organisation in order to absorb external knowledge (Claycomb, Droge, & Germain, 2005). Thus the