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Investigating the effectiveness of public subsidies to hotels: Evidence from an Alpine region

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ABSTRACT

This paper investigates the effect of capital public subsidies on hotels' performance. The empirical domain of analysis is the hotel industry in the Trentino province of Italy and the subsidies granted therein by the local government. The objective variables of the study are typical performance indicators, i.e., productivity, profitability, occupancy rate, and demand variability. A conditional difference-in-differences estimator is used to estimate causal effects by controlling for observed and time-invariant unobserved hotel heterogeneity. Public subsidies have a positive effect on hotel performance. This effect is, however, greater in highly attractive destinations than in less attractive ones, with public intervention potentially increasing the divide between the two.

1. Introduction

Tourism is one of the main determinants of countries' growth (Balaguer & Cantavella-Jorda, 2002; Lee & Chang, 2008) and one of the major factors for regional development (Andraz, Norte, & Gonçalves, 2015; Brida & Giuliani, 2013; Paci & Marrocu, 2014). Consequently, tourism policy is becoming an instrument for economic development (Estol & Font, 2016). Many initiatives in support of tourism are included in supranational programs, such as the European Regional Development Fund to support the competitiveness and sustainability of tourism, as well as at national and regional levels (Bernini & Pellegrini, 2013; Fleischer & Felsenstein, 2004; Logar, 2010; Thomas, 1994; Wanhill, 2000).

The tourism industry is an example of a place-based approach to regional development. This is broadly defined as "government efforts to enhance the economic performance of an area within its jurisdiction" (Neumark & Simpson, 2014, p. 1; Barca, McCann, & Rodríguez-Pose, 2012). Public interventions take on various forms, ranging from regulatory actions to the direct provision of funds (i.e., subsidies) to private firms. Subsidies in the tourism industry were indeed mentioned by 62 of the 97 members of the World Trade Association between 1995 and 2004 (WTO, 2006), and the most mentioned goal of support for tourism was regional development. Among the place-based policies in tourism, the support of hotel investments is widely used.

Despite the wide use of the public support of hotel investments, the effect of public intervention is still an issue (OECD, 2014). Quantitative analysis on the efficacy of subsidization policies for hotels remains scant and does not cover small firms in a regional context (see, e.g., Bernini & Pellegrini, 2013). The large body of literature on policy evaluation demonstrates that subsidy programs can often be ineffective because they do not modify the behavior of the decision unit, and they can even be detrimental, introducing distortions into the competitive arena (Buigues & Sekkat, 2011; Weiermair, 2006; Zúñiga-Vicente, Alonso-Borrego, Forcadell, & Galán, 2014).

A more detailed analysis of the effect of subsidies to hotels would help policymakers implement evidence-based policies for the tourism industry (OECD, 2010). However, a comparison between the investment behavior of subsidized and unsubsidized hotels is not sufficient to assess the positive impact of the policy. Indeed, firms with a higher propensity to invest can self-select to reap public incentives. It might be the case that subsidized hotels invested independent on the subsidy, or that hotels merely anticipate investment decisions that had been made anyway. Finally, it could also be the case that incentivized hotels invest in low-performance activities. For this reason, subsidized hotels were matched with unsubsidized ones having similar observable characteristics, namely the legal form, the size, the category, the level of external services, the international attractiveness, the capital intensity, and location factors. Moreover, a conditional difference-in-differences estimation is employed to control for unobservable time-invariant factors as well.

The main goal of this paper is to provide evidence for the effectiveness of public subsidies for micro and small hotels in a regional context. More specifically, the main question addressed in this paper is whether

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public subsidies aimed at co-financing hotel investments are beneficial in terms of inducing them to increase their investment with clear effects on their productivity, profitability, occupancy rate, and demand variability.

2. Public policy in tourism

Public interventions in tourism may take on various forms. While in developing countries subsidies for the development of tourism relate mostly to infrastructure improvements, in developed countries the support for the tourism industry generally takes the form of support for small tourism firms, and hotels among them (WTO, 2006). Small tourism firms are seen as fundamental for the development of the sector (Thomas, Shaw, & Page, 2011). Micro and small firms represent the bulk of the tourism industry supply in many European destinations (OECD, 2010)[1]. In particular, most hotels in the major European countries (90% In France, 85% in Italy, 75% in Germany, 80% in Spain) are classifiable as micro firms. The arguments advanced in favor of targeting policy interventions in small tourism firms lie in the market failures caused by a high degree of fragmentation in the industry and asymmetric information (Croes & Severt, 2007; Wanhill, 2000). In principle, small firms are flexible and can adapt more easily to the changing needs of visitors. On the other hand, however, small firms often have limited resources available that may restrict their investments and ability to adapt rapidly to new challenges and to capture opportunities. In particular, small firms' access to capital markets is more difficult (Wanhill, 2000).

The assessment of the effects of the direct provision of support to tourism firms through public subsidies has been analyzed using different approaches. Schubert and Brida (2008) theoretically studied the impact of the subsidization policy in the tourism sector by means of a dynamic general equilibrium model. Their analysis showed how, under certain conditions, subsidies might have a positive effect in the short run, which decreases as time passes. Using a qualitative approach, Logar (2010) compared the use of a set of policy instruments available to policymakers for managing tourism in a local context. Although the use of subsidies is seen as effective and highly acceptable, concerns arise about their economic feasibility due to government budget constraints. Fleischer and Felsenstein (2004) used a regression approach to uncover the employment and output effects of capital subsidy directed to small tourism firms. They analyzed a loan guarantee scheme to provide capital assistance to tourism firms and found that public assistance affected small tourism firms more strongly than other small firms, and that the effect was higher on employment than on output growth.

The evaluation of subsidization policies must cope with endogeneity and self-selection issues. Subsidies are generally not allocated randomly to firms. In fact, only some firms can decide to apply to obtain public funding. On the other hand, policymakers select which firms (the projects) they will support. Few empirical studies, however, have explicitly addressed the problem of selection in the access to subsidization plans in tourism. Bernini and Pellegrini (2013) carried out a quantitative evaluation of the effectiveness of public subsidies for tourism firms using a sample of Italian corporations that applied for financial aid via the Italian law 488/1992. A matching procedure was employed to overcome selection bias, with subsidized and control firms matched using propensity scores (i.e., the probability of receiving a subsidy given a set of observable firm characteristics). Their main findings show that subsidized firms had higher output and employment growth, but lower labor productivity than unsubsidized ones. Moreover, these impacts varied across destinations. This analysis was, however, restricted to medium-large firms, and the authors emphasize that their results cannot be extended to small firms.

Building on a preliminary exploratory work (Gabriele, Tundis, & Zaninotto, in press), this study tests a set of hypotheses on the effect of subsidies on some hotels' performance indicators, controlling for self-selection and the local context.

3. The effect of capital subsidies on hotel performance

The expected effect of capital subsidies on hotel performance can be understood by considering the influence on the innovative behavior of hotels. Investment in new capital is a key source of innovation for supplier-dominated sectors, as in many service sectors (Hipp & Grupp, 2005; Sirilli & Evangelista, 1998). In particular, innovation and property renovation are intertwined in the hotel industry (Hassanien & Baum, 2002). This is due to the fact that new capital may spur process, product, and service innovations. Hjalager (2010) refers to product or service innovations in tourism as the changes of a particular firm observed by the customer that are regarded as new, while process innovation is typically concerned with back-office operation with the aim of enhancing efficiency, productivity, and flow. Small hotels should opt for a focused instead of a holistic approach to innovation (Mattsson & OrfilaSintes, 2014). Innovation in small hotels can be directed to the improvement of facilities, aimed at enlarging the portfolio of services delivered and increasing the quality of tourist experience, or accede to new segments of demand. This happens through the introduction of wellness facilities, superior architectural design, or new equipment (Pikkemaat, 2008). Improved capital, such as new kitchen equipment or increased room facilities (Orfila-Sintes, Crespí-Cladera, & Martínez-Ros, 2005), can improve the quality of products and services delivered, which will in turn enhance demand. The availability of hotel comforts and high-quality facilities plays a key role in tourists' buying decisions (Choi & Chu, 1999; Kashyap & Bojanic, 2000), and improved capital endowment would increase the value of service experienced by tourists (Israeli, 2002). New segments of demand can be approached and new needs met. For instance, ageing clients can be sensitive to the innovation of accessibility, or the use of domotics, while environmental concerns can be met by investment in energy-saving and environment friendly facilities. Renewed physical capital may thus allow a hotel to attain lower costs and output with higher quality (Orfila-Sintes & Mattsson, 2009).

Empirical research suggests that in the hotel industry, the introduction of new technology improves labor productivity and enhances revenues (Blake, Sinclair, & Soria, 2006; Orfila-Sintes et al., 2005; Sheldon, 1983; Sundbo, Orfila-Sintes, & Sørensen, 2007). Productivity reflects either the more efficient use of resources or an increase in the quantity or quality of output. The improvement of equipment aimed at increasing the quality of services or the introduction of new technologies can boost both drivers of productivity. Therefore, public policies supporting hotel investments are expected to be beneficial for hotel performance. Hence, the following hypothesis can be stated:

Hypothesis 1a. A public subsidy for hotel investment induces an increase in the labor productivity in subsidized hotels.

Moreover, for small hotels in particular, focusing specifically on service and back-office innovation through the integration of more advanced technological and physical assets appears to be an effective way to improve profitability and occupancy rates (Mattsson & OrfilaSintes, 2014). Consequently, the following hypothesis is proposed:

Hypothesis 1b. A public subsidy for hotel investment induces an increase in the profitability and occupancy in subsidized hotels.

A desirable complementary aim of a public policy for hotels should be to reduce demand seasonality. Variations in the product mix

[1] Firms are classified with respect to the number of employees. In particular, small firms are those with fewer than 50 employees, while micro firms have at most 10 employees.