

Economic Efficiency of Slovenian Coastal Hotels

Jan Frančeškin

University of Primorska, Faculty of Management Koper, Slovenia
jan.franceskin@fm-kp.si

Štefan Bojnec

University of Primorska, Faculty of Management Koper, Slovenia
stefan.bojnec@fm-kp.si

Abstract. The article wants to find out how efficient Slovenian coastal hotels were in the period 2015-2018 using data envelopment analysis (DEA). During this period Slovenian tourism recorded a high growth in the number of overnight stays and the number of foreign tourist arrivals. Economic efficiency refers to the concept of theory of production (Anderson et al. 1999). To define the relationship between inputs and output, a production function is used, which graphically shows the maximum possible outputs for a given inputs or a given output with a minimum use of inputs, both according to a given technology. A commonly used method for measuring efficiency is DEA, which can be used to assess both technical efficiencies based on selected inputs and outputs, as well as allocative efficiency based on the use of prices. The use of DEA analysis is also useful in studying the competitiveness of an individual hotel or hotel chain in the market. In the analysis, we will include the entire population of enterprises whose main activity is hotel business, and which are registered in the company account basis, and follow them over four analyzed years through ID numbers. Through the company account portal, we will also obtain all the necessary financial and other data, which are crucial in the design of inputs and outputs as the two main components of DEA analysis. Based on a review of literature, we selected the most common used inputs and outputs to include them in our research. Among inputs are included: number of employees (labor), costs of goods, materials and services (material input), other operating expenses, and property, plant and equipment (capital). Among outputs are included net sales revenues and other operating revenues. As the analysis also includes the time component, we will deflate the values in current prices accordingly or change the nominal values in current prices into real values in constant prices of the base year in order to eliminate the impact of inflation. The efficiency of an individual hotel is also affected by other factors that do not originate from the hotel itself. Economic growth reflects the movement in the purchasing power of the population important for consumers choose to spend part of their income on travel. Mihalič (2008) states that funds for tourist consumption can come from two sources, namely funds from governments, companies and other institutions and / or from own sources, such as personal income, property and savings, which are part of personal income. An individual's income thus determines the amount of tourist demand. The analysis will include the economic growth rates of the four outbound or European tourist generating countries from which most tourist arrivals and overnight stays are generated in Slovenia. In addition to domestic Slovenian, these are the following countries of international tourist arrivals/overnight stays: Italy, Germany and Austria. The rate of economic growth is a numerical variable that is the same for all hotels each year but has changed over a four-year period. The rate of economic growth of a country is the same for all hotels within a year; however, it differs between the outbound countries included in the analysis, which results in variability of observations are on an annual basis. We will use panel data analysis over a four-year period. The robustness of model estimates and regression coefficients will be checked by cross-sectional analysis by individual years. As the impact of a country's economic growth may be lagging, we will repeat the analysis, namely with economic growth in the current period and especially with economic growth with a lag of one year in the past.

Keywords: Tourism, economy, Slovenia, economic growth, service activity, hotel industry, location, efficiency, data envelopment analysis (DEA)

References

- Amado, C. A. F., Santos, S. P., & Serra, J. M. M. (2017). Does partial privatisation improve performance? Evidence from a chain of hotels in Portugal. *Journal of Business Research*, 73, 9–19.
- Anderson, R. I., Fish, M., Xia, Y., & Michello, F. (1999b). Measuring efficiency in the hotel industry: A stochastic frontier approach. *International Journal of Hospitality Management*, 18(1), 45–57.
- Barros, C. A. P., & Santos, C. A. (2006). The measurement of efficiency in Portuguese hotels using Data Envelopment Analysis. *Journal of Hospitality & Tourism Research*, 30(3), 378–400.
- Barros, C. P. (2005a). Measuring efficiency in the hotel sector. *Annals of Tourism Research*, 32(2), 456–477.
- Barros, C. P. (2005b). Evaluating the efficiency of a small hotel chain with a Malmquist productivity index. *International Journal of Tourism Research*, 7(3), 173–184.
- Benito, B., Solana, J., & López, P. (2014). Determinants of Spanish regions' tourism performance: A Two-Stage, Double-Bootstrap Data Envelopment Analysis. *Tourism Economics*, 20(5), 987–1012.
- De Jorge, J., & Suárez, C. (2014). Productivity, efficiency and its determinant factors in hotels. *The Service Industries Journal*, 34(4), 354–372.
- Fernández, M. A., & Becerra, R. (2015). An analysis of Spanish hotel efficiency. *Cornell Hospitality Quarterly*, 56(3), 248–257.
- Kularatne, T., Wilson, C., Månsson, J., Hoang, V., & Lee, B. (2019). Do environmentally sustainable practices make hotels more efficient? A study of major hotels in Sri Lanka. *Tourism Management*, 71, 213–225.
- Mihalič, T. (2008). *Turizem: Ekonomski vidiki*. Ljubljana: Ekonomska fakulteta.
- Nemec Rudež, H., & Bojnec, Š. (2007). *Ekonomika turizma*. Portorož: Turistica, Visoka šola za turizem.
- Oliveira, R., Pedro, M. I., & Marques, R. C. (2013). Efficiency and its determinants in Portuguese hotels in the Algarve. *Tourism Management*, 36, 641–649.
- Parte-Esteban, L., & Alberca-Oliver, P. (2015). Determinants of technical efficiency in the Spanish hotel industry: Regional and corporate performance factors. *Current Issues in Tourism*, 18(4), 391–411.
- Sellers-Rubio, R., & Casado-Díaz, A. B. (2018). Analyzing hotel efficiency from a regional perspective: The role of environmental determinants. *International Journal of Hospitality Management*, 75, 75–85.
- Silva, T. C., Tabak, B. M., Cajueiro, D. O., & Dias, M. V. B. (2017). A comparison of DEA and SFA using micro- and macro-level perspectives: Efficiency of Chinese local banks. *Physica A: Statistical Mechanics and Its Applications*, 469, 216–223.
- Solana-Ibáñez, J., Caravaca-Garratón, M., & Para-González, L. (2016). Two-Stage Data Envelopment Analysis of Spanish Regions: Efficiency Determinants and Stability Analysis. *Contemporary Economics*, 10(3), 259–274.