

Cointegration Relations in Slovenian I(2) Tourism Prices

Sergej Gričar

University of Novo mesto, Faculty of Business and Management Science; Faculty of Economics and Informatics, Slovenia
sergej.gricar@gmail.com

Bjørnar Karlsen Kivedal

Østfold University College, Faculty of Computer Science, Engineering and Economics, Norway
bjornar.k.kivedal@hiof.no

Štefan Bojnec

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

Abstract. Tourism should be a significant driving force for most modern societies, and applied-modern econometric approaches are sought in secondary data. A purely applied presentation of price trends in cointegration is assessed using $I(2)$ cointegration approach. Therefore, this work adds some perspectives to Slovenian tourism science and valuable research ideas for many contemporary time series methodology scholars.

The $I(2)$ cointegration model estimates the dynamics between prices related to tourism in Slovenia and the Eurozone. The theoretical definition of the time series in the $I(1)$ vector trend and the $I(2)$ cointegration network is analyzed. A Eurozone country is a case study for developing the cointegrated-autoregressive model and its extensions with all misspecification parameters usually omitted in tourism and other economic studies. Our focus is on the analysis of tourism prices as a crucial element in tourism market research.

Price is an important management tool for firms as it is the main determinant that generates income. Moreover, inflation is an external variable that determines both output prices and the input costs of firms. Using an empirical dataset from January 2000 to December 2017 and a cointegrated vector, it is found that prices in the Slovenian hospitality industry are significantly associated with the euro area prices. On the other hand, as input costs in tourism, food and beverage prices are primarily influenced by euro area prices. These results are essential for the theoretical perspective of $I(2)$ cointegration and the application to post-pandemic inflation risks.

The estimated $I(2)$ model shows that prices in Slovenia and the rest of the euro area are interdependent. In the long run, the euro area prices appear to affect Slovenian prices, but in the medium and short run, price changes in Slovenia have spillover effects on the rest of the euro area. This is a remarkable finding using the time series data vector. The results are of broader relevance for the tourism industry in the countries that will adopt the euro as their national currency in the next few years.

Keywords: development of cointegration, tourism, Slovenia

References

- Gričar, Sergej, and Bojnec, Štefan. 2012. Price Developments in the Hospitality Industry in Slovenia. *Economic research - Ekonomski istraživanja* Special Issue no. 2: 139–152.
- Johansen, Søren. 1995. *Likelihood-Based Inference in Cointegrated Vector Autoregressive Models*. Oxford: Oxford University Press.
- Juselius, Katarina, and Stillwagon, Josh R. 2018. Are Outcomes Driving Expectations or the Other Way Around? An $I(2)$ CVAR Analysis of Interest Rate Expectations in the Dollar/Pound Market. *Journal of International Money and Finance* 83: 93–105.