TOURISM VOLATILITY TO EXTERNAL SHOCKS

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SUMMARY

International tourism of today is considered one of the main levers of job creation, generating income and foreign currency and foreign investment. Over the past few years, international tourism has been growing steadily, but at the same time this same growth is threatened by challenges in the form of various external shocks affecting the volatility of tourism. Volatility is described, according to many authors, as an unpredictable measure of the intensity of variations. These variations are associated with unpredictable crisis situations or events commonly referred to as 'new shocks' (e.g. terrorism, epidemics, natural disasters, exchange rate volatility, oil price, political (in)stability, wars, and various forms of criminal activities). Such global events have a profound impact on a wide range of political, legal and social dimensions. Tourism is extremely vulnerable to various external and internal shock e. The appearance of exogenous events in destinations changes the characteristics of tourism at the destination level, affecting the tourist demand, but also on the economic situation of the country.

Purpose

Based on the presented so far, it is also possible to define the purpose of the research of the doctoral dissertation: to analyse the main(exogenous) factors that influence the volatility of tourism in the form of the number of arrivals and number of overnight stays in selected countries of the world. Despite the obvious economic benefits it brings, tourism is exposed to internal and external shocks leading to a decline in activity. The intensity and duration will depend on the actual and perceived preparedness of the affected countries and the ability to convince that these countries are safe destinations.

Knowledge of the factors affecting tourist demand is necessarily necessary for all countries, especially those whose share of tourism in GDP is extremely high. Such information may be useful for macroeconomic analysis and forecasting.

The aim of the paper were as follows: systematically define and quantifies variables that can affect the tourism of today (terrorism, health issues, natural disasters, wars, political (in)stability, exchange rate volatility, oil prices, migration), determine the levels of volatility of tourism to external shocks, and point out the levels of volatility of tourism to external shocks, and point out the importance of monitoring phenomena affecting tourism volatility.

Methodology

The research carried out is quantitative in form since the research process is predefined and structured, while the data collection phase also precedes the data analysis phase. The research starts from the assumption that the panel model of time series can identify the impact of external shocks on tourism. The obtained results of the empirical part of the research, justify expectations based on theoretical assumptions.

For the purpose of proving the first hypothesis set, which reads "*There is a statistically significant difference in the degree of sensitivity of turzm to selected external shocks*", a panel analysis was carried out.

Another hypothesis, "*The short- and long-term effects of shocks on tourism are different in type of external shocks*", was tested using PANEL VAR model, impulsive response function and decomposition of variance. Panel VAR model with GMM assessment within one backward shift, with the help of Helmert's transformation, is defined by two variables within each model. The analysis carried out included seven different panel VAR models. To estimating how much variability of the dependent variable lags behind its own variance as well as which of the independent variables is "stronger" in explaining the variability of dependent variables over time, decomposition of variance has been applied. After the VAR estimation was performed, the structural error terms were identified using Cholesky decomposition and impulse response functions were generated. Within the framework of panel vector auto-regression, an assessment of the impulse response function (impulse-response functions) was carried out, with the help of which the assessment of orthogonal shocks is carried out with the aim of assessing the shock of one variable on another, while keeping all other variables constant.

The Granger causality test within the panel VAR was applied to investigate the causal relationship between the variables of interest, that is, to test the third hypothesis, which reads: "There is an interdependence of external shocks and tourism".

Findings

The results of the conducted research show that the first hypothesis set, *Hypothesis 1: There is a statistically significant difference in the degree of sensitivity of tourism to selected external shocks is fully accepted.* With the aim of assessing the impact of external shocks on tourist arrivals, the results of the panel analysis show a strong and significant link in 6 variables of interest (out of 7 tested in total) in order: terrorist attack, natural disasters, health issues, exchange rate volatility, war and political (in)stability. Furthermore, the results of the conducted research show that the second hypothesis,

Hypothesis 2: Short-term effects of shocks on tourism, different by type of external shocks, is not accepted. Given that the impulse response function observed the reaction at the time of the shock in relation to the period of 10 years after the shock occurred, these reactions showed that no reaction was statistically significant, i.e., in all seven cases the confidence intervals include both positive and negative values.

To prove the third hypothesis (There is an interdependence of external shocks and tourism), the causality test conducted indicates partial acceptance of it. Results (VAR Granger panel) suggest that the interdependence of external shocks was established in both directions in the external shock of a natural disaster. The unusual result of the existence of causation from the direction of tourism to natural disasters can be explained, according to some research, through the intensive development of urbanization, which is a consequence of the development of tourism. Urbanization may lead to an increase in airborne carbon emissions affecting the climate environment. A one-way causality was also established by tourism to health issues. Tourism, thanks to the globalization and stativity of the tourist offer, affects the mobility of tourists and therefore the transmission of various infectious diseases can be caused precisely by tourist movements. The average price of oil is an external shock that also affects tourism, more precisely, the drop in the price of oil will have a positive effect on tourist demand and its movements, and consequently lower prices for transport tickets.

Originality of the research

The scientific contribution of the doctoral dissertation is determined: in the systematization and conceptual determination of tourism and external shocks (with special emphasis on terrorism, political instability, war, migration, natural disasters, health crises, oil prices and exchange rate volatility), in the analysis and systematization of the positive and negative economic effects of tourism on the world economy, in the analysis of the socio-cultural effects of tourism as its effect on the environment, in the analysis and systematization of the importance of the impact of external shocks on tourism and the affirmation and development of knowledge about the importance and understanding of their interrelationship. Furthermore, the contribution of the work also rests in the development of econometric methodological approaches in assessing the impact of external shocks on tourism as well as quantifying (assessing) the sensitivity of tourism to external shocks and identifying the direction of causation between tourism and external shocks. These contributions should also be added to the analysis of the short- and long-term effects of shocks on tourism. The application contribution of the work rests in the empirical research carried out, which, by modelling the volatility of tourism, can significantly facilitate decision-making for the policymakers of many countries, especially those that depend on tourism to a high degree. The assessment of the impact of external shocks on the volatility of tourism was based on a detailed explanation of the selected variables, and among other things, for the purpose of raising awareness of the presence of external shocks as well as highlighting the need to monitor them. The importance of determining the level of vulnerability to a particular external shock is reflected in the adoption of adequate economic policy measures that should change the structure of a country's economy, all with the aim of raising the level of resilience to exogenous events. Empirical analysis was carried out on the cause of 168 countries representing the spatial component, and the time dimension covered a period of 25 years

(1995-2019). In view of the unbalanced panel data, during the model assessment, the sample decreased depending on the availability of the data. Independent variables in the model were terrorist attacks, natural disasters, health issues, political instability, war, migration, exchange rate volatility and oil prices, while the dependent variable was total overnight stays.

Keywords: tourism, external shocks, econometric modelling, panel analysis