Does Olympic Games Announcement Affect Stock Markets? A Bayesian Causal Impact Study

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Economic impact of mega sport events has been a topic of interest for many researchers. They assessed the economic benefit a host city would receive from hosting the event (Baade & Matheson, 2004; Kasimati, 2003; Crompton, 1995). However, scholars found that ex-ante economic impact studies overestimated the economic impact of sporting events, and estimates far exceeded the ex-post observed economic developments (Matheson, 2002). These findings brought skepticism to the validity of economic impact studies.

Economists anticipate that a stock market will reflect the expectations of the economic outlook of a country. The announcement effect of the Olympic Games on the bid-winner countries’ stock exchange was examined in the literature (Berman, Brooks, & Davidson, 2000; Dick & Wang, 2008; Nishio, Lim, & Downward, 2009; Veraros, Kasimati, & Dawson, 2004). However, the empirical studies had conflicting results. For example, the announcement of the Athens Olympic Games and Seoul Olympic Games resulted in a positive impact on each countries’ stock index, but announcement of the Atlanta and Sydney Olympic Games had not impacted their stock markets (Nishio et al., 2009). Dick and Wang (2008) reported no effect on stock markets for the Winter Olympic Games bid-winners for any time period by using capital asset pricing models.

The current study aimed to examine the impact of the announcement effect of the 2012 Olympic Games on the winner (London, United Kingdom) and the runner-up (Paris, France) countries’ stock price index by employing a Bayesian time-series causal impact methodology proposed by Brodersen et al. (2015). The stock price index for UK (FTSE 100) and France (CAC 40) were retrieved from Yahoo Finance from the nomination date (July 15, 2003) until the opening day of the 2012 Summer Olympic Games. A Bayesian time-series estimate for the effect with a causal inference was employed. The analysis was performed with R by using CausalImpact package. This analysis requires a set of control time series that are not affected by the intervention for the causal inference. In order to fulfill this assumption, compatible stock price index were used, namely USA (S&P 500) and Spain (IBEX 35). The model utilized a time-series for the host country’s (UK) and the runner-up country’s (France) stock price index and a set of control time-series for non-affected, comparable economies (i.e. USA and Spain). The model was then used to predict how the stock price index for UK and France would have evolved if the countries had not been impacted by the IOC’s host country announcement, which is called counterfactual prediction.

The estimation results showed that the announcement of the 2012 Summer Olympic Games had a positive impact on the UK stock market and a negative impact on French stock market. Bayesian structural model indicated that counterfactual prediction was lower than the actual stock price index for UK and higher than the actual French stock price index for the post-announcement period. Findings and future research ideas due to the IOC’s more recent challenge in attracting candidate cities will be further discussed at the conference.