**Event study approach: The case of Airbnb and hotel stocks**

**Abstract**

This study investigates the impact of Airbnb announcements on hotel stock prices across ten countries, distinguishing between exact and general location announcements. While general announcements have minimal impact, those with exact locations consistently reduce hotel stock prices, as evidenced by negative Cumulative Abnormal Returns (CAR) trends. The primary impact occurs within the [-3,+1] days surrounding the announcement. These robust findings persist across various tests, emphasizing their reliability. Implications include the importance of investor awareness regarding location-specific announcements and the need for regulatory examination of information disclosure practices on platforms like Airbnb. The study offers valuable insights for investors and policymakers navigating the dynamic landscape of the hospitality industry in the age of online platforms.

Keywords: Event studies approach, Airbnb, Hotel companies, Market efficiency, Announcements

**JEL Classifications:** G10, G14, G30

**Introduction**

Recent decades have witnessed the development of the peer-to-peer (P2P) economy in response to a variety of technological and sociological changes. The term “peer-to-peer” refers to a transaction in which, for a specified fee, a party rents an un- or under-used product to a party that temporarily needs it (Gupta et al., 2019). While some researchers use the term “sharing economy,” this term is not accurate, as the product is not really “shared” (Dolnicar, 2021). Having spread from the accommodation market to the car, fashion (Choi & He, 2019), and even electricity markets (Schneiders et al., 2022), the P2P economy now has the potential to profoundly alter the entire economy. The most conspicuous example of the P2P economy remains the P2P accommodation market, specifically Airbnb (Gansky, 2011; Sundararajan, 2013). Airbnb links parties that have vacant housing available with parties (such as tourists) seeking temporary accommodations via digital markets (Botsman & Rogers, 2011; Zervas et al., 2017). Founded in 2008 by Brian Chesky and Joe Gebbia by 2021, Airbnb had 12.7 million listings in 100,000 cities (Airbnb, n.d.). Airbnb, with a market value of $113 billion (Airbnb, n.d.), now leases more rooms than the world’s three largest hotel companies combined.

Airbnb poses a potentially serious threat to the traditional hospitality industry because it offers significantly cheaper accommodations and more diversity than do hotels (Dolnicar, 2019). Some researchers claim that Airbnb is a substitute for hotels. For example, Guttentag and Smith (2017) found that over 60 percent of Americans use Airbnb instead of hotels. Similarly, Yang et al. (2021) found the two to be interchangeable options. Analyzing 466 estimates from 33 studies on the effect of Airbnb on hotel performance, they found that Airbnb had a small but negative effect. Dogru et al. (2020a) researched ten major hotel markets in the United States between 2002 and 2018 and reported that ‏the increase in Airbnb supply between 2008 and 2017 had a negative effect on hotel revenues, average prices, and occupancy rates. In addition, Dogru et al. (2020b) found that in London, Paris, Sydney, and Tokyo, an increase of 1% in Airbnb listings reduced hotel revenue between 0.016% and 0.031%. According to Blal et al. (2018), in San Francisco, overall hotel revenue per room was unrelated to the availability of Airbnb alternatives. However, in certain segments, it was affected by the average price of Airbnb accommodations. Conversely, other researchers have argued that Airbnb is a complementary product. For example, Varma et al. (2016) surveyed hotel employees and found that Airbnb and hotels address different types of guests. Likewise, Sainaghi and Baggio (2020) determined that on weeknights, hotels usually serve business guests, while Airbnb houses leisure guests.

Along with the immediate effect Airbnb has had on the hospitality industry, including a rise in tourist numbers (Gutiérrez et al., 2017)‏, it has also had a wider effect on the economy (Levendis & Dicle, 2016; Negi & Tripathi, 2022). One example is its impact on rental and housing prices (Benitez-Aurioles & Tussyadiah, 2020; Barron et al., 2021 Airbnb has been found to lead to increased crime rates (Ke et al., 2021) as well as to neighborhood gentrification and overcrowding (Gyodi, 2019; van Holm, 2020). Findings from the Balearic Islands indicate that Airbnb engenders environmental degradation (Martin et al., 2018). On the other hand, Airbnb has a positive effect on the hotel and restaurant employment market (Dogru et al., 2020c; Mao et al., 2018) and on the revenues of local communities and authorities (Belarmino et al., 2021; Mao et al., 2018; Farmaki & Kaniadakis, 2020).

The emergence of Airbnb has brought about significant disruptions to the hospitality sector, generating both positive and negative effects on local economies. As a result, local municipalities and governments have been prompted to reconsider their regulatory approaches towards Airbnb. In order to make well-informed policy decisions, it becomes crucial to gain a comprehensive understanding of Airbnb's impact on markets. This study adopts a unique approach by examining stock market responses to Airbnb announcements in relation to hotel stock values, aiming to determine whether Airbnb operates as a substitute or a complementary service to traditional hotels. Unlike conventional research, which often focuses on specific geographic locations (Dann et al., 2019), this investigation offers a broader perspective on the dynamic relationship between Airbnb and the hotel industry.

The disruptive potential of Airbnb in the stock markets of various countries has emerged as a significant point in academic discussions. Therefore, this study aims to investigate the financial implications of exact location versus general location Airbnb listings on hotel stock prices in these regions. Employing a different methodological approach, which includes comparative assessments, parametric and non-parametric tests, as well as robustness tests, this research seeks to provide valuable insights for both capital market participants and policymakers. This study makes a substantial contribution to the existing literature on several points. Firstly, it pioneers an examination of the differentiated impact of advertisements with exact location versus general location on stock markets within the context of Airbnb, filling a gap in current research. Secondly, by employing an extensive set of statistical tests – six parametric and non-parametric tests, along with four robustness tests – the study enhances the reliability and robustness of its findings beyond the conventional statistical tests typically applied in prior event research within the Airbnb domain. Lastly, the study utilizes primary data sourced directly from the Airbnb website, allowing for the segmentation of posts based on the respective countries' locations. The results of the study suggest that announcements with general locations have a limited effect on hotel company stock prices, while announcements exact locations lead to a obvious decline in hotel stock prices.

**Literature Review**

The efficient market theory (EMH) posits that share prices reflect all information known to the market. Investors seeking profit avenues look for information that is predictive of stock prices. Extensive research has therefore been performed on how different information published in various media affects stock prices. One common way to study the impact of news on markets is to apply event study methodology. This method has been widely used in many areas, including marketing (Sorescu et et al., 2017),‏ economics (Lee and Mas 2012), accounting (Jiang et al. 2015), health (Maneenop and Kotcharin, 2020), air travel (Kumari et al 2023, Kumari et al 2022), event industry (Seraphin 2021) and tourism (Papakyriakou et al., 2019, Pandey 2021).

In the hospitality industry, the event study approach has been used by many researchers. For example, Che Ahmat et al. (2023) applied it to test the impact of a minimum hospitality industry wage on the stock prices of hotel companies in Malaysia, finding that introducing or increasing a minimum wage led to a decline in stock values. Bloom and Jackson (2016) found a negative effect associated with changes in hotel company CEOs. Likewise, Dogru (2017) found that acquisition has a positive effect, its size depending on the financial constraints and organizational structure. Kim (2021) observed divergent impacts of announcements related to hotel mergers on both the offering bidder and the target. While Pandey et al. (2022) investigated the effects of the Russia-Ukraine war on global tourism stocks, revealing distinct effects across various markets.

Focusing specifically on Airbnb, Garcia-López et al. (2020) used several models, including the event study model, to test the effect of Airbnb on Barcelona’s housing and rental prices. They found that since 2014, when Airbnb became an important factor in Barcelona, housing and rental prices increased in neighborhoods where Airbnb was present, unlike neighborhoods in which it was not. This result was also obtained by Bibler et al. (2022) in Chicago and San Francisco; however, they also found that growth in Airbnb listings helps the individual’s economic situation. Similarly, Gonçalves (2020) focused on the ban of Airbnb in Lisbon, Portugal, finding that there was a sharp increase in providers’ registration on Airbnb between the time the ban was announced and its implementation, and that housing buyers liked the option of being able to participate in the Airbnb market.

Studying the effect on funding on Airbnb and hotels at different business stages, Bianco et al. (2022a) found that the startup phase for traditional hotels had a negative effect on stock markets, while Airbnb at a similar stage had a positive effect. Examining the connection between Airbnb and hotel companies, Bianco et al. (2022b) used a sample of publicly traded hotel management companies and hotel real estate investment trusts in the United States before and after Airbnb was recognized as a competitor (2013–2014). Using the event study methodology, they found that after 2014, new products or services offered by Airbnb had a negative effect on markets. Focusing on this connection but extending it to Airbnb throughout the world, Teitler-Regev and Tavor (2023) tested how announcements on the Airbnb website affected stock values of hotel companies, finding a negative connection. In addition, they found that positive Airbnb announcements led to a decline in stock values, while announcements regarding families had a longer-term effect.

Numerous studies (e.g., Bianco et al. 2022b; Kim, 2021; Teitler-Regev & Tavor, 2023) have supported the conclusion that negative events, such as cyber-attacks (Arcuri, 2020), terrorist attacks (Markoulis & Neofytou, 2019), political uncertainties (Das et al., 2020), and COVID-19 (Clark et al., 2021; Sharma & Nicolau, 2020; Shin et al., 2021), have a negative effect on markets.

Moreover, the inclusion of location information in announcements may yield varied effects on hotel stock prices. For instance, Viljoen (2016) investigated the impact of news announcements on stocks with dual listings, revealing that these announcements not only influenced stocks within the specific market but also had a spillover effect on the broader market. Another study by Kumari et al. (2023), examining the effects of the Russia-Ukraine war, demonstrated that companies situated in distant regions such as Asia and America remained unaffected, whereas those in proximity to the event, such as Europe, the Middle East, and Africa, experienced significant impacts.

Building upon these empirical findings, the study formulates the following hypothesis:

Hypothesis: Airbnb announcements specifying an exact location will exert a distinct influence on local hotel stock prices compared to announcements without location specificity.

This study aims to fill a gap in the existing literature by undertaking a comparative analysis of the effects of Airbnb announcements with specific location references versus those without such specificity. Drawing on the foundational research by Teitler-Regev and Tavor (2023), this investigation employs sophisticated statistical models to scrutinize the impact of these distinct types of announcements on hotel stock prices.

**Method and Methodology**

***Data***

This research investigates the impact of Airbnb's country-specific announcements on the stock performance of hotel companies across ten prominent countries globally: the United States, France, Australia, India, Japan, Great Britain, China, Germany, Thailand, and Spain. The selection of these countries is based on Airbnb's substantial activity within these regions and the prevalence of publicly traded hotel entities within their borders. The categorization of announcements is detailed in Table 1, distinguishing between those specifying exact locations and those offering a more general location. Specifically, announcements are classified as either having a specific country location or providing a broader representation of a region or continent, as represented in Appendix A.

For Airbnb listings with exact location details, yield data were gathered for hotel companies situated in the corresponding country. Conversely, for announcements lacking specific location details, return data were systematically collected for hotel companies situated within the specified announcement area (i.e. continent) and sampled countries. The dataset encompasses 48 announcements related to 145 stocks with exact locations and 132 announcements related to 969 stocks with general location. The data collection period, initiated in 2017, aligns with Airbnb's notable expansion and acquisition efforts in the hospitality sector during that year. Additionally, it coincides with a substantial increase in the rate of announcements published on the website during this period. The conclusion of data collection in 2019 is due to the outbreak of the COVID-19 pandemic, profoundly impacting the hospitality and tourism markets and necessitating the termination of the study at that juncture.

To evaluate the influence of Airbnb announcements on the stock prices of hotel companies, we gathered return data for the specified hotel firms (outlined in Appendix B). Additionally, we considered market returns using the ten leading stock indices of the respective countries as benchmarks. These indices, obtained from Yahoofinance.com and Investing.com, include Standard & Poor's 500 (S&P 500), Cotation Assistée en Continu (CAC 40), Standard & Poor's Australian Securities Exchange 200 (S&P/ASX 200), BSE SENSEX 30 (BSE Sensex 30), Nikkei Stock Average 225 (Nikkei 225), Financial Times Stock Exchange 100 Index (FTSE 100), Shanghai Stock Exchange 50 Index (Shanghai SE 50), Deutscher Aktienindex (DAX), Stock Exchange of Thailand 100 Index (SET 100), and Índice Bursátil Español (IBEX 35).

**Table 1**

***Empirical Strategy***

The event study approach was developed as a statistical approach to measuring how an economic event affects the market by utilizing abnormal returns (AR) (Luoma, 2011), specifically testing the efficient market theory (EMT) developed by Fama (1970).  The first research published using the event study approach was carried out by Dolley (1933) in the early 1930s. In the late1960s, research by Ball and Brown (1968) and Fama et al. (1969) introduced the methodology that is still in use today in much economics and finance research. However, several modifications have been made over time, specifically using daily data instead of monthly data and employing more sophisticated methods to estimate the abnormal returns (Brown & Warner, 1980, 1985; Campbell et al., 1997).

While the conventional event study approach to measuring abnormal returns around a specific day is widely used, it is problematic in several respects. First, stock prices are not necessarily normally distributed (Kolari & Pynnönen, 2010). Additionally, when there is non-synchronous trading, bias could appear in the ordinary least squares (OLS) estimations (Dutta, 2014), and an increase in the variance of the returns might lead to misspecification of the model (Brown & Warner, 1980, 1985). Several researchers have suggested ways to address some of these problems, and other tests have been developed to increase accuracy and robustness. For example, Boehmer et al. (1991), assuming that the event-induced variance is identical for all stocks, argued that in order to arrive at the test result, the event-period returns need to be standardized according to the estimation-period standard deviation. In addition, the cross-sectional mean of the standardized returns should be divided by the cross-sectional standard deviation. Brown and Warner (1980, 1985) demonstrated that when the event day is the same for several industries, the use of the market model reduces abnormal return intercorrelation to close to zero. However, this is not the case when the stocks are from the same industry and this can lead to over-rejection of the null hypothesis. To address this problem, Kolari and Pynnönen (2010) offered a variation of Patell’s standardized t-test (1976), which assumes cross-sectional independence and controls the impact of large standard aberrations and even conscious changes in the variance of the returns (Hussain et al, 2021). Boehmer et al. (1991) used the cross-sectional variance while ignoring the estimation-period residual variance. Using maximum likelihood estimation (MLE) on stock return data, Ball and Torous (1988) simultaneously estimated event-period returns, the variance of these returns, and the probability of the event’s occurrence for any given day in the event window. Their results suggest that while the null hypothesis is rejected more often when using the MLE method than when using the traditional Brown and Warner method (1985), the null hypothesis is not rejected too often when it is true. The standardized residual test assumes that the residuals are not correlated and that the event-induced variance is insignificant. Applying this test, as did Brown and Warner (1985) and Boehmer et al. (1991), the event-period residuals are divided by their standard deviation, thereby enabling them to adjust and reflect the forecast error.

Nonparametric tests are well-specified and effective in detecting a false null hypothesis of no abnormal return. Using nonparametric sign and rank tests, researchers including Corrado (1989), Corrado and Zivney (1992), Cowan (1992), Campbell and Wasley (1993), and Corrado and Truong (2008) have shown that these tests produce better specification and statistical power than parametric tests. Zivney and Thompson (1989) performed risk adjustment, adjusting the sign test to deal with skewness. To overcome the problem of event-induced variance, Corrado (1989) offered a nonparametric rank test, which relaxes the assumption of normality and provides more robust results. This test applies for a one-day abnormal return, but Corrado claims that it can be used for multiple-day events if the estimation period is divided by intervals according to the number of days in the CARs. However, for longer time periods, the number of observations becomes very small, thereby weakening the model estimation. As a result of this problem, Cowan (1992) and Campbell and Wasley (1993) used the CARs on Corrado’s rank test (1989). The shortcoming of this method is a loss of power to detect abnormal returns, specifically when the event windows are long. To avoid this problem, Kolari and Pynnönen (2011) developed a generalized rank test that uses the generalized standardized abnormal returns to test both single and cumulative abnormal returns. The test they offer includes robust to abnormal return serial correlation, event-induced volatility, and cross-sectional correlation of abnormal returns. One of the shortcomings of the sign test is the loss of information due to the use of positive or negative signs. The Wilcoxon signed ranks test (WSRT; Wilcoxon, 1945) reflects this limitation as it not only tests observed values relative to the median but also considers their relative sizes (Zoungrana et al., 2021).

In our research, the day of the event refers to the day the announcements about Airbnb were posted, and is defined as *t* = 0. If the event occurs on a non-trading day, the event day will be the first business day following the event. The time points *t* = T0+1,T0+2, …, T1 are the days of the estimates as related to the event day. During this period, we calculate the statistical values that are the basis for testing the event. Finally, *t* = T1+1, T1+2, …, 0, …, T2 are the days of the event window related to the event day.

The event study methodology lacks a standardized rule governing the specific duration of event and estimation windows. Throughout the years, researchers have adjusted the length of these windows to align with the unique requirements of their investigations (Alkhatib & Harasheh, 2018; Ball & Brown, 1968; Brown and Warner, 1985; Fama et al., 1969; Palatnik et al., 2019; Teitler‐Regev & Tavor, 2023). In the current investigation, the event window, represented by t ∈ [−30, +30], is defined in accordance with the methodology articulated in the studies of Chowdhury et al. (2022) and Teitler‐Regev and Tavor (2023).

We used abnormal returns (ARs) and CARs to analyze the responses of hotel company stock returns to Airbnb announcements. In addition, we built a market model to describe the correlation of hotel company stock returns for event *i* on day *t*, (*Rit*), to the market return on that day, (*Rmt*), under normal circumstances; meaning a situation when no significant unpredictable events occurred. The market return is represented by the return on the index of the stock that is tested:

1. $R\_{it}=α\_{i}+β\_{i}R\_{mt}+ξ\_{it}$*, t* $\in $[-330,-31], *i* = 1, 2, …., *N*.

The return (*Rit*) is characterized with weak white noise random variables with E[*Rit*] = *μi* and Var [*Rit*] = $σ\_{i}^{2}$ for all *t* and Cov[*Rit, Rih*] = 0 for all *t* ≠ *h*.

The normal return, *E(Rit|It)*, for information *I* on day *t*, is based on ordinary least squares regression with the estimators $\hat{α}\_{i}$ and $\hat{β}\_{i}$:

1. $E(R\_{it}\left|I\_{t}\right.)=\hat{α}\_{i}+\hat{β}\_{i}R\_{mt}$,  *t* $\in $[−30,+30], *i* = 1, 2, …., *N*.

The abnormal return, *ARit,* representing the difference between the actual and normal returns for event *i* on day *t*, is then calculated:

1. $ AR\_{it}=R\_{it}-E(R\_{it}\left|I\_{t}\right.)$ , *t* $\in $[-30,+30], *i* = 1, 2, …., *N*.

The standardized abnormal return (*SAR*) is defined as:

1. $ SAR\_{it}=\frac{ AR\_{it}}{S\left(AR\_{i}\right)}$,

where*S(ARi*) is the standard deviation of the regression errors in forecasting the abnormal returns (see Campbell et al., 1997).

The cumulative abnormal return for event *i* on day *t* (*CARit*) tests the cumulative influence of an event over a period of time *t* $\in $[t1, t2] by summarizing the abnormal returns during this time:

1. $CAR\_{i,t\_{1},t\_{2}}=\sum\_{t=t\_{1}}^{t\_{2}}AR\_{it}$, *t* $\in $[t1, t2].

The standardized cumulative abnormal return (*SCAR*) is defined as

1. $ SCAR\_{i,t\_{1},t\_{2}}=\frac{CAR\_{i,t\_{1},t\_{2}}}{S\left(CAR\_{i,t\_{1},t\_{2}}\right)}$,

where $S\left(CAR\_{i,t\_{1},t\_{2}}\right) $is the cumulative standard deviation of the regression errors in forecasting the abnormal returns.

In addition, we calculated the cumulative average abnormal return $CAAR\_{t\_{1},t\_{2}}$ in the event window as follows:

1. $CAAR\_{t\_{1},t\_{2}}=\frac{\sum\_{i=1}^{N}CAe\_{it}}{N}$ .

In this context, CARit denotes the cumulative abnormal returns associated with event i within the defined event window [t1, t2]. $CAAR\_{t\_{1},t\_{2}}$serves as a analytical tool that provides a visual representation of the average abnormal return behavior across all events within this specified period, offering valuable insights into the collective trends during this timeframe.

In order to test the significance of the event window, we used three parametric tests and three nonparametric tests. The first parametric test is the well-known ordinary t-test (ORDIN) (see Brown and Warner, 1985; Campbell et al., 1997), specified as follows:

1. $t\_{ORDIN}=\frac{CAR\_{(t\_{1},t\_{2})}}{ SCAR\_{i,t\_{1},t\_{2}}}$.

This test has been widely used, for example, in Teitler‐Regev and Tavor (2023), Luoma (2011), and Maneenop and Kotcharin (2020).

The second parametric test, Patell’s test, can overcome the weakness of the standard *t*-test for fluctuations caused by an event by standardizing the abnormal returns within the event window (see Patell, 1976):

1. $t\_{PATELL}=\frac{\overbar{SCAR}\_{(t\_{1},t\_{2})}}{\sqrt{\frac{L\_{1}-2}{N\left(L\_{1}-4\right)}}}$,

where $\overbar{SCAR}\_{(t\_{1},t\_{2})} $is the average of the standard deviations of the *CAR* values and *L*1 represents the number of days in the estimation window. This test was used by Luoma (2011), Drechsler et al. (2019), and Buigut and Kapar (2020).

The third parametric test uses the standardized cross-sectional approach and is also known as the Boehmer, Mucumeci, and Poulsen (BMP) test (see Boehmer et al., 1991):

1. $t\_{BMP}=\frac{\overbar{SCAR}\_{(t\_{1},t\_{2})}\sqrt{N}}{S\left( SCAR\_{t\_{1},t\_{2}}\right)}$

where $S\left(SCAR\_{t\_{1},t\_{2}}\right)$ is the cross section of the standard deviations for the *SCAR* values. This test has been used by researchers including Luoma (2011), Tahir et al. (2020), and Allen (2021).

The first nonparametric test is the rank test. In order to perform this test, we assign the abnormal returns of each firm a rank (K) through the integrated time period (T) that includes both the estimation and event windows. The test compares the ranks during the event period for each firm, with the expected rank ($\overbar{K}=0.5+{T}/{2}$) (Corrado, 1989):

1. $Z\_{RANK}=\sqrt{L\_{2}}\left(\frac{\overbar{K}\_{(t\_{1},t\_{2})}-\overbar{K}}{S\left(\overbar{K}\right)}\right)$

where $\overbar{K}\_{(t\_{1},t\_{2})}$ is the average rank in the event window, *L*2 is the number of days in theevent window that are tested, and $S\left(\overbar{K}\right) $represent the ranked standard deviation for the estimation period and the event period. This test was used by Luoma (2011), Hussain et al. (2021), and Pandey and Kumari (2021).

The second nonparametric test is the GRANK-Z test. We define the generalized standardized abnormal return (GSAR) following Kolari and Pynnonen (2011):

1. $GSAR\_{it}=\left\{\begin{array}{c}\frac{ SCAR\_{i,t\_{1},t\_{2}}}{S\left( SCAR\_{t\_{1},t\_{2}}\right)} for t\_{1}\leq t\leq t\_{2}, \\SAR\_{it} for t=T\_{0}+1,…,T\_{1}. \end{array}\right.$

The de-meaned standardized abnormal ranks of the GSARit are given by:

1. $U\_{it}=\frac{Rank\left(GSAR\_{it}\right)}{T+1}-0.5;$

and the GRANK-Z test statistic is:

1. $Z\_{GRANK}=\frac{\overbar{U}\_{(t\_{1},t\_{2})}}{S\left(\overbar{U}\right)},$

where $\overbar{U}\_{(t\_{1},t\_{2})}$ and $S\left(\overbar{U}\right)$ are the average de-meaned standardized abnormal rank of the *GSARit* and the standard deviation of the average *Uit* respectively in the estimate window for event *i* on day *t*. This test was used by Fotaki et al. (2021).

The third nonparametric test is the Wilcoxon signed-ranks test (WSRT). This test considers both the power and the sign of the abnormal returns as important (see Gibbons and Chakraborti, 2014; Wilcoxon, 1945) and is defined as follows:

1. $Z\_{WSRT}=\frac{\sum\_{i}^{}CAe\_{i}^{+}-\frac{N\left(N+1\right)}{4}}{\frac{N\left(N+1\right)\left(2N+1\right)}{24}},$

where $CAe\_{i}^{+}$is the positive rank of the absolute value of the cumulative abnormal real exchange rate return. This test was recently used by Kirana and Sembel (2019), Zoungrana et al. (2021), and Isynuwardhana and Putri (2021).

**Empirical Results**

***Descriptive Statistics***

Table 2 provides descriptive statistics for the yields of key market indices in the 10 countries examined in this research.

**Table 2**

As can be seen from Table 2, the country with the highest average daily yield is India, with 0.067%. The country with the lowest average daily yield is Spain at 0.014%. The country with the most fluctuating index is Japan, with a 1.202% standard deviation, while India has the most solid yield of 0.6868%. Moreover, the yield of the world income is approximately in the middle at 0.04% and has the lowest volatility, at 0.665%.

***Effect of an Announcement with a General Location vs. an Exact Location on Hotel Company Share Prices***

This section employs the market model to assess the impacts of Airbnb announcements on the stock returns of hotel companies, discerning between two categories of announcements: 48 instances specifying an exact location in relation to 145 events affecting hotel companies in the area, and 132 announcements indicating a general location encompassing 969 events for hotel companies in the vicinity. Figure 1 reveals the behavior of Cumulative Abnormal Returns (CAAR) within the ±30-day event window around the event day for these two announcement types, spanning from day (-30) prior to the announcement to day (+30) post the announcement. Table 2, Panels A and B, furnishes cumulative abnormal return results corresponding to announcements with general and exact locations, respectively.

The outcomes are presented across two classifications of windows. The initial classification comprises four windows surrounding the event day: [-1,+1], [-3,+1], [-5,+5], and [-10,+10]. The subsequent classification delineates three pre-event windows: [-3,0], [-2,0], and [-1,0], the event day window [0,0], and three post-event windows: [0,1], [0,2], and [0,3]. Column 2 presents the Cumulative Abnormal Return (CAR) results for each window, while columns 3–5 portray the outcomes of three parametric tests (ORDIN, PATELL, and BMP), and columns 6–8 illustrate the results of three nonparametric tests (RANK, GRANK-Z, and WSRT).

Panel A in Table 2 and Figure 1 collectively suggest that, generally, Airbnb announcements with a general location have no apparent impact on the stock prices of hotel companies, except within specific isolated windows. It can be inferred that investors exposed to announcements lacking exact locations do not alter their investment strategies, thereby resulting in negligible fluctuations in hotel stock prices.

**Table 3**

**Figure 1**

Conversely, the findings in Panel B present a contrasting scenario, indicating that announcements specifying an exact location exert a deleterious influence on the stock prices of hotels in the announcement area. The CAR results consistently exhibit negative trends across all tested windows. Antecedent to the announcement, CAR consistently manifests a negative trend commencing ten days prior and persisting until ten days subsequent. Particularly noteworthy are the results within the window [-3,+1], where CAR−3,+1= -1.683%, with a corresponding Mean Absolute Value Test (MAVT) of 5.660.

This outcome implies that the primary impact of messages presenting precise locations occurs within the five days surrounding the event window [-3,+1]. Investors aware of to early information can employ this knowledge to engage in short selling of hotel company shares three days prior to the announcements, closing the position the day after the announcement, thereby realizing an excess profit of 1.683%. Simultaneously, the remainder of the investing public can engage in short selling at the moment of the announcement, subsequently closing the position the day after, resulting in an excess profit of 0.95%.

The obtained results align with our hypothesized expectations and are congruent with the findings of Kumari et al. (2023), who demonstrated that events occurring in distant regions did not exert a significant impact on stock prices, whereas companies in closer proximity to the events experienced notable effects. Additionally, our results partially coincide with the outcomes observed by Viljoen (2016), who identified a substantial effect within the exact area of the event and a spillover effect in distant areas. Furthermore, this study lends additional support to the overarching notion, corroborated by numerous previous studies, that adverse news has an unfavorable impact on stock prices. Specifically, in the context of this research, news pertaining to Airbnb is found to adversely affect hotel stock prices, aligning with the findings of Bianco et al. (2022b), Kim (2021), Teitler-Regev and Tavor (2023), Arcuri (2020), Markoulis and Neofytou (2019), Das et al. (2020), Clark et al. (2021), Sharma and Nicolau (2020), and Shin et al. (2021).

To strengthen the significant results obtained for announcements with an exact location we present two additional figures: Figures 2 and 3. Figure 2 shows the results of the parametric and nonparametric tests during the 21 days around the event day, beginning on the tenth day before the announcement was published and ending ten days after the announcement was published. The dashed horizontal lines denote statistical significance at the 5% level. The lines in black and gray indicate the results of the parametric and nonparametric tests respectively.

**Figure 2**

Analyzing the figure, it can be seen that the trend in the parametric tests is usually opposite of that in the non-parametric tests. The most volatile parametric and nonparametric tests are Patell and WSRT, respectively. Also, there are five days when the majority of the tests are statistically significant at the 5% level: *t* = −10, −8, −6, −2, and 0. However, calculating the strongest effect of the event according to $CAR\_{t\_{1},t\_{2}}$ and significance statistics highlights the effect in the [−3,+1] window.

Figure 3 describes the cumulative percentage of announcements with negative $CAR\_{-3,t\_{2}}$ during the seven days around the event day, beginning three days before the announcement and ending three days after it, for announcements with general locations (marked in gray) and exact locations (marked in black). It can be seen in the figure that, on average, 51.5% of the announcements with general locations and 62.1% of those with exact locations have a negative $CAR\_{-3,t\_{2}}$ during the test period. The result supports the statistically significant benefit gained from $CAR\_{t\_{1},t\_{2}}$ in announcements with exact locations in all the event windows compared to the lack of change in announcements with general locations in most of the event windows.

**Figure 3**

**Robustness Checks**

This section describes tworobustness checks to provide corroborating evidence for the empirical results presented in the previous section. Results of the first robustness test are presented in Table 4; they compare investors’ attention in the short term to influence over the medium term. Panel A of the table present the results for the window [−10,+10] and panel B the results for [−3,+1].

The results in Table 4 show in general that announcements with a general location published on Airbnb do not affect hotel stock prices, but announcements with specific locations do influence stock price results in all window types. The robustness test also shows that the window with the highest significance is [−3,+1] with CAR−3,+1 = −1.682% (ORDIN = −5.363) and CAR−3,+1 = −1.674% (ORDIN = −5.283) in the [−10,+10] and [−3,+1] windows respectively.

**Table 4**

The second robustness test, presented in Table 5, tests the effect of announcements published on Airbnb on hotel stock prices using two accepted models for calculating normal return: the index model (IM), presented in panel A, and mean adjusted returns (MAR), presented in panel B.

This table also leads to the conclusion that generally, announcements with general locations posted on the Airbnb site do not affect hotel stock prices. For announcements with an exact location, an effect is seen on stock prices for all types of windows by the IM model, which considers the market return as a basis for calculating the normal return as in the market model. In the MAR model, most windows show affect, but not all of them. A possible explanation is that this model does not include the market return in calculating the normal return, but only the average of historical returns on each stock. The second robustness test again shows that the window with the highest significance for announcements with an exact location is [−3,+1], with CAR−3,+1 = −1746% (ORDIN = −5.537) and CAR−3,+1 = −1.238% (ORDIN = −2.853), according to IM and MAR, respectively.

**Table 5**

In summary, both robustness tests show similar results to the main test, namely, that announcements with general locations published on the Airbnb website do not affect hotel stock prices, while announcements with an exact location have a negative effect on hotel stock prices. This leads to two major conclusions. The first is that investors with advanced information who are exposed to announcements with an exact location on the Airbnb site can short-sell hotel stocks in the area identified in an announcement three days before the announcement is posted and close the position one day after the announcement to make an excess profit. The second conclusion is that Airbnb provides a substitute to hotel services.

**Conclusions and Policy Implications**

**Conclusion**

In conclusion, this study aimed to assess the impact of announcements disseminated on the Airbnb platform on the stock prices of hotel companies, with a specific focus on distinguishing between announcements specifying exact locations and those of a general nature. The investigation encompassed ten prominent countries globally, namely the United States, France, Australia, India, Japan, Great Britain, China, Germany, Thailand, and Spain, selected based on the extensive operational presence of Airbnb and the prevalence of publicly traded hotel entities within these regions. The results of the event study reveal a nuanced pattern in the relationship between Airbnb announcements and hotel stock prices. Generally, announcements featuring a general location exhibit no discernible impact on hotel stock prices, except within specific isolated time windows. This suggests that investors, when confronted with announcements lacking exact locations, tend to maintain their investment strategies, resulting in minimal fluctuations in hotel stock prices.

Conversely, announcements specifying an exact location are associated with a adverse influence on the stock prices of hotels within the announcement area. The Cumulative Abnormal Returns (CAR) consistently display negative trends across all tested windows, indicating a sustained negative impact from ten days prior to ten days subsequent to the announcement. Notably, the primary impact of announcements delineating precise locations is concentrated within the five days surrounding the event window [-3,+1]. This suggests that investors with early access to information may engage in strategic short selling of hotel company shares three days prior to the announcements, closing the position the day after the announcement. Simultaneously, the wider investing public may capitalize on short selling at the moment of the announcement, subsequently closing the position the day after, leading to an excess profit. Furthermore, the robustness of these findings was substantiated through four additional tests, encompassing different event windows and models for calculating normal returns, reinforcing the consistency and reliability of the obtained results.

This study is limited by its relatively short time frame, resulting in a limited number of years and, consequently, a restricted dataset of Airbnb announcements. Moreover, the geographical coverage of the study is confined to a relatively small number of countries. To enhance the robustness and generalizability of future research, it is recommended to include a more diverse set of countries, extend the temporal scope, and increase the volume of analyzed announcements. Additionally, forthcoming studies could explore alternative sources of information related to Airbnb announcements, enabling a more comprehensive examination of the effects of negative announcements on hotel stock prices.

**Policy Implications**

These findings carry significant policy implications for both investors and regulatory bodies. The observed differential impact of Airbnb announcements based on location specificity stresses the importance of informed decision-making and proactive investment strategies. Investors should be aware of the potential consequences associated with announcements specifying exact locations, considering the observed negative trends in hotel stock prices within the affected regions. Regulatory authorities may find merit in evaluating the information disclosure practices of platforms like Airbnb, especially concerning the specificity of location details in their announcements. There may be a need for enhanced transparency or guidelines to mitigate potential market distortions arising from the selective disclosure of precise location information. In conclusion, the study's findings not only contribute to the understanding of the dynamics between platform-generated announcements and stock prices but also offer valuable insights for investors and policymakers seeking to navigate and regulate the evolving landscape of the hospitality industry in the context of emerging online platforms.