**Differential Effects of Airbnb Announcements on Financial Markets: A Cross-Country Comparative Study**

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**Abstract**

This study examines the effects of Airbnb announcements on financial markets, focusing on developed and emerging frontier markets. Through a direct examination and comparative cross-examination approach, the study analyzes the impact of these announcements using rigorous methods such as regression analysis, robustness checks, and parametric and non-parametric examinations. The results indicate that the impact of Airbnb announcements is limited in developed markets but more pronounced in emerging and frontier markets. Cross-effects were also observed in both market types, occurring before and after the announcements, albeit with different characteristics. The study emphasizes the broader implications of these announcements for investors, highlighting the potential for excess profits and the need for a nuanced understanding of market contexts. Furthermore, the study investigates the role of trend variables and financial variables in market performance, revealing differential effects between developed and emerging frontier markets. Factors such as market maturity and economic conditions contribute to these disparities. The findings provide valuable insights for investors and policymakers, enabling them to tailor strategies and policies based on market dynamics.

**Keywords:** Airbnb announcements, Developed markets, Emerging markets, Frontier markets, Cross-effects, Market dynamics

**JEL Classifications:** G14, G15, O16

**Introduction**

The peer-to-peer (P2P) economy has undergone rapid expansion in recent years, driven by advancements in technology and evolving consumer preferences (Kuhzady et al., 2022). One significant player in this landscape is Airbnb, a platform that has revolutionized the hospitality industry by connecting individuals seeking accommodation with hosts willing to rent out their properties (Oskam & Boswijk, 2016). Initially successful in developed countries, Airbnb gradually extended its reach to emerging and frontier countries, broadening its global presence.

Developed countries experienced a swift growth of Airbnb, attributed to factors such as high internet penetration, a thriving sharing economy culture, and well-established legal frameworks. Major cities in the United States, where Airbnb was founded in 2008, embraced the platform by 2010, and it subsequently expanded to other developed countries, including Canada, France, the United Kingdom, and Germany.

The impact of Airbnb on traditional hotels raised concerns in developed countries due to increased competition and a wider range of accommodation options available to travelers (Guttentag, 2015). Studies conducted by Zervas et al. (2017) and Dogru et al. (2020) found a negative association between Airbnb activity and hotel revenues, indicating that the expansion of Airbnb disrupted the traditional hotel sector and resulted in a redistribution of demand and income within the hospitality market.

However, conflicting perspectives exist in the literature. Neeser et al. (2015) found no significant influence of Airbnb on hotel revenues in Finland, Norway, and Sweden, while Heo et al. (2019) concluded that Airbnb and hotels operate in separate spheres in the Parisian accommodation market.

Apart from its impact on the hotel industry, Airbnb has provided opportunities for individuals to generate additional income, stimulate economic activity, and address housing affordability. This has led to regulatory challenges for cities and governments, such as regulating short-term rentals, ensuring safety standards, and enforcing taxation (Barron et al., 2018).

In emerging countries, Airbnb's entry occurred later than in developed nations due to unique challenges like limited internet access, lower credit card penetration, and unfamiliarity with sharing economy platforms. However, with improving internet infrastructure and increased smartphone adoption, Airbnb began gaining traction in emerging markets, expanding its presence in countries such as Brazil, Mexico, South Africa, and China.

The impact of Airbnb in emerging countries differs from that in developed countries due to distinct challenges and opportunities. Airbnb's entry has created economic opportunities, job creation, and cultural exchange in areas with limited formal employment (Lorde & Joseph, 2019). It has also promoted tourism by offering authentic, local accommodations, benefiting local communities and reducing the concentration of tourism in specific areas (Qiu et al., 2020). However, challenges related to regulatory compliance, tax collection, and quality control persist due to the absence of standardized regulations, as exemplified by the temporary prohibition of Airbnb in Malaysia in 2018 (Al Sadat Zyed et al., 2020).

Frontier countries, characterized by less developed economies and infrastructure, presented unique challenges for Airbnb's entry, including limited internet connectivity, fewer online payment options, and weaker regulatory frameworks. Consequently, Airbnb's presence in these countries was relatively limited compared to developed and emerging countries. Nonetheless, as global technology and connectivity continue to improve, Airbnb has gradually explored opportunities in certain frontier markets (Dabija et al., 2022).

In conclusion, Airbnb's expansion has had a profound impact on developed, emerging, and frontier countries. Developed countries have experienced disruptions in their hospitality industries and faced increased competition and regulatory challenges. Emerging countries have leveraged Airbnb as a driver of economic growth and tourism promotion, although regulatory and quality control challenges persist. Frontier countries face unique barriers, but Airbnb's presence offers an opportunity to embrace innovative approaches to economic development.

Considering these circumstances, this study aims to examine the trends and financial consequences resulting from Airbnb's expansion in developed, emerging, and frontier countries. Through a meticulous analysis of financial markets and considering the announcements disseminated on the Airbnb website, this study seeks to provide a comprehensive understanding to capital market investors and decision-makers in these countries.

Building on the empirical findings discussed above, this study establishes three hypotheses and proceeds to examine their validity:

Hypothesis 1 (H1): The influence of Airbnb announcements on financial markets is more limited in developed markets compared to emerging and frontier markets.

Hypothesis 2 (H2): Cross-effects stemming from Airbnb announcements are observed in both developed and emerging frontier markets.

Hypothesis 3 (H3): There exist discernible differences in the impact of trend variables and financial variables on market performance between developed and emerging frontier markets.

**Data and Empirical Methodology**

***Data***

The data collection process aimed to assess the impact of Airbnb announcements on the financial markets of various nations, including developed, emerging, and frontier economies. The country lists provided by Morgan Stanley Capital International (MSCI) were utilized for this purpose. The data collection period spanned from the beginning of 2016 until June 2023.

For the group of developed countries, data was collected for 19 out of the 23 listed countries. Similarly, within the group of emerging countries, data was obtained for 16 out of the 24 listed countries. However, only 4 out of the 21 listed frontier countries yielded data, as indicated in Panel A of Table 1. Due to the limited availability of data for frontier countries, it was decided to combine the emerging and frontier countries into a single group.

The dataset used in this study consisted of a total of 442 announcements. Among these, 301 announcements were related to developed countries, while 141 announcements were related to emerging and frontier countries, as shown in Panel B of Table 1.

Two distinct tests were utilized in the study to assess the impact of Airbnb announcements on the specific categories of countries under investigation. The first test was a direct test, which aimed to evaluate the immediate influence of each type of announcement on the capital markets within their respective regions. The second test was a cross-sectional test, which aimed to examine the interaction between announcements in a particular region and the capital markets in other regions.

To quantitatively assess the impact of Airbnb announcements on the financial markets of developed, emerging, and frontier countries, the study utilized a comprehensive approach that incorporated a diverse set of both local and global indices. The goal was to quantify and assess the impacts of Airbnb announcements on different types of countries within the financial markets.

Specifically, three local indices—NASDAQ Developed Markets (DMI), MSCI Emerging Markets (EMI), and MSCI FM Frontier Markets (FMI), were collected and analyzed. Additionally, a global index, namely MSCI World (MWI), was included in the analysis.

To procure the requisite data, the study obtained the daily returns of the selected indices from Investing.com. The data collection period spanned 241 days for each announcement, with 220 days preceding the announcement and 20 days following it. This comprehensive data collection methodology provided insights into both the pre-announcement effects of insider information and the enduring impact of the disclosed information after its announcement.

**Table 1**

Examining the distribution and exemplification of announcements within the sample dataset

|  |
| --- |
| Panel A: Geographical representation of sampled countries  |
| Developed Markets |   | Emerging and Frontier Markets  |   |
|   |   |   | Emerging Markets |   |  Frontier markets |
| Country | Quantity |   | Country | Quantity |   | Country | Quantity |
| Canada | 41 |  | Brazil | 7 |  | Iceland | 2 |
| USA | 86 |  | Chile | 1 |  | Jordan | 2 |
| Austria | 5 |  | Colombia | 3 |  | Sri Lanka | 1 |
| Denmark | 11 |  | Mexico | 21 |  | Vietnam | 1 |
| France | 18 |  | Czech Republic | 6 |  |  |  |
| Germany | 17 |  | Greece | 2 |  |  |  |
| Ireland | 11 |  | Hungary | 2 |  |  |  |
| Italy | 28 |  | Poland | 2 |  |  |  |
| Netherlands | 19 |  | Qatar | 1 |  |  |  |
| Portugal | 4 |  | South Africa | 36 |  |  |  |
| Spain | 21 |  | China | 13 |  |  |  |
| Sweden | 3 |  | Indonesia | 2 |  |  |  |
| Switzerland | 3 |  | Korea | 12 |  |  |  |
| United Kingdom | 6 |  | Malaysia | 2 |  |  |  |
| Israel | 1 |  | Philippines | 10 |  |  |  |
| Australia | 3 |  | Thailand | 15 |  |  |  |
| Japan | 16 |  |  |  |  |  |  |
| New Zealand | 2 |  |  |  |  |  |  |
| Singapore | 6 |  |  |  |  |  |  |
| Panel B: Examining Airbnb announcement samples: illustrative instances |
| Date | Event |   | Description |   |
| Developed Markets |  |
| 08/03/2023 | 17 |  | Women Hosts in Canada earn over $12K last year |
| 01/06/2018 | 48 |  | Airbnb Expands Experiences to All of Germany |
| Emerging Markets |  |
| 02/11/2021 | 26 |  | Airbnb’s commitment to support responsible tourism in Hungary |
| 23/03/2020 | 28 |  | Information for Accommodation Providers in Poland |
|  Frontier markets |  |
| 13/12/2018 | 91 |  | Helping hosts to share their homes responsibly in Iceland |
| 14/11/2018 | 93 |   | Jessica Nabongo Explores Jordan and Beijing with Airbnb |

Note: Panel A of the table displays the distribution of a sample dataset comprising 442 Airbnb announcements. The sample encompasses a varied array of announcements from developed, emerging, and frontier economies. Among the sample, 301 announcements are associated with developed countries, while 141 announcements pertain to emerging and frontier countries. Panel B provides exemplifications of these announcements, including the date, numerical identifier, and a brief summary. These exemplifications provide valuable perspectives on the extensive data gathering endeavor undertaken in this study, shedding light on the broad scope of data collection efforts and showcasing the diverse nature of Airbnb-related announcements across various economic contexts.

***Empirical strategy***

*Event-Study* *methodology*

The efficient market hypothesis (EMH), formulated by Fama in 1970, asserts that stock prices fully reflect all available market information. Investors in the stock market, driven by the quest for profitability, actively seek out information that can potentially predict changes in stock prices. Consequently, extensive research has been dedicated to investigating the impact of various types of information disseminated through diverse channels on stock prices. Among the widely employed methodologies, the event study approach has emerged as a common method for examining the influence of news on the stock market.

Initially developed in the 1960s, the event study methodology was primarily designed to measure the effects of corporate events, including mergers and acquisitions, on stock prices (Ball & Brown, 1968; Fama et al., 1969). However, its applicability has extended to various fields, encompassing marketing (Sorescu et al., 2017), economics (Tavor, 2023), accounting (Duso et al., 2010), and tourism (Teitler-Regev & Tavor, 2023).

To analyze the impact of Airbnb announcements on both developed and emerging frontier financial markets, this study employs the event study methodology based on the framework proposed by Brown and Warner (1985).

Abnormal returns (*ARit*) and cumulative abnormal returns (*CARit*) are calculated to assess the effects of Airbnb announcements. The computation of abnormal returns is defined as:

where *ARit* represents the abnormal return for event i on day t, *Rit* is the actual return for event i on day t, and are the estimated intercept and slope coefficients, respectively, obtained from an ordinary least squares (OLS) regression model, and *Rmt* denotes the rate of return on the benchmark index m on day t.

The cumulative abnormal return () for each event i within the defined time interval from t1 to t2 is determined by summing the abnormal returns over the specified period:

1.

A comprehensive set of parametric and non-parametric tests was employed evaluate the statistical significance of the obtained returns in this study. Parametric tests, including the ordinary t-test (ORDIN) commonly utilized in event studies (Fama et al., 1969), and the Standardized Cross-Sectional approach (BMP) introduced by Boehmer, Mucumeci, and Poulsen (1991), rely on assumptions about the data distribution.

Non-parametric tests, including the Generalized Sign Test (G-SIGN) proposed by Cowan (1992) and the Wilcoxon signed-ranks test (WSRT) developed by Wilcoxon (1945), do not assume specific data distributions. Instead, they utilize the ranking of abnormal returns and consider the significance of rank signs.

By utilizing this combination of tests, the study ensures a robust evaluation of abnormal returns, cumulative abnormal returns, and their statistical significance in relation to the impact of Airbnb announcements on the financial markets analyzed.

*Regression* *methodology*

In addition to the event study methodology, a regression analysis was conducted to further examine the relationship between the abnormal returns and various factors, including trend and financial indicators. This regression model serves as an additional test in order to provide a more comprehensive analysis of the research objective.

The regression methodology employed in this study aims to examine the relationship between various independent variables and the dependent variable, which is denoted as CAR (Cumulative Abnormal Return). The index "i" represents the event number ranging from 1 to N, while the index "k" is a categorical variable used to distinguish between developed countries and emerging frontier countries.

The independent variables encompass both trend variables and financial variables. The trend variables include Google trend Airbnb mentions divided by country (GTAB-C), Google trend Airbnb mentions divided by years (GTAB-Y), and Google trend hotel mentions divided by country (GTH-C). These variables are measured on a scale of 0 to 100, indicating the level of mentions or popularity associated with the respective categories.

The financial variables considered in this analysis comprise S&P Global Equity Indices (SPGEI) expressed as percentages, Domestic credit to private sector (DCPS) measured in billions, inflation variable calculated in percentages, adjusted net savings (ASavings) calculated in percentages, and foreign direct investment (FDInvest) measured in billions.

Additionally, the analysis incorporates variables related to the cost of living and purchasing power in relation to average income (COL-AI and PPI-AI), both scored on a scale of 0 to 100 to indicate their relative positions in terms of mentions or magnitude. Population density (PopDensity) is the last variable included.

The regression model will investigate the impact of these variables on the dependent variable, CAR, across four different estimation window types. The analysis will consider both developed countries and emerging frontier countries. The data used in this study is sourced from The World Bank[[1]](#footnote-1) (2023).

**Empirical Results**

This section presents the research findings and addresses key questions regarding the effectiveness of leveraging information from announcements on the Airbnb website. The study aims to determine if investors can achieve abnormal profits by utilizing information about developed countries and emerging frontier countries. Additionally, it examines the potential cross effects between these two country categories. The study also explores additional variables that may influence abnormal returns observed during the announcement period in these countries.

***Descriptive statistics***

Table 2 presents descriptive statistics that offer insights into stock indices and various trending and financial variables in developed countries, as well as emerging and frontier countries. Panel A provides details on the indices collected for the event study methodology, including stock indices (DMI, EMI, FMI) and market index (MWI). Panel B presents regression results for trend variables (GTAB-C, GTAB-Y, GTH-C) and financial variables (SPGEI, DCPS, Inflation, ASavings, FDInvest, COL-AI, PPI-AI, PopDensity) in developed countries. Panel C shows the regression results for the same variables in emerging and frontier countries.

**Table 2**

Descriptive Statistics: A comprehensive summary of indices and regression variables

|  |
| --- |
| Panel A: Market model |
| Variables | N | Mean | Std. Dev | Min | Median | Max |
| Stock indices |
| DMI | 2034 | 0.012 | 1.316 | -38.580 | 0.060 | 8.630 |
| EMI | 2197 | 0.007 | 1.027 | -6.710 | 0.050 | 5.730 |
| FMI | 2195 | 0.005 | 0.648 | -11.920 | 0.050 | 2.470 |
| Market indices |
| MWI | 2196 | 0.029 | 0.986 | -9.910 | 0.050 | 8.770 |
| Panel B: Regression for developed markets |
| Variables | N | Mean | Std. Dev | Min | Median | Max |
| GTAB-C | 301 | 34.412 | 20.134 | 5.000 | 32.000 | 100.000 |
| GTAB-Y | 301 | 68.070 | 9.382 | 49.000 | 65.000 | 83.000 |
| GTH-C | 301 | 42.880 | 22.305 | 2.000 | 45.000 | 100.000 |
| SPGEI | 301 | 10.895 | 16.932 | -25.616 | 13.747 | 55.461 |
| DCPS | 301 | 318.833 | 331.465 | 4.413 | 166.483 | 1405.749 |
| Inflation | 301 | 2.347 | 2.227 | -0.726 | 1.642 | 8.369 |
| ASavings | 301 | 9.158 | 5.335 | 0.000 | 6.822 | 34.830 |
| FDInvest | 301 | 111.329 | 169.213 | -416.945 | 58.301 | 474.388 |
| COL-AI | 301 | 93.792 | 12.085 | 69.600 | 100.000 | 139.000 |
| PPI-AI | 301 | 81.438 | 17.229 | 48.400 | 86.400 | 125.100 |
| PopDensity | 301 | 286.629 | 1100.531 | 3.246 | 93.271 | 7965.878 |
| Panel B: Regression for emerging and frontier markets |
| Variables | N | Mean | Std. Dev | Min | Median | Max |
| GTAB-C | 141 | 15.773 | 12.989 | 0.000 | 18.000 | 93.000 |
| GTAB-Y | 141 | 69.142 | 7.865 | 49.000 | 65.000 | 83.000 |
| GTH-C | 141 | 23.284 | 13.201 | 0.000 | 28.000 | 68.000 |
| SPGEI | 141 | 2.276 | 20.164 | -32.316 | -4.097 | 62.569 |
| DCPS | 141 | 439.443 | 898.878 | 0.000 | 154.219 | 3357.241 |
| Inflation | 141 | 3.788 | 1.932 | -1.139 | 3.927 | 8.739 |
| ASavings | 141 | 7.060 | 7.952 | -5.239 | 7.151 | 29.065 |
| FDInvest | 141 | 38.689 | 65.583 | -4.947 | 13.701 | 325.973 |
| COL-AI | 141 | 51.047 | 15.809 | 19.000 | 45.400 | 124.100 |
| PPI-AI | 141 | 30.565 | 16.951 | 13.400 | 22.900 | 126.300 |
| PopDensity | 141 | 147.370 | 149.773 | 3.498 | 82.567 | 536.072 |

Note: The table presents a comprehensive assortment of statistical metrics with the objective of facilitating a thorough analysis of the data. Panel A of the table showcases the stock indices, namely the DMI, EMI, and FMI indices, expressed as a percentage. Additionally, the MWI index represents the market index, also expressed as a percentage. Moving on to Panel B and Panel C, the variables GTAB-C, GTAB-Y, and GTH-C are trend variables and measured on a scale ranging from 0 to 100, capturing the magnitude of their respective trends. The financial variables include the SPGEI variable, expressed as a percentage, while DCPS is measured in billions. The inflation variable is calculated as a percentage, ASavings is calculated as a percentage, and FDInvest is measured in billions. Additionally, the COL-AI and PPI-AI variables are scored on a scale ranging from 0 to 100, and PopDensity is measured as the number of people per square kilometer of land area. These measurements provide a comprehensive understanding of the respective variables in the analysis.

The descriptive statistics in Panel A focus on the examination of stock indices through the application of the event study methodology. The findings indicate that the DMI index, which represents the developed market indices, exhibits higher average returns and volatility compared to the EMI and FMI indices, representing the emerging and frontier market indices, respectively. This suggests that the developed markets demonstrate higher profitability and potentially greater risk compared to their emerging and frontier market counterparts. In contrast, the analysis of market indices MWI reveals a significantly higher average return when compared to the stock indices. However, the standard deviation of the market indices falls in the middle range relative to that of the stock indices. This indicates that while the market indices offer potentially higher returns, they exhibit a moderate level of volatility when compared to the stock indices.

Panels B and C reveals significant disparities in financial variables between developed and emerging frontier countries. Developed countries demonstrate superior performance in equity markets, with higher values for SPGEI. Moreover, they exhibit a more robust financial system, as reflected by significantly higher values of DCPS, indicating greater credit extension to the private sector. In addition, developed countries enjoy lower inflation rates, higher levels of adjusted net savings (ASavings), foreign direct investment (FDInvest), and purchasing power adjusted by average income (PPI-AI). However, it is worth noting that developed countries also have a higher cost of living, as evidenced by the higher values of the cost of living adjusted by average income (COL-AI) variable. Furthermore, developed countries have a higher population density, signifying greater urbanization and regional development. These findings underscore the advantageous economic and financial conditions of developed countries compared to their emerging frontier counterparts.

***Analyzing the Impact of Announcements on Developed, Emerging, and Frontier Market Indices: a direct examination***

This chapter presents the findings of the study, which aims to investigate the performance patterns of cumulative abnormal returns (CAAR) in relation to the announcement event within both developed and emerging frontier markets. The study sample consists of 442 announcements sourced from Airbnb's website, with 301 declarations associated with developed countries and 141 declarations associated with emerging and frontier countries. To visually depict the CAAR patterns in both types of countries, Figure 1 showcases the observed changes from 20 days before the announcement to 20 days after it. This visual representation provides a comprehensive insight into the trends exhibited by cumulative abnormal returns, allowing for a visual examination of the performance patterns during the announcement event.

For a more comprehensive analysis of the results, Table 3 presents an overview of the cumulative abnormal returns (CAR) for both developed markets (Panel A) and emerging frontier markets (Panel B). The table is structured according to two distinct event windows: the time-constrained event window and the extended event window. This arrangement enables a comprehensive scrutiny of the observed impacts and their associated statistical significance in the short and medium term. To ensure a rigorous analysis of the impact of Airbnb website announcements on stock indices in these markets, the results are presented using two parametric tests (ORDIN and BMP) and two non-parametric tests (G-SIGN and WSRT). These tests provide a robust assessment of the significance and impact of the announcements on the stock indices in both developed and emerging frontier markets.

[INSERT TABLE 3 HERE]

**Figure 1**

A comparative CAAR analysis of developed, emerging, and frontier markets 

Note: Figure 1 displays the temporal dimension in relation to the event day, represented along the x-axis. The cumulative average abnormal returns (CAAR) are visually depicted through the use of black lines for developed markets and gray lines for emerging frontier markets, both within a 41-day event window. The dashed lines correspond to the 95% confidence intervals.

The present analysis focuses on the examination of two types of time windows in relation to the impact of Airbnb website announcements on stock indices. Firstly, the study investigates the time-constrained event window using four specific time intervals: [-6,-2], [-5,-2], [-1,+1], and [-1,+3]. Secondly, the analysis expands to include an examination of the extended event window, considering five additional time intervals: [-19,-2], [-17,-2], [0,+15], [0,+20], and [+3,+20].

The findings of the study reveal that, with a few exceptions, the stock index of the developed markets shows no substantial effects. In contrast, statistical tests conducted on the emerging frontier markets indicate the presence of significant effects, suggesting that Airbnb website announcements influence stock indices in these markets.

It is important to note that the observed effect on the emerging frontier markets is not consistent. Specifically, a decrease in Cumulative Abnormal Return (CAR) is observed starting from 20 days prior to the announcement until two days prior to the announcement. This decline in CAR suggests that investors with access to inside information can obtain excess profits by engaging in short selling of the stock index and closing their positions two days before the announcement, resulting in a profit of 0.442%.

However, a change in trend is observed one day before the announcement day onwards, with CAR showing an upward trajectory until the twentieth day after the announcement. This indicates that other investors can also benefit from investing in emerging and frontier markets by purchasing stock indices at the time of publication and closing their positions after twenty days, resulting in an excess profit of 0.666%.

In addition to the long-term impact observed in the emerging frontier markets, the primary impact occurs during the five-day period surrounding the announcement, spanning one day before the announcement to three days after [-1,+3]. During this time window, the CAR-1,+3 value is found to be 0.539%, This positive impact is substantiated by the outcomes of the Mean Absolute Value Test (MAVT), which yields a statistically significant value of 3.338, providing further confirmation of the effect's statistical significance.

In conclusion, the analysis of the impact of Airbnb website announcements on stock indices reveals that while there is generally no significant effect on the stock index of developed markets, statistically significant effects are observed in the emerging frontier markets. These findings have significant implications for different types of investors. Firstly, investors who possess advanced access to information contained in the announcements, prior to their public disclosure on the Airbnb website, can potentially attain excess profits in emerging and frontier markets. This suggests that early access to information can confer an advantage, enabling these investors to capitalize on market inefficiencies and generate higher returns. Moreover, the broader public of investors can also benefit from the announcements. By actively engaging with the information disseminated through the Airbnb website, they too have the opportunity to secure excess profits in emerging and frontier markets. This highlights the opportunities presented by the announcements and their potential impact on investment outcomes. The findings lend support to Hypothesis 1, which posits that the impact of Airbnb announcements on financial markets is more limited in developed markets in comparison to emerging and frontier markets.

***Analyzing the impact of announcements on developed, emerging, and frontier market indices: a comparative cross-examination***

This chapter presents the results of a comprehensive study that examines the impact of announcements on developed, emerging, and frontier market indices using a Comparative Cross-Examination approach. The primary objective of the chapter is to analyze the performance patterns of cumulative abnormal returns (CAAR) in relation to announcement events within these markets, as depicted in Figure 2.

The study sample comprises 442 announcements obtained from Airbnb's website, with 301 declarations associated with cross-effect analysis on developed markets and 141 declarations associated with cross-effect analysis on emerging and frontier markets.

To provide a thorough analysis of the results, Table 4 offers a comprehensive overview of cumulative abnormal returns (CAR) for both cross-effect analyses on developed markets (Panel A) and emerging and frontier markets (Panel B). The table is organized based on two distinct event windows: the time-constrained event window and the extended event window. This structure allows for a detailed examination of the impact of Airbnb website announcements on stock indices within these markets.

To ensure a rigorous assessment, the results are evaluated using two parametric tests: ORDIN (representing t-statistics) and BMP (representing standardized cross-sectional approach results). Additionally, two non-parametric tests, namely G-SIGN (Generalized Sign Test) and WSRT (Wilcoxon signed-rank test), are employed. This comprehensive approach enables a robust evaluation of the significance and impact of the comparative cross-examination between developed and emerging frontier markets.

[INSERT TABLE 4 HERE]

**Figure 1**

A comparative CAAR analysis of developed, emerging, and frontier markets: a comparative cross-examination



Note: Figure 2 displays the temporal dimension in relation to the event day, represented along the x-axis. The figure presents the comparative cross-examination of cumulative average abnormal returns (CAAR) within a 41-day event window. Developed markets are represented by black lines, while emerging and frontier markets are represented by gray lines. The dashed lines correspond to the 95% confidence intervals, providing further comparative insights.

The present chapter focuses on the analysis of the impact of Airbnb website announcements on stock indices using a Comparative Cross-Examination approach. The analysis is conducted within two distinct types of time windows: a time-constrained event window consisting of four periods and an extended event window consisting of five periods.

The findings of the study reveal contrasting effects between developed markets and emerging frontier markets. In the cross-effect analysis on developed markets, a negative impact is observed, which occurs from the time of the announcement's publication until twenty days afterward [0,+20]. This suggests that investors can capitalize on this effect by engaging in short selling of stock indices in developed markets upon announcement on emerging and frontier markets and closing their positions within twenty days. By doing so, investors can realize an excess profit of 0.311%. The statistical significance of this effect is confirmed by the Mean Absolute Value Test (MAVT), which yields a statistically significant value of 2.359.

In contrast, the cross-effect on emerging and frontier markets a negative impact is observed in the period preceding the announcement. Investors with prior knowledge can benefit from this effect by engaging in short selling of stock indices in emerging and frontier markets nineteen days before the announcement on developed markets and closing their positions two days prior to the announcement [-19,-2]. This strategy results in an excess profit of 0.458%. The statistical significance of this effect is confirmed by the Mean Absolute Value Test (MAVT), which yields a statistically significant value of 1.966.

In conclusion, the findings derived from the comparative cross-examination analysis offer divergent insights into the impact of Airbnb website announcements on stock indices in developed markets versus emerging frontier markets. Specifically, the study reveals that the effect of these announcements is evident during the post-announcement period in developed markets, whereas it materializes during the pre-announcement period in emerging frontier markets. These contrasting patterns underscore the significance of comprehensively considering the market context when investigating the influence of announcements on stock indices. These findings substantiate Hypothesis 2, which posits the existence of cross-effects in both developed and emerging frontier markets.

***Robustness Check***

The Robustness Check Chapter is introduced by implementing two supplementary tests employing alternative models to ensure the reliability and robustness of the research findings. Specifically, the Index Model (IM) and the Mean Adjusted Returns (MAR) models are employed to evaluate the cumulative abnormal returns (CAR) within developed, emerging, and frontier markets. In addition, separate cross-effect analyses are conducted for developed markets and emerging frontier markets to enable a comparative assessment. The findings of these tests are presented in Table 5, with Panel A presenting the cumulative abnormal returns obtained from the Index Model (IM), and Panel B illustrating the cumulative abnormal returns derived from the Mean Adjusted Returns (MAR) model.

[INSERT TABLE 5 HERE]

The results of the robustness check demonstrate notable variations in the effects observed across different stock indices in developed and emerging frontier markets. In the developed markets, the majority of the findings indicate limited substantial effects. Conversely, the statistical tests conducted on emerging and frontier markets reveal the presence of significant effects.

Specifically, a consistent pattern emerges where a decline in cumulative abnormal return (CAR) is observed leading up to the announcement. However, one day prior to the announcement, a notable change in trend is observed, with CAR exhibiting an upward trajectory. These findings align with the results obtained from the direct tests, thereby reinforcing their reliability and validity.

In the cross-effect analysis, the majority of the results support the previous findings across different windows. In the cross-effect analysis conducted on developed markets, a negative impact is observed in the period subsequent to the announcement's publication. Conversely, in the cross-effect analysis on emerging and frontier markets, a negative impact is observed in the period preceding the announcement.

These results contribute to the overall robustness of the findings, providing further evidence for the effects identified in the tests. The results reveals that cross-announcements have the potential to generate excess profits in both developed and emerging frontier markets. This underscores the broader impact of the announcements, extending their influence beyond their intended market segment. Investors who carefully analyze and respond to cross-announcements can leverage this information to gain a competitive advantage and achieve financial performance.

***Regression results***

This chapter aims to conduct a comprehensive regression analysis to investigate the effects of Airbnb's announcements on both developed and emerging frontier markets. The analysis focuses on examining the cumulative abnormal returns (CAR) by incorporating a range of trend and financial variables across four consecutive windows. The results of the regression analysis are presented in four separate panels, categorized as Panels A, B, C, and D.

Panels A and B provide the regression analysis results for the direct examination of developed markets and emerging frontier markets, respectively. These panels allow for an in-depth analysis of the impact of Airbnb's announcements on each market type individually.

On the other hand, Panels C and D present the regression analysis results for a comparative cross-examination. Panel C specifically focuses on the cross-effect analysis for developed markets, while Panel D examines the cross-effect analysis for emerging frontier markets. These cross-effect analyses enable a comparative assessment of the effects of Airbnb's announcements between the two market types.

To ensure a robust analysis, a diverse set of independent variables was incorporated into the regression models utilized in this study. The trend variables considered in the analysis are GTAB-C, GTAB-Y, and GTH-C. These variables capture the trends and patterns in the market data.

Additionally, several financial variables were included in the regression models. These financial variables encompass SPGEI, DCPS, ASavings, FDInvest, COL-AI, PPI-AI, and PopDensity. Each of these variables represents a specific aspect of the financial landscape and helps elucidate the relationship between Airbnb's announcements and the market performance in both developed and emerging frontier markets.

[INSERT TABLE 6 HERE]

The regression results provide insights into the comparison between developed countries and emerging frontier countries, as well as the comparison between direct and cross influences.

In the direct impact analysis (Panels A and B), the results show differences between developed markets and emerging frontier markets. In developed markets, higher exposure to Airbnb is associated with increased cumulative abnormal returns (CAR) before the announcement, but following the announcement, Airbnb exposure leads to a decrease in CAR. Exposure to hotels in developed markets has an inverse relationship with CAR during the pre-announcement period. Financial variables have limited impact on CAR in developed countries, except for negative effects of domestic credit to the private sector before the announcement.

In contrast, in emerging and frontier markets, a delayed exposure to Airbnb is positively associated with higher CAR. Higher levels of exposure to hotels are linked to higher CAR values before the announcement. Additionally, there are different relationships with financial variables in these markets. CAR is positively related to index performance and inflation after the announcement. However, purchasing power has a negative impact on CAR before the announcement, while the cost of living initially has a positive effect before the announcement but transitions to a negative effect afterward.

The cross-effect analysis (Panels C and D) examines the influence between developed and emerging frontier markets. In developed markets (Panel C), the timing of exposure to Airbnb has contrasting effects on CAR before and after the announcement. Delayed exposure to Airbnb is associated with higher CAR before the announcement but has a negative impact on CAR after the announcement. Exposure to hotels positively affects CAR before the announcement but negatively impacts CAR after the announcement. Financial variables such as domestic credit to the private sector, index performance, population density, adjusted net savings, the cost of living, foreign direct investment, and purchasing power have varying effects on CAR before and after the announcement.

In emerging and frontier markets (Panel D), a delayed exposure to Airbnb is associated with higher Cumulative Abnormal Returns (CAR), while higher exposure to Airbnb by countries leads to lower CAR. Hotel exposure, on the other hand, has a positive impact on post-announcement CAR. Financial variables such as domestic credit, foreign direct investment, cost of living, and population density have negative effects on CAR starting one day before the announcement.

In summary, the findings of this chapter shed light on the contrasting effects of trend variables and financial variables on cumulative abnormal returns (CAR) in developed and emerging frontier markets. Moreover, the analysis reveals the divergent influences of direct and cross effects on CAR, underscoring the necessity of considering market contexts and various factors when evaluating the performance of Airbnb and hotels in different regions. These findings offer empirical support for Hypothesis 3, which posits the presence of distinguishable disparities in the impact of trend variables and financial variables on market performance between developed and emerging frontier markets.

**Discussion**

This study aimed to investigate the effects of announcements made on the Airbnb website on different types of markets, specifically developed markets and emerging frontier markets. The study employed a direct examination as well as a comparative cross-examination approach to analyze the impact of these announcements. The findings of the study were assessed for statistical robustness and credibility through data gathering and rigorous examination methods, including parametric and non-parametric examinations, robustness checks, and regression analysis.

The results of the study revealed that the impact of Airbnb announcements was limited in developed markets, while it was more pronounced in emerging and frontier markets during the test period. Additionally, the study uncovered the existence of cross-effects on both types of markets, although the nature of these effects differed. In developed countries, the cross-effect occurred subsequent to the announcement, whereas in emerging and frontier countries, the cross-effect preceded the announcement.

The implications of these findings are significant for different types of investors. Investors with early access to announcement information, as well as the broader investor public, can obtain excess profits in emerging and frontier markets. Cross-announcements in both markets also provide opportunities for excess profits. These findings emphasize the broader impact of the announcements and the potential benefits they offer to investors, irrespective of the targeted market segment.

The observed differential impact in developed and emerging frontier markets implies that the dynamics of information dissemination and market reactions to announcements vary between these two market contexts. Factors such as market maturity, investor behavior, and information flow mechanisms likely contribute to these disparate effects. Therefore, a nuanced understanding of the specific market context is essential to accurately assess the influence of announcements on stock indices.

The research findings were reinforced and validated through robustness tests utilizing different models. The regression results indicated that trend variables had a significant impact on both developed and emerging frontier markets, both directly and in cross-examination. However, it is important to note that the nature of this impact differed between the two market types.

On the other hand, the analysis of financial variables revealed contrasting outcomes between developed and emerging frontier markets. The impact of financial variables was found to be limited in developed markets, indicating a relatively weaker association between these variables and market performance. In contrast, emerging and frontier markets exhibited a more prominent influence of financial variables, suggesting a greater sensitivity to financial indicators in these markets. Moreover, the study uncovered the influence of these variables in cross-tests conducted in both developed and emerging frontier markets.

The differences in the impact of trend variables and financial variables on index returns in developed and emerging frontier markets can be attributed to several factors. Market dynamics play a significant role. In developed markets with a mature hospitality industry, trend variables may have nuanced effects influenced by factors such as Airbnb and hotels, existing market players, and customer preferences. In emerging frontier markets experiencing rapid growth and evolving conditions, the timing and level of exposure to trend variables have a greater influence on index returns.

Economic conditions also contribute to the observed differences. Developed markets tend to have more stable and predictable economic environments. The impact of financial variables, such as domestic credit, foreign direct investment, and cost of living, may be less pronounced due to their established nature. Conversely, in emerging frontier markets, these variables can exert a more significant impact on index returns, reflecting the volatility and unique economic circumstances of these regions.

**Conclusion**

In conclusion, this study provides valuable insights into the effects of Airbnb announcements on financial markets in both developed and emerging frontier markets. The findings highlight the differential impact of these announcements between the two market types, with a limited impact in developed markets and a more pronounced impact in emerging and frontier markets. The study also reveals the existence of cross-effects, occurring before and after the announcements in different market contexts.

These research outcomes have significant implications for investors and policymakers in both developed and emerging frontier markets. Investors can use the insights on the impact of trend variables and financial variables to inform their portfolio management and investment decisions, tailoring strategies based on the specific market dynamics. Policymakers can leverage these findings to develop effective regulatory and economic policies that support traditional hospitality players in developed markets while adapting to the changing landscape introduced by trend variables. In emerging frontier markets, policymakers can utilize the insights on the significant influence of financial variables to attract investment and promote economic growth.

While this research provides valuable insights, it is important to acknowledge its limitations. These include the potential omission of other relevant factors and the reliance on a specific time period and dataset. Further research is needed to address these limitations and provide a more comprehensive understanding of investment dynamics in developed and emerging frontier markets.

**Policy Implications**

The findings of this study hold important policy implications for both developed and emerging frontier markets. The differential impact of trend variables and financial variables on index returns in these markets necessitates tailored policy approaches.

For investors in developed markets, understanding the nuanced effects of trend variables influenced by factors such as Airbnb and hotels, existing market players, and customer preferences is crucial. Policymakers can support traditional hospitality players in these markets by developing regulatory and economic policies that take into account the changing landscape introduced by trend variables. This can involve incentivizing collaborations between traditional players and online platforms like Airbnb and promoting initiatives that enhance the competitiveness of established hospitality businesses.

In emerging frontier markets, policymakers can leverage the significant influence of financial variables on index returns to attract investment and promote economic growth. This can be achieved by implementing policies that facilitate foreign direct investment, improve access to domestic credit, and create an enabling environment for businesses. Additionally, policies aimed at improving economic stability and reducing volatility can enhance the overall attractiveness of these markets to investors.

Overall, these findings provide valuable guidance for stakeholders, including investors and policymakers, in optimizing investment outcomes and fostering sustainable economic development. However, further research is warranted to explore the complex relationships between online platforms, information dissemination, and financial market outcomes in diverse market contexts, addressing the limitations of this study and providing a more comprehensive understanding of investment dynamics in developed and emerging frontier markets.

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1. The data published in the World Bank are updated until different years for various variables, with some extending until 2022 and others concluding at 2021. To account for the year 2023 in the regressions, a forecast was calculated using Excel. The regressions were also conducted without the forecast, and the results obtained were consistent with those including the forecast. [↑](#footnote-ref-1)