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*Research article*

# Uber's impact on Asia Pacific industries: An examination of strategic initiatives and market dynamics

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**Abstract:** We investigated the ramifications of Uber's announcements on stock markets within the Asia Pacific region, focusing on four critical sectors: Insurance, transportation and automobiles, technology, and travel and tourism. Utilizing data extracted from the crunchbase.com platform, the investigation spanned May 2019 to November 2023, encompassing 827 announcements across 15 countries in the region. Through analysis of the timing and content of Uber's announcements and consideration of regional nuances, this research offers nuanced insights into market responses. In the insurance sector, a discernible decline in cumulative abnormal returns before and after Uber's announcements suggested market anticipation of the challenges posed by Uber's disruptive business model. This prompted a reevaluation of traditional insurance practices within the region. Conversely, the transportation and automobile sector witnessed a notable increase in returns post-announcement, which is indicative of strategic adaptation to leverage opportunities presented by Uber's presence. This adaptation underscores the sector's readiness to capitalize on the evolving market dynamics influenced by Uber. Significant increases in cumulative abnormal returns within the technology sector indicate sustained investor confidence in Uber's technological innovations, highlighting the sector's recognition of Uber's transformative impact and its potential for growth opportunities. However, the travel and tourism sector exhibits a comparatively muted response to Uber's announcements, suggesting a limited immediate impact on the financial performance of companies within this sector in the Asia Pacific region.

**Keywords:** Uber announcements; Asia Pacific region; sector analysis; market responses; disruptive innovation

**JEL Codes:** G14, G15, L91, O33

## 1. Introduction

The transformative impact of Uber on global industries, with a specific emphasis on the Asia Pacific region, has become a focal point in contemporary academic inquiry spanning 2019 to 2023. Uber's strategic initiatives during this period have significantly shaped key sectors, such as Insurance, Transportation and Automobiles, Technology, and Travel and Tourism, eliciting nuanced responses from industry stakeholders (Horan, 2017). The proliferation of Uber in the Asia Pacific region has disrupted traditional taxi industries across countries (Chan & Kwok, 2021). This disruption has generated unease among conventional taxi drivers due to ride-sharing services providing superior travel experiences that traditional taxis struggle to match (Agarwal et al., 2022). However, Uber's impact on congestion in the region is heterogeneous, with some cities experiencing negative effects, while in others, where existing taxi companies utilize app-based booking systems akin to Uber, the switching between ride-hailing services and traditional taxis remains low (Icasiano & Taeihagh, 2021).

Throughout this temporal continuum, Uber strategically navigated the intricate landscape of the Asia Pacific region, employing initiatives that propelled its expansion trajectory. The company's entry into diverse markets within the region was characterized by calculated moves, including tailored market entry strategies, localized adaptations, and strategic partnerships (Bugador, 2019). Collaborations with local transportation providers, adherence to regulatory compliance measures, and the introduction of technological innovations tailored to regional preferences underscored Uber's commitment to overcoming the multifaceted challenges inherent in the Asia Pacific markets (Chan & Kwok, 2021). In the case of China, a market distinguished by its unique regulatory landscape and competitive dynamics, Uber engaged in a high-stakes battle with local competitors, significantly impacting the Transportation and Automobile sector (Wirtz & Tang, 2016). The ensuing market dynamics witnessed a convergence of competitive pricing strategies, service differentiation, and regulatory negotiations, illustrating the intricate interplay between global expansion ambitions and localized challenges.

Moreover, Uber's technological innovations, encompassing advancements in ride-sharing platforms and mobile payment solutions, played a pivotal role in reshaping the Technology sector across the Asia Pacific (Zein, 2018). As Uber extended its influence into the Travel and Tourism domain, its offerings not only transformed urban mobility but also had a profound impact on tourist transportation preferences and experiences, establishing an interconnected relationship between the Travel and Tourism sector and Uber's strategic maneuvers. Given these developments, our objective is to explore the ripple effects of Uber's announcements within the financial markets of identified industries, elucidating the nuanced interplay between corporate communications and market dynamics. This research is motivated by the recognition that Uber's presence has not only disrupted traditional transportation models but has also engendered consequences across interconnected industries, influencing investment patterns, market sentiments, and strategic decision-making. To comprehend these dynamics, the investigation spans a multi-year timeframe, providing a longitudinal analysis of Uber's announcements and their cascading effects on financial markets within the Asia Pacific.

To enhance the understanding of these intricate relationships, we not only scrutinize the content and timing of Uber's announcements but also consider broader economic indicators and regional nuances that may have influenced market responses. The selected industries – Insurance, Transportation and Automobiles, Technology, and Travel and Tourism – represent sectors where Uber's influence has been particularly pronounced and where financial markets are likely to be sensitive to the company's strategic moves. Employing a methodological framework encompassing comparative analysis, parametric and non-parametric tests, as well as robustness tests, this study significantly contributes to existing literature. A notable contribution lies in the comprehensive set of statistical tests, including five parametric and non-parametric tests, alongside two robustness tests, surpassing conventional statistical analyses applied in prior research by adopting an event research approach within the Uber domain. Additionally, the study explores the intricate interplay among the four pivotal sectors affected by Uber's regional entry, offering diverse insights into Uber's impact across varied economic contexts. Moreover, leveraging a substantial dataset of Uber announcements in the Asia Pacific region, the study sheds light on the nuanced patterns of Uber's effects across sectors.

Our findings unveil a nuanced pattern of Uber announcements across sectors in the Asia Pacific region. In the insurance sector, the decline in yields persists post-announcement, indicative of sustained uncertainty. Conversely, in the transportation and automobile sector, while a similar decrease in returns is observed before the announcement, the trend shifts post-announcement, demonstrating an increase in returns during this period. Notably, the technology sector experiences significant increases in returns both before and after the announcement, signaling investor confidence in Uber's technological innovations. However, the field of travel and tourism exhibits a minimal response to Uber announcements.

## 2. Literature Review

### *2.1. P2P Economy in the Asia Pacific region*

The rise of the peer-to-peer (P2P) economy in the Asia Pacific region has resulted in multifaceted transformations across diverse facets of the economic landscape. This paradigm shift, characterized by direct transactions facilitated by online platforms between individuals, has been instrumental in influencing employment structures, technological adoption, regulatory frameworks, and societal norms (Dolnicar, 2021). One salient consequence of this transformative economic model is the substantial creation of employment opportunities. Gig-based platforms have empowered individuals to engage in flexible and freelance work, fostering a dynamic workforce and encouraging entrepreneurial pursuits. This departure from conventional employment structures is particularly evident in transportation, where P2P travel services, exemplified by platforms such as Uber and Lyft, offer flexible and financially rewarding work opportunities for affiliated drivers (Cohen & Kietzmann, 2014). Similarly, within the travel and tourism sector, platforms like Airbnb play a pivotal role in augmenting tourism across the Asia Pacific region, thereby generating employment opportunities in local communities, especially in rural areas with limited traditional job prospects (Kim, 2019; Kiatkawsin et al., 2020).

Furthermore, the P2P economy has acted as a catalyst for technological advancements and increased digital integration. The widespread reliance on online platforms for diverse services, spanning ride-sharing to accommodation rentals, has propelled technological innovation and instigated enhancements in digital infrastructure. Governments and businesses have responded to the escalating demand for seamless online transactions, thereby contributing to the establishment of a more digitally connected society (Gao et al., 2022). However, the transformative effects of the P2P economy have presented challenges for regulatory frameworks. Governments grapple with issues related to taxation, consumer protection, and fair competition, aiming to strike a delicate balance between fostering innovation and ensuring effective regulatory oversight. The rapid evolution of the P2P economy necessitates agile and adaptive regulatory responses to keep pace with emerging trends (Chan & Kwok, 2021; Munasinghe et al., 2022).

The sociocultural impacts of the P2P economy have been conspicuous. It has redefined traditional consumption patterns, introducing novel modes of interaction and transaction. These shifts in behavior have not only influenced social norms but have also fostered a more sharing-centric ethos, challenging established practices (Petruzzi et al., 2023). Traditional industries, such as taxi services and hotels, have experienced disruptions, encountering heightened competition from innovative P2P platforms. This has compelled reevaluating traditional business models and underscored the necessity for adaptability to remain competitive in this evolving economic landscape (Pepić, 2018; Koh & King, 2017).

### *2.2. The disruptive innovation of Uber*

Disruptive innovation, a concept introduced by Christensen (2015), refers to innovations that significantly alter or replace existing products, services, or business models, thereby reshaping industries and markets. Uber exemplifies such disruption in the transportation sector, where it has fundamentally redefined urban mobility by leveraging digital platforms to connect drivers with passengers, bypassing traditional intermediaries like taxi companies Timilsina and Silvestri (2023) Uber's emergence has profoundly challenged the traditional taxi industry. As Horan (2019) argues, Uber's innovative pricing strategies, reliance on a flexible, decentralized workforce, and minimal operational costs have given it a competitive edge over traditional taxi services, which often operate under more stringent regulations and higher fixed costs. Uber's use of dynamic pricing algorithms and a robust digital platform has enabled it to offer more efficient and frequently cheaper services, leading to a substantial erosion of market share for traditional taxis. Unlike conventional taxi operators constrained by regulatory fare controls and restricted entry, Uber's agile model has effectively disrupted the established norms, reshaping urban transportation dynamics and competitive structures. Furthermore, a key factor contributing to Uber's rapid growth and market dominance has been its global expansion. Establishing a presence in multiple countries not only accelerated Uber's development but also created a consistent brand experience that fostered customer loyalty across markets. By offering the convenience of a familiar service internationally, Uber has been able to strengthen its brand recognition and customer base, reinforcing its competitive position in a variety of regulatory environments.

Beyond its impact on taxi services, Uber has significantly influenced urban mobility patterns. The research by Willis and Tranos (2021) demonstrates how Uber has transformed transportation networks

by altering both spatial and temporal dynamics of ride-hailing, particularly in densely populated cities like New York. Their findings reveal that Uber has expanded mobility options, especially in previously underserved areas, but has also introduced new challenges, such as increased congestion during peak hours. This dual effect—improved accessibility coupled with potential negative externalities like congestion—suggests that policymakers must rethink urban transportation planning to accommodate the rapidly evolving landscape shaped by digital platforms. Moreover, Uber's disruptive impact extends beyond transportation, influencing broader economic and regulatory frameworks. Geissinger et al. (2020) discuss Uber's role within the larger context of the 'sharing economy,' where digital technologies are used to efficiently connect supply and demand. They argue that Uber is a paradigm of how digital platforms can disrupt traditional business models across various sectors. Uber's approach, which often circumvents established regulatory frameworks, has compelled governments worldwide to reassess existing laws governing market entry, pricing, and labor relations. This has led to diverse regulatory responses as policymakers balance the need for innovation with protecting public interest and market fairness (Iu et al., 2023).

The regulatory complexities surrounding Uber's operations are further highlighted by Skok and Baker (2019), who examine the impact of Uber in London. They describe how regulatory bodies, such as Transport for London, have struggled to adapt to the rapid changes introduced by Uber's market entry. Their study illustrates the range of regulatory strategies employed, from attempts to impose similar standards on ride-hailing companies as those required of traditional taxis to broader discussions about the role of innovation in public transportation. Urbinati et al. (2018) offer a more nuanced perspective by examining how the local context influences the adoption and impact of disruptive innovations like Uber. Their analysis shows that while Uber's core business model remains consistent globally, the degree of disruption varies significantly across different cities, shaped by local economic conditions, social dynamics, and regulatory environments. In cities with rigid regulatory frameworks or strong taxi unions, Uber's integration has been more contentious and slower, whereas in others, with fewer barriers to entry, Uber has rapidly gained acceptance.

While researchers have substantially explored Uber's role as a disruptive force in the transportation sector, there is a noticeable gap in the literature regarding its cross-sectoral impacts and regional variations, particularly in areas such as financial markets. Most researchers have focused on Uber's direct competition with traditional taxi services, regulatory challenges, and its influence on urban mobility patterns. However, less attention has been given to understanding how Uber's announcements and market strategies affect financial markets across sectors, such as insurance, technology, and tourism, particularly in the Asia Pacific region. We aim to fill this gap by examining how Uber's activities influence financial markets across multiple sectors in the Asia Pacific region. It explores the cross-sectoral impacts of Uber's market strategies and announcements, providing new insights into how disruptive innovations can reverberate across diverse industries and geographic contexts. By focusing on a specific regional analysis, this study contributes to a more comprehensive understanding of Uber's multifaceted influence and highlights the necessity for a nuanced, context-specific approach when studying the effects of disruptive technologies.

### *2.3. Examining the multifaceted impact of Uber across industry sectors*

#### 2.3.1. Uber's Impact on the transportation and automobiles industries

Uber's entry into the market has brought about a significant upheaval in conventional transportation models, particularly in urban settings, thereby challenging the established dominance of traditional taxi services (Ward et al., 2019). This transformation is underscored by discernible shifts in commuter behaviors, leading to a noteworthy reduction in taxi usage in regions where Uber has established its presence, indicative of a substantive alteration in consumer preferences (Pepić, 2018). The intricate relationship between Uber and traditional taxi services has emerged as a central focus in scholarly discourse, illuminating the competitive dynamics and intermittent conflicts that epitomize the transformative influence of technology-driven ride-sharing platforms (Pepić, 2018). Academic investigations have delved into the regulatory responses and market adjustments engendered by this disruption, providing valuable insights into the ongoing evolution of the transportation landscape (Zein, 2018).

Analyzing the impact from the perspective of the automobile industry, Uber's business model, which emphasizes the utilization of private vehicles for commercial purposes, introduces a novel dimension (Gong et al., 2023). This hybrid usage triggers discussions concerning vehicle wear and tear, implications for resale value, and the imperative for specialized maintenance. Scholars have probed into the enduring effects of such usage patterns on the automotive market, contemplating shifts in purchasing behaviors and the potential transition toward shared mobility (Guo et al., 2020). Moreover, Uber's ascent has necessitated automotive manufacturers to reevaluate their strategies and adapt to the evolving landscape. Collaborations and partnerships between automakers and ride-sharing services have materialized, reflecting a pervasive recognition within the industry of the necessity to align with evolving consumer preferences for transportation services. A notable illustration of this strategic adaptation is the collaboration between Uber and Volvo Car Corporation, aimed at developing autonomous ride-hailing vehicles, wherein Uber integrates its self-developed autonomous driving systems into the Volvo base vehicle (Uhlemann, 2016).

#### 2.3.2. Uber's impact on the insurance industry

Uber's disruptive presence has necessitated a reassessment of insurance practices, particularly in regions where the ride-sharing service operates (Kajwang, 2022). The company's business model, characterized by a network of independent drivers using personal vehicles, presents a unique set of challenges for the insurance industry. Traditional insurance models designed for personal or commercial use may not seamlessly align with the hybrid nature of Uber's operations (Davis, 2015). One key area of impact is insurance coverage during different phases of an Uber driver's activities. The transition between personal use, waiting for a ride request, and actively transporting passengers raises questions about the adequacy and applicability of insurance coverage. Scholars have explored the need for specialized insurance products to address the specific risks associated with ride-sharing activities, ensuring comprehensive coverage for both drivers and passengers (Alfonzo, 2020; Davis, 2015).

Moreover, the evolving regulatory landscape surrounding Uber's operations has further complicated insurance considerations. Various jurisdictions have introduced specific insurance

requirements for ride-sharing services, emphasizing the need for collaboration between insurance providers, regulators, and Uber to establish clear guidelines and standards. This regulatory dimension adds a layer of complexity to the insurance industry's response to Uber's presence (Michael, 2022).

#### 2.3.3. Uber's impact on the technology industry

Uber's technological innovations have played a pivotal role in reshaping the Technology sector, particularly in the development of ride-sharing platforms. The work by Gao et al. (2022) highlights the pivotal role played by Uber's platforms, emphasizing the utilization of advanced algorithms and real-time data processing. These elements are integral to optimizing the matching process between riders and drivers, resulting in heightened overall efficiency and an enhanced user experience within the urban mobility landscape. Furthermore, Uber's technological strides extend to the integration of mobile payment solutions, a substantial advancement explored by Akbulaev (2020). The incorporation of seamless and cashless transactions within the Uber app represents a notable contribution to the broader Technology industry. This innovation has set new standards within the digital payment landscape, reshaping user expectations and actively contributing to the prevailing trend of mobile-centric financial transactions, as discussed by Zein (2018). This confluence of technological advancements not only defines Uber's transformative impact within the Technology sector but also influences broader trends in the digital economy.

#### 2.3.4. Uber's impact on the travel and tourism industry

Uber's foray into the Travel and Tourism industry has redefined the landscape of urban mobility for tourists, manifesting in a discernible surge in convenience and flexibility. Scholarly investigations emphasize the integral role of Uber's services in tourist transportation, revealing a significant preference shift towards ride-sharing options over conventional modes of transport, particularly in urban destinations (Ward et al., 2019; Chang et al., 2022). Beyond revolutionizing transportation logistics, Uber's technological advancements have extended to address payment preferences within the Travel and Tourism sector. Akbulaev (2020) highlights the adoption of mobile payment solutions, aligning with the prevalent trend of cashless transactions in the digital age. This transition not only enhances the overall convenience of financial transactions for travelers but also contributes to a more streamlined, efficient, and secure financial experience. Moreover, Uber's impact on tourist behaviors is evident through its provision of data-driven insights. By analyzing ride patterns, popular destinations, and peak travel times, Uber plays a pivotal role in contributing valuable information for destination management and marketing strategies within the Travel and Tourism industry. This data-centric approach serves as a resource for local authorities and businesses, aiding in the optimization of tourist experiences, traffic management, and comprehensive destination planning (Lee et al., 2021).

### *2.4. Event study analysis*

The empirical landscape of financial research has witnessed a substantial augmentation through the extensive application of event study analysis, a methodological framework crafted to explicate the

repercussions of discrete events on financial markets. Rooted in econometrics and statistical analysis, this approach has evolved into an integral tool for comprehending the dynamics of market reactions, information efficiency, and risk assessments. A foundational contribution to this domain is evident in the seminal work conducted by Fama et al. (1969) who established the groundwork for the event study methodology. Their meticulous examination of stock price reactions surrounding corporate events laid the foundation for subsequent researchers to explore a spectrum of event categories.

Building upon this foundational work, Campbell and MacKinlay (1997) undertook a comprehensive analysis of event studies, accentuating the pivotal role of statistical methodologies and addressing the challenges associated with discerning abnormal returns. Campbell and MacKinlay's insights have played a crucial role in refining event study techniques and navigating methodological intricacies. Further enriching the literature, Brown and Warner (1985) explored the intricacies of the event study methodology, tackling issues related to statistical inference and the calculation of standard errors. Their contribution has been pivotal in bolstering the robustness and reliability of event study findings.

As the utility of the event study methodology expanded, it became a widely adopted tool across academic disciplines, extending beyond finance. Applications spanned various fields, including the environment (Tavor, 2023), accounting (Jiang et al., 2015), healthcare (Ababneh & Tang, 2013), and hospitality (Tavor, 2024). In the realm of transportation, event study analysis has emerged as a pivotal tool for dissecting the dynamics of companies such as Uber. Studies contribute insights into how specific events influence Uber's stock performance, offering a nuanced understanding of the interplay between events and market dynamics within the transportation sector (Alvarez & Argente, 2022; Barreto et al., 2021).

## 3. Hypotheses and theoretical framework

Hypothesis 1 (H1): Drawing upon the theoretical framework outlined in the literature review, this study hypothesizes that Uber announcements will lead to varying effects on cumulative abnormal returns across the insurance, transportation and automobiles, technology, and travel and tourism sectors within the Asia Pacific region.

*Rationale for Hypothesis 1:*

The literature review elucidates the diverse impacts of Uber across different industry sectors, underscoring the significance of its disruptive influence on traditional models and market dynamics. Within the insurance sector, Uber's presence has necessitated a reassessment of insurance practices, particularly in regions where the ride-sharing service operates (Kajwang, 2022). The unique challenges posed by Uber's business model, such as the hybrid nature of its operations and the implications for insurance coverage, suggest potential fluctuations in the financial performance of insurance companies following Uber announcements. Moreover, in the transportation and automobiles sector, Uber's entry has triggered notable shifts in consumer preferences and market behaviors, leading to discernible changes in the financial performance of related companies (Ward et al., 2019). Conversely, in the technology sector, Uber's technological innovations have reshaped digital platforms and payment solutions, potentially influencing investor sentiments and market reactions (Gao et al., 2022). Additionally, the travel and tourism sector has witnessed significant transformations due to Uber's provision of convenient transportation options for tourists, likely impacting the financial performance of companies operating in

this domain (Ward et al., 2019). Given these sector-specific dynamics, it is hypothesized that the effect of Uber announcements on cumulative abnormal returns will vary across the identified sectors within the Asia Pacific region. The disruption caused by Uber may lead to different levels of market volatility, investor reactions, and strategic responses among companies operating in these sectors, thereby resulting in divergent financial outcomes following Uber announcements.

## 4. Data and empirical strategy

### *4.1. Data*

We explore the ramifications of Uber's announcements, extracted from the crunchbase.com platform, on the financial markets in the Asia Pacific region across four pivotal sectors: Insurance, transportation and automobiles, technology, and travel and tourism. The temporal scope of the data extended from May 2019 to November 2023, delimited through a two-stage process. Initially, a comprehensive dataset comprising 10,306 Uber-related messages was amassed from crunchbase.com. Then, 827 announcements belonging to 15 countries in the Asia Pacific region, categorized by country, were selected, as detailed in Appendix A.

To evaluate the impact of Uber announcements on the specified sectors, four local sector indices and four global sector indices were collected. The local sector indices, designed to represent stock returns, are as follows: STOXX Asia/Pacific 600 Insurance (SXP1INS) for the Insurance sector, STOXX Asia/Pacific 600 Automobiles & Parts (SXP1ATO) for the Transportation and Automobiles sectors, STOXX Asia/Pacific 600 Technology (SXP1TEC) for the Technology sector, and STOXX Asia/Pacific 600 Travel & Leisure (SXP1CGS) for the Travel and Tourism sector. Additionally, global sector indices, intended to represent market indices, include: STOXX Global 1800 Insurance (SXW1INS), STOXX Global 1800 Automobiles & Parts (SXW1ATO), STOXX Global 1800 Technology (SXW1TEC), and STOXX Global 1800 Travel & Leisure (SXW1CGS).

The selected indices were strategically curated to align with the diverse economic development stages of the scrutinized sectors, facilitating a nuanced assessment of Uber's announcements' impact across economic contexts and offering insights into their effects on different sectors. Data for this study was sourced from Investing.com, covering daily returns over 331 days for each announcement—comprising 300 days preceding the announcement and 30 days following it. This methodology affords insights into both the pre-announcement effects of insider information and the sustained impact of disclosed information post-announcement.

### *4.2. Empirical strategy*

We adopt an event study methodology to investigate the impact of Uber's announcements on financial markets across the Asia Pacific region, with a focus on four key sectors: Insurance, Transportation and Automobiles, Technology, and Travel and Tourism. Employing abnormal returns (AR) and cumulative abnormal returns (CAR) as analytical tools, the study aims to discern the market response to Uber's announcements. To operationalize this methodology, a market model is constructed to elucidate the relationship between market returns (represented by indices SXW1INS, SXW1ATO,

SXW1TEC, and SXW1CGS) and stock returns (denoted by SXP1INS, SXP1ATO, SXP1TEC, and SXP1CGS) on the event day, denoted as i at time t ($R_{it}$), under the presumption of normal market conditions ($R_{mt}$). The market model is articulated as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \xi_{it} \quad (1)$$

In the model, $R_{it}$ represents the return of sector i on day t, while $R_{mt}$ signifies the return of the sector's global index on the same day. The parameters α and β denote the sector-specific intercept and slope coefficients, respectively, capturing the inherent characteristics of sectors in relation to market movements. The error term $\xi_{it}$ accounts for unexplained variance in sector returns, encapsulating factors beyond the model's explanatory power.

In this investigation, a set of parametric and non-parametric tests is employed to evaluate the statistical significance of abnormal returns and cumulative abnormal returns. The first parametric test utilized is the Standardized Residual Test (PATELL), as proposed by Patell (1976). This test assesses the resilience of abnormal returns and explores cross-sectional correlation. The second parametric test, known as the Standardized Cross-Sectional Approach (BMP), was introduced by Boehmer et al. (1991). This approach relies on specific assumptions about the distribution of the data to discern the significance of abnormal returns within a standardized framework.

Additionally, non-parametric tests are employed to complement the parametric analyses. These include the Sign Test (SIGN) and the Generalized Sign Test (G-SIGN), both proposed by Cowan (1992). The Sign Test assesses the significance of abnormal returns based on the direction of observed changes, providing a robust evaluation without making stringent assumptions about the data distribution. The G-SIGN extends the Sign Test methodology to accommodate a wider range of data distributions, enhancing flexibility and applicability in scenarios where parametric assumptions may not hold. Finally, the Wilcoxon Signed-Ranks Test (WSRT), developed by Wilcoxon (1945), offers a non-parametric alternative for assessing the significance of abnormal returns by considering the magnitude of observed changes.

## 5. Empirical results

In this section, we delineate the outcomes derived from the investigation and evaluates the ramifications of Uber's declarations within the financial markets of the Asia Pacific region across four principal sectors influenced by the company.

### *5.1. Descriptive statistics*

Table 1 presents an overview of the descriptive statistics for both stock and market indices across four pivotal sectors examined in this study. Specifically, the stock indices considered are STOXX Asia/Pacific 600 Insurance (SXP1INS) representing the Insurance sector, STOXX Asia/Pacific 600 Automobiles & Parts (SXP1ATO) for the Transportation and Automobiles sectors, STOXX Asia/Pacific 600 Technology (SXP1TEC) for the Technology sector, and STOXX Asia/Pacific 600 Travel & Leisure (SXP1CGS) for the Travel and Tourism sector. Additionally, the market indices include STOXX Global 1800 Insurance (SXW1INS), STOXX Global 1800 Automobiles & Parts

(SXW1ATO), STOXX Global 1800 Technology (SXW1TEC), and STOXX Global 1800 Travel & Leisure (SXW1CGS). Analysis of the stock indices reveals that the technology sector demonstrates the highest average return at 0.044%, while the transportation and automobiles sector exhibits the highest volatility at 1.350%. Similarly, examination of the market indices within these sectors consistently shows the technology sector with the highest average return of 0.088% and the transportation and automobiles sector with the highest volatility at 1.577%. Comparing stock and market indices, it becomes evident that market indices generally outperform stock indices in terms of average performance, albeit with increased volatility.

**Table 1.** Examination of descriptive statistics for financial indices.

| Sector | Symbol | N | Mean | Std. Dev. | Min. | Median | Max. |
|---|---|---|---|---|---|---|---|
| Stock indices | | | | | | | |
| Insurance | SXP1INS | 1858 | 0.022 | 1.161 | −5.550 | 0.020 | 6.850 |
| Transportation and Automobiles | SXP1ATO | 1796 | 0.015 | 1.350 | −6.630 | 0.000 | 9.860 |
| Technology | SXP1TEC | 1813 | 0.044 | 1.268 | −6.410 | 0.070 | 7.920 |
| Travel and Tourism | SXP1CGS | 1881 | 0.011 | 1.058 | −4.720 | 0.030 | 6.120 |
| Market indices | | | | | | | |
| Insurance | SXW1INS | 1797 | 0.030 | 1.086 | −11.950 | 0.080 | 11.420 |
| Transportation and Automobiles | SXW1ATO | 1797 | 0.043 | 1.577 | −9.330 | 0.020 | 9.590 |
| Technology | SXW1TEC | 1797 | 0.088 | 1.527 | −12.530 | 0.150 | 10.040 |
| Travel and Tourism | SXW1CGS | 1797 | 0.025 | 1.177 | −9.650 | 0.050 | 9.500 |

Note: The statistical values depicted in the table are expressed as percentages.

### *5.2. Assessing the impact of Uber's Announcements on four key sectors in the Asia Pacific region*

Figure 1 depicts the cumulative average abnormal returns (CAAR) dynamics across a 61-day event window, spanning 30 days before and 30 days after the announcement, for the four sectors under scrutiny in the Asia Pacific region. Supplementing these visual representations, Table 2 provides an analysis of cumulative abnormal returns alongside the results derived from both parametric and nonparametric tests applied to 827 Uber announcements. Panel A delineates the CAR outcomes for the insurance sector, while Panel B delves into the CAR findings for the transportation and automobiles sector. Similarly, Panel C exhibits the results for the technology sector, while Panel D presents the results for the travel and tourism sector. Within Table 2, the second column elucidates the cumulative abnormal returns ($CAR_{t_1,t_2}$). Columns 3 and 4 analyze the outcomes of parametric tests (PATEL, BMP), and columns 5–7 detail the results of nonparametric tests (SIGN, G-SIGN, WSRT) for further investigation.

From the results in the table and figure, there is a decrease in Cumulative Abnormal Announcement Returns (CAAR) in the insurance industry that begins 30 days before the publication of the announcement, with a value of −0.304%, and continues until 10 days after, with a value of −0.118%. This decline in CAAR suggests several potential explanations. One possibility is that investors anticipate regulatory changes or increased liability risks associated with Uber's announcements, prompting them to adjust their investment strategies. The decrease in CAAR may also reflect a cautious stance among investors in response to perceived uncertainties or disruptions within the insurance industry. The Mean Absolute Value Test (MAVT) value of 2.454 and 2.610 further

corroborates the statistical significance of these abnormal returns, indicating that the observed trends are unlikely to occur by random chance alone. In the transportation and automobiles sector, a similar decrease in CAAR is observed starting 30 days before the announcement, with a value of −0.413%. However, unlike the insurance industry, the CAAR in this sector changes its trend after the announcement, with an increase in yields observed until 10 days later, with a value of 0.456%. This shift in trend could be attributed to investor reassessment of the potential benefits or opportunities associated with Uber's announcements, such as collaborations or technological integrations within the transportation sector. The MAVT value of 1.829 and 4.213 further supports the significance of these abnormal returns.

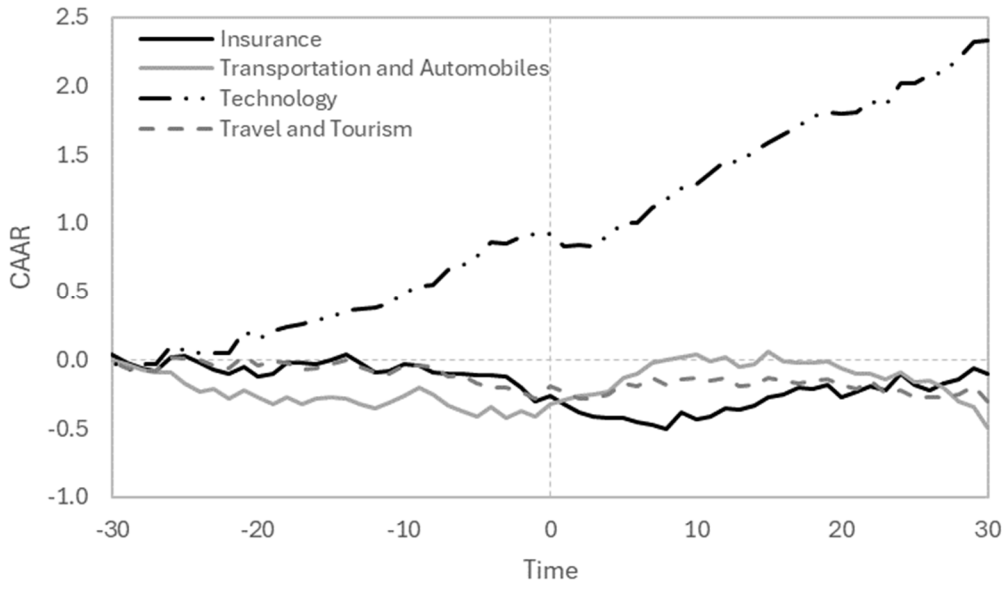


**Figure 1.** Comparative analysis of CAAR across four sectors in the Asia Pacific region.

Note: Figure 1 presents the Cumulative Average Abnormal Returns (CAAR) utilizing distinct line styles to represent different sectors. The insurance sector is depicted with a solid black line, the transportation and automobiles sector with a solid gray line, the technology sector with a dotted-dashed black line, and the travel and tourism sector with a dashed gray line. The CAAR is observed over a 61-day event window.

The technology sector exhibits a strong reaction to Uber announcements in the Asia Pacific region, with sharp increases in CAAR starting 30 days before the announcement, with a value of 0.924%, and continuing until 30 days after it, with a value of 1.403%. This significant response suggests that investors perceive substantial growth opportunities or synergies between Uber and technology companies in the region. The positive trend in CAAR underscores investor confidence in the potential benefits of Uber's initiatives within the technology sector. The MAVT value of 5.998 and 7.637 reinforces the statistical significance of these abnormal returns. Conversely, in the travel and tourism sector, there is a decrease in CAAR starting 30 days before the announcement, with a value of -0.287%, indicating a period of anticipation or uncertainty among investors. However, in the period after the announcement, there is no significant change in CAAR in most tests. This suggests that Uber's announcements may have limited immediate impact or relevance within the travel and tourism sector,

potentially reflecting differences in market structure or investor perceptions compared to other industries. The MAVT value of 1.833 supports the statistical significance of these findings.

The findings support Hypothesis 1, aligning with literature indicating varied impacts of Uber announcements across sectors in the Asia Pacific region. In the insurance sector, the observed decline in CAAR persists post-announcement, reflecting ongoing uncertainty highlighted by Kajwang (2022). Conversely, the transportation and automobiles sector experiences a post-announcement increase, in line with shifts in market behavior noted by Ward et al. (2019). The technology sector displays significant CAAR increases pre- and post-announcement, reflecting investor confidence in Uber's technological innovations as discussed by Gao et al. (2022). In contrast, the travel and tourism sector shows minimal response, suggesting limited impact despite Uber's provision of convenient transportation options for tourists. These results underscore sector-specific dynamics and strategic responses to Uber's presence, offering insights for investors and industry stakeholders.

**Table 2.** Comparative analysis of cumulative abnormal returns across four sectors in the Asia Pacific region.

| | Panel A: Insurance | | | | | | Panel B: Transportation and Automobiles | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Parametric test | | Non−parametric test | | | | Parametric test | | Non−parametric test | | |
| Daily time | CAR(%) | PATELL | BMP | SIGN | G-SIGN | WSRT | CAR(%) | PATELL | BMP | SIGN | G-SIGN | WSRT |
| CAR[−30,−1] | −0.304 | −1.917* | −2.419** | −2.052* | −2.527*** | −3.354*** | −0.413 | −2.082** | −3.356*** | 0.174 | 0.898 | −2.635*** |
| CAR[−20,−1] | −0.252 | −1.665* | −1.990** | −3.234*** | −3.710*** | −2.752*** | −0.192 | −1.143 | −1.824* | −1.982* | −1.259 | −1.978** |
| CAR[−10,−1] | −0.225 | −2.112** | −2.489** | −4.138*** | −4.614*** | −3.391*** | −0.095 | −0.716 | −1.030 | −0.939 | −0.215 | −1.723* |
| CAR[−5,−1] | −0.198 | −2.779*** | −2.979*** | −1.982** | −2.458** | −2.963*** | −0.041 | −0.218 | −0.266 | −1.148 | −0.424 | −1.125 |
| CAR[0,+5] | −0.118 | −1.787* | −1.891* | −3.373*** | −3.849*** | −2.169** | 0.284 | 3.369*** | 3.719*** | −0.104 | 0.620 | 3.371*** |
| CAR[0,+10] | −0.134 | −1.582 | −1.598 | −3.443*** | −3.918*** | −2.511** | 0.456 | 3.479*** | 4.258*** | 3.860*** | 4.585*** | 4.881*** |
| CAR[0,+20] | 0.029 | −0.406 | −0.421 | 0.591 | 0.116 | −0.318 | 0.356 | 1.545 | 2.040** | 1.217 | 1.941* | 2.220** |
| CAR[0,+30] | 0.201 | 0.555 | 0.595 | 1.078 | 0.603 | 0.482 | −0.078 | −1.402 | −2.028** | −0.243 | 0.481 | −1.252 |

*Continued on next page*

| | Panel C: Technology | | | | | | Panel D: Travel and Tourism | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Parametric test | | Non−parametric test | | | | Parametric test | | Non−parametric test | | |
| Daily time | CAR(%) | PATELL | BMP | SIGN | G-SIGN | WSRT | CAR(%) | PATELL | BMP | SIGN | G-SIGN | WSRT |
| CAR[−30,−1] | 0.924 | 2.508** | 2.370** | 9.980*** | 9.037*** | 6.095*** | −0.287 | −2.762*** | −2.822*** | 1.704* | 1.483 | −0.393 |
| CAR[−20,−1] | 0.711 | 2.602*** | 2.503** | 7.476*** | 6.532*** | 6.046*** | −0.317 | −2.986*** | −3.168*** | 0.452 | 0.231 | −1.136 |
| CAR[−10,−1] | 0.515 | 3.249*** | 3.053*** | 7.337*** | 6.393*** | 6.585*** | −0.188 | −1.984** | −2.188** | −1.426 | −1.647* | −2.400** |
| CAR[−5,−1] | 0.234 | 1.970** | 1.631 | 4.625*** | 3.679*** | 4.477*** | −0.173 | −2.462** | −2.561*** | −2.747*** | −2.968*** | −2.023** |
| CAR[0,+5] | 0.075 | −0.686 | −0.552 | 5.738*** | 4.792*** | 4.477*** | 0.110 | 0.831 | 0.837 | 0.939 | 0.718 | 1.044 |
| CAR[0,+10] | 0.358 | 1.007 | 0.839 | 8.102*** | 7.158*** | 7.340*** | 0.158 | 0.877 | 0.939 | −0.035 | −0.256 | 1.578 |
| CAR[0,+20] | 0.870 | 3.130*** | 2.710*** | 11.927*** | 10.985*** | 7.635*** | 0.106 | −0.345 | −0.365 | 1.426 | 1.205 | 1.941* |
| CAR[0,+30] | 1.403 | 4.789*** | 4.342*** | 11.232*** | 10.290*** | 7.535*** | −0.014 | −1.375 | −1.388 | 1.217 | 0.996 | 1.542 |

Note: This table provides an analysis of cumulative abnormal returns (CAR) across eight distinct test windows, focusing on the impact of Uber announcements on four key sectors in the Asia Pacific region. Panel A outlines CAR results for the insurance sector, Panel B delves into CAR findings for the transportation and automobiles sector, Panel C exhibits results for the technology sector, and Panel D showcases results for travel and tourism sector. The table presents the findings of two parametric tests − the Standardized Residual Test (PATELL) and the Standardized Cross−Sectional Approach (BMP) − depicted in columns 3–4. Additionally, results from three non−parametric tests, specifically the Sign Test (SIGN), the Generalized Sign Test (G−SIGN), and the Wilcoxon signed−rank test (WSRT), are detailed in columns 5–7. Statistical significance is indicated by p−values, wherein asterisks ***, **, and * denote significance levels at 1%, 5%, and 10%, respectively.

### *5.3. Robustness check*

The robustness assessment employs two complementary window tests to enhance the reliability and robustness of the research outcomes. Specifically, event windows spanning from [−20,+20] and [−10,+10] are utilized for the analysis across the four sectors under investigation, as delineated in Table 3. Panel A depicts the Cumulative Abnormal Returns (CAR) results for the insurance sector, while Panel B illustrates the findings for the transportation and automobiles sector. Similarly, Panel C exhibits the results for the technology sector, and Panel D demonstrates the outcomes for the travel and tourism sector .

An examination of the robustness analysis derived from the two tests reveals a consistent pattern that aligns with the results obtained through standard tests, thereby evaluating the impact of Uber announcements on the four sectors in the Asia Pacific region. In the insurance sector, there is a decline in CAR observed prior to the announcement period, persisting through the post-announcement phase. Conversely, in the transportation and automobiles sector, a comparable decline in CAR is evident before the announcement, yet the trend in CAR in this sector diverges post-announcement. The

technology sector displays a notable reaction to Uber announcements in the Asia Pacific region, characterized by significant increases in CAR preceding the announcement, which persist in the aftermath. Conversely, in the travel and tourism sector, a decline in CAR is observed before the announcement, with no substantial change in CAR during the subsequent period across most tests.

**Table 3.** Comparative Analysis of Cumulative Abnormal Returns (CAR) Across Four Sectors in the Asia Pacific Region: Assessing Robustness and Sectoral Variations.

| | Panel A: Insurance | | | | | | Panel B: Transportation and Automobiles | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Event window [−20,+20] | | | Event window [−10,+10] | | | Event window [−20,+20] | | | Event window [−10,+10] | | |
| Daily time | CAR (%) | PATELL | BMP | CAR (%) | PATELL | BMP | CAR (%) | PATELL | BMP | CAR (%) | PATELL | BMP |
| CAR[−20,−1] | −0.243 | −1.600 | −1.884* | | | | −0.210 | −1.143 | −1.824* | | | |
| CAR[−10,−1] | −0.200 | −1.845* | −2.144** | −0.216 | −2.035** | −2.241** | −0.089 | −0.716 | −1.030 | −0.115 | −1.012 | −1.446 |
| CAR[−5,−1] | −0.177 | −2.460** | −2.579** | −0.173 | −2.421** | −2.423** | −0.033 | −0.218 | −0.266 | −0.039 | −0.246 | −0.291 |
| CAR[0,+5] | −0.117 | −1.758* | −1.863* | −0.103 | −1.570 | −1.627 | 0.256 | 3.369*** | 3.719*** | 0.243 | 2.612*** | 3.180*** |
| CAR[0,+10] | −0.133 | −1.555 | −1.568 | −0.110 | −1.321 | −1.320 | 0.436 | 3.479*** | 4.258*** | 0.429 | 3.074*** | 4.082*** |
| CAR[0,+20] | 0.042 | −0.280 | −0.294 | | | | 0.368 | 1.545 | 2.040** | | | |
| | Panel C: Technology | | | | | | Panel D: Travel and Tourism | | | | | |
| | Event window [−20,+20] | | | Event window [−10,+10] | | | Event window [−20,+20] | | | Event window [−10,+10] | | |
| Daily time | CAR (%) | PATELL | BMP | CAR (%) | PATELL | BMP | CAR (%) | PATELL | BMP | CAR (%) | PATELL | BMP |
| CAR[−20,−1] | 0.721 | 2.709*** | 2.512** | | | | −0.240 | −2.252** | −2.389** | | | |
| CAR[−10,−1] | 0.523 | 3.351*** | 3.087*** | 0.518 | 3.342*** | 2.988*** | −0.150 | −1.487 | −1.642* | −0.117 | −1.001 | −1.099 |
| CAR[−5,−1] | 0.236 | 2.015** | 1.644* | 0.244 | 2.149** | 1.684* | −0.161 | −2.235** | −2.313** | −0.124 | −1.538 | −1.575 |
| CAR[0,+5] | 0.060 | −0.854 | −0.670 | 0.059 | −0.825 | −0.639 | 0.121 | 1.056 | 1.073 | 0.157 | 1.669* | 1.659* |
| CAR[0,+10] | 0.342 | 0.916 | 0.747 | 0.353 | 1.076 | 0.870 | 0.170 | 1.066 | 1.154 | 0.219 | 1.668* | 1.811* |
| CAR[0,+20] | 0.870 | 3.207*** | 2.762*** | | | | 0.125 | −0.139 | −0.149 | | | |

Note: This table presents an analysis of the robustness of cumulative abnormal returns (CAR) obtained from two distinct window tests: the interval of [−20,+20] and the interval of [−10,+10], conducted across four sectors. Panel A provides CAR results for the insurance sector, Panel B presents CAR findings for the transportation and automobiles sector, Panel C displays results for the technology sector, and Panel D demonstrates results for the travel and tourism sector. Statistical significance is indicated by p-values, wherein asterisks ***, **, and * denote significance levels at 1%, 5%, and 10%, respectively.

### *5.4. Market reactions to Uber's strategic announcements in the Asia-Pacific region: A sectoral analysis*

We investigate the impact of Uber's announcements on financial markets across four key sectors in the Asia-Pacific region: Insurance, transportation and automobiles, technology, and travel and tourism. The announcements produced varying effects on stock indices, reflecting different market responses to Uber's strategic and operational decisions. To understand these effects, the announcements were grouped into those that had a positive or negative impact on cumulative abnormal returns (CAR), highlighting the dual nature of market reactions to corporate communications. The study focused on eight key announcements in each sector that exhibited the highest and lowest CAR, analyzing their effects over two distinct time windows: The period before the announcement, denoted as [-5, -1], and the period after the announcement, denoted as [0, +5]. This approach provided insights into both the anticipatory market behavior and the immediate reactions following the announcements. The analysis, as summarized in Table 4, revealed that India had the most significant influence on CAR volatility and extreme outcomes, driven by frequent regulatory changes and intense market competition. This was followed by Australia, where the impact was shaped by factors such as data privacy concerns, government subsidies, and technological innovation. Table 4 highlights these country-specific differences and provides a comprehensive overview of the diverse market responses to Uber's strategic communications in the Asia-Pacific region.

In the insurance sector, Uber's announcements had mixed effects depending on strategic alignment, innovation, and local market dynamics. Positive market reactions were noted when Uber demonstrated alignment with government policies or introduced innovative services. For instance, in Australia, Uber encouraged drivers to apply for the JobKeeper wage subsidy during the COVID-19 pandemic, signaling its commitment to operational continuity and workforce support, which improved investor confidence and led to a rise in CAR. In India, strategic moves such as appointing new leadership with expertise in vehicle connectivity and launching a PIN-dispatch feature at Delhi airport to reduce wait times were perceived as enhancing technological growth and customer satisfaction, contributing to positive CAR. However, negative reactions emerged from announcements tied to operational challenges and legal disputes, such as potential suspensions of ride-sharing services or a legal case requiring compensation to a customer in Mumbai. These events underscored the risks of market presence, regulatory hurdles, and reputational damage, which led to declining CAR.

In the transportation and automobiles sector, Uber's announcements triggered both positive and negative market responses based on regulatory actions, strategic partnerships, and market conditions. Positive reactions were driven by announcements that reflected effective navigation of regulatory landscapes and sustainable practices. For example, in India, a joint response by Uber and Ola to government fare compliance regulations reassured investors of the company's regulatory agility, resulting in increased CAR. Similarly, the introduction of "Uber Green" in Australia, promoting environmentally sustainable rides, aligned with global sustainability trends, enhancing Uber's reputation and driving positive market sentiment. In contrast, negative reactions were associated with price increases, such as the 12% fare hike in Delhi due to rising fuel costs, which raised concerns over reduced ridership and revenue in a price-sensitive market. Additionally, market barriers in Japan, where ride-sharing remains restricted, highlighted regulatory challenges that constrained Uber's growth prospects, leading to a decline in investor confidence and CAR.

**Table 4.** Cumulative abnormal returns of Uber announcements across sectors in the Asia-Pacific region.

| Panel A: Insurance | | | | |
|---|---|---|---|---|
| Pre-event window | | | | |
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| Australia | 01/04/2020 | 65 | 5.452 | Business Insider Australia — Uber sent an email to its Australian drivers recommending they apply for the federal government's new JobKeeper wage subsidy |
| India | 10/06/2020 | 471 | 5.336 | PRWeb — Sibros Appoints Former Uber and MapmyIndia Leaders to Management Team to Support Fast Growth of Deep Connected Vehicle Platform |
| The Lowest CAR Performance | | | | |
| India | 20/03/2020 | 434 | −7.276 | e27 News — Afternoon News Roundup: Uber mulls suspending ride-sharing options in India |
| India | 26/10/2022 | 622 | −5.034 | Trak.in (India) — Uber Customer From Mumbai Misses Flight; Court Orders Uber To Pay Her Rs 20,000 Compensation |
| Post-event window | | | | |
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| India | 10/11/2020 | 486 | 7.077 | Next Big What (India) — Uber launches a PIN-dispatch feature at Delhi airport to reduce wait times for travellers |
| Australia | 02/06/2020 | 71 | 5.987 | Business Insider Australia — Uber has launched a world-first car rental service in Australia |
| The Lowest CAR Performance | | | | |
| India | 16/10/2022 | 618 | −6.171 | Trak.in (India) — Bengaluru Auto Drivers Revolt Against Uber, Ola: Launch Their Own App: "Namma Yatri" |
| India | 12/03/2020 | 426 | −6.114 | Trak.in (India) — Coronavirus Impact: Uber, Ola Rides Dip By 30% In India; Upto 50% Pool, Share Rides Cancelled |
| Panel B: Transportation and Automobiles | | | | |
| Pre-event window | | | | |
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| India | 09/10/2022 | 617 | 6.414 | Business Standard (India) — Uber, Ola respond to Karnataka govt notice, say fares comply with rules |
| Hong Kong | 19/03/2020 | 206 | 5.713 | Marketwatch — Uber stock surges 30% after company touts cost advantages, says Hong Kong business is recovering |
| The Lowest CAR Performance | | | | |
| India | 12/04/2022 | 535 | −5.076 | Business Insider India — Uber announces a 12% price hike for cab rides in Delhi as petrol, diesel prices skyrocket |
| India | 04/10/2023 | 669 | −4.757 | Business Insider India — Rockstud Capital announces partial exit from Uber's fleet service provider |

*Continued on next page*

| Post-event window | | | | |
|---|---|---|---|---|
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| Australia | 08/06/2023 | 125 | 7.895 | techAU — Uber Green arrives in Australia, sustainable rides for customers, drivers and restaurants. |
| India | 12/09/2023 | 667 | 7.420 | Times of India — Uber partners with Indian Navy to offer mobility solutions - Times of India |
| The Lowest CAR Performance | | | | |
| India | 31/08/2022 | 609 | −6.114 | Business Standard (India) — Live security agents to help people during troublesome Uber rides |
| Japan | 03/07/2020 | 708 | −5.073 | The Globe and Mail — Uber launches taxi app in Tokyo, while ride-sharing remains barred in Japan |
| Panel C: Technology | | | | |
| Pre-event window | | | | |
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| India | 31/03/2020 | 437 | 9.837 | Digit — Coronavirus effect: Uber launches UberMedic to help doctors and medical staff in India |
| Australia | 01/04/2020 | 65 | 7.076 | Business Insider Australia — Uber sent an email to its Australian drivers recommending they apply for the federal government's new JobKeeper wage subsidy |
| The Lowest CAR Performance | | | | |
| India | 15/03/2020 | 432 | −16.720 | Telegraph India — 28-year-old woman forced to drive Uber after driver falls asleep |
| India | 20/03/2020 | 434 | −12.342 | e27 News — Afternoon News Roundup: Uber mulls suspending ride-sharing options in India |
| Post-event window | | | | |
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| India | 11/05/2022 | 539 | 5.594 | Trak.in (India) — Uber Will Hire 500 Indians This Year: These Specialized Skills Needed By Uber India |
| India | 18/07/2022 | 573 | 5.385 | Business Standard India — Uber adds safety net: Riders can now share live location updates with cops |
| The Lowest CAR Performance | | | | |
| India | 12/03/2020 | 428 | −13.577 | Trak.in (India) — Coronavirus Impact: Uber, Ola Rides Dip By 30% In India; Up to 50% Pool, Share Rides Cancelled |
| Australia | 14/06/2022 | 101 | −6.333 | Australian Financial Review — Uber drivers stay home and suffer as petrol prices bite |

*Continued on next page*

| Panel D: Travel and Tourism | | | | |
|---|---|---|---|---|
| Pre-event window | | | | |
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| India | 20/05/2022 | 547 | 4.979 | livemint.com — Uber hires ex-Facebook exec Namit Jain to lead core platform in India |
| India | 20/05/2022 | 548 | 4.979 | MediaNama — TLDR: Amazon India, PhonePe, Uber, VMware, TRAI, data centers, facial recognition |
| The Lowest CAR Performance | | | | |
| India | 15/03/2020 | 432 | −6.590 | Telegraph India — 28-year-old woman forced to drive Uber after driver falls asleep |
| Australia | 27/07/2021 | 87 | −5.044 | Startup Daily — Investigation finds Uber 'interfered' with the privacy of 1.2 million Australians following 2016 cyber attack |
| Post-event window | | | | |
| Country | Date | Event | CAR (%) | Description |
| The Highest CAR Performance | | | | |
| India | 10/11/2020 | 486 | 8.499 | Next Big What (India) — Uber launches a PIN-dispatch feature at Delhi airport to reduce wait times for travellers |
| India | 04/08/2020 | 475 | 7.699 | TechCircle — Uber India to hire 140 engineers to strengthen tech, products teams |
| The Lowest CAR Performance | | | | |
| India | 31/08/2022 | 609 | −6.524 | Business Standard (India) — Live security agents to help people during troublesome Uber rides |
| Pakistan | 20/02/2020 | 740 | −5.706 | TechJuice (Pakistan) — Uber Careem merger approved by CCP but with powerful conditions |

Note: The table presents key announcements by Uber that resulted in significant positive or negative cumulative abnormal return (CAR) performances. Each entry details the country, the date, the corresponding announcement number, the CAR value, and a brief description of the announcement.

The technology sector saw diverse impacts on financial markets based on Uber's responses to innovation, safety concerns, and external pressures. Positive reactions were driven by technological advancements and adaptive strategies. For instance, the launch of "UberMedic" in India to assist medical professionals during the pandemic demonstrated Uber's flexibility and corporate social responsibility, boosting investor confidence and enhancing CAR. In Australia, measures like recommending drivers apply for the JobKeeper wage subsidy were perceived as supportive of the workforce, stabilizing market perceptions. However, negative responses emerged from safety concerns and regulatory pressures. Incidents such as a female passenger in India being forced to drive after the driver fell asleep highlighted serious safety lapses, which damaged Uber's reputation and negatively impacted CAR. Similarly, the potential suspension of ride-sharing services in India and rising operational costs due to increased fuel prices in Australia contributed to negative market sentiment.

In the travel and tourism sector, Uber's announcements led to varying market responses, reflecting the unique dynamics of this industry. Positive CAR performances were associated with leadership changes, technological investments, and customer-oriented innovations. Announcements such as hiring a former Facebook executive to lead the core platform in India and planning to recruit 140

engineers to strengthen technology and product teams were viewed as strategic moves to enhance growth and innovation, leading to favorable market reactions. Uber's active participation in discussions with leading technology companies, as noted in its involvement with Amazon India and VMware, further boosted investor confidence in its technological capabilities. However, negative market reactions were driven by safety incidents, privacy breaches, and regulatory challenges. A notable example was the incident involving a passenger forced to take over driving in India, which raised serious safety concerns and harmed Uber's reputation, leading to a decrease in CAR. Similarly, a privacy breach involving 1.2 million Australians and the stringent conditions imposed on Uber's merger with Careem in Pakistan underscored operational risks and regulatory hurdles, contributing to negative investor sentiment.

Overall, the analysis reveals distinct differences in how Uber's announcements impacted each sector. In the insurance sector, market reactions were influenced by operational challenges and competitive pressures, while in the transportation and automobile sector, regulatory compliance and sustainable practices played a more significant role. The technology sector's responses were shaped by innovation and safety concerns, and the travel and tourism sector saw market reactions driven by leadership changes and technological investments. Across all sectors, India emerged as the country with the most substantial influence on market volatility due to its complex regulatory environment and competitive landscape, while Australia's role was significant, particularly in the technology and transportation sectors. This analysis underscores the importance of understanding the interplay between corporate strategies, sector-specific factors, and local contexts in shaping investor sentiment and financial outcomes.

## 6. Discussion

We aimed to analyze Uber's announcements in the Asia Pacific region across four key sectors: insurance, transportation and automobiles, technology, and travel and tourism. By considering the timing and content of these announcements alongside broader economic indicators and regional nuances, we provide a nuanced understanding of market responses. Employing a methodological framework encompassing comparative analysis, parametric and non-parametric tests, as well as robustness tests, the study significantly contributes to the literature.

In the insurance sector, the observed decline in cumulative abnormal returns (CAAR) prior to and following Uber's announcements reflects market anticipation of challenges posed by Uber's disruptive business model. This suggests a need for reassessment of traditional insurance practices in response to Uber's presence. The absence of a subsequent recovery in CAAR underscores ongoing uncertainty within the insurance industry, potentially signaling structural shifts or strategic adjustments among insurance companies. Conversely, the transportation and automobiles sector exhibits a contrasting trend. While CAAR similarly declines before Uber's announcements, there is a notable increase in returns post-announcement. This suggests a shift in market sentiment or strategic adaptation to capitalize on opportunities presented by Uber's presence. The positive shift in CAAR may indicate companies within this sector leveraging innovative strategies or partnerships to navigate the evolving market landscape.

In the technology sector, significant increases in CAAR preceding and following Uber's announcements signify sustained investor confidence in Uber's technological innovations. This suggests that market participants perceive Uber's advancements as transformative, offering growth opportunities within the technology sector. The findings underscore the importance of technological innovation in driving market performance and strategic differentiation in response to disruptive forces. However, the travel and tourism sector shows a relatively muted response to Uber's announcements, with a decline in CAAR before and no significant change post-announcement. This suggests that Uber's announcements may have limited impact on the financial performance of companies operating in this sector within the Asia Pacific region. Other factors such as broader economic trends or competitive pressures from alternative transportation services may have a greater influence.

While this study provides valuable insights into the impact of Uber announcements across four pivotal sectors – insurance, transportation and automobiles, technology, and travel and tourism – within the Asia Pacific region, it is essential to recognize certain inherent limitations in its methodology. The study's reliance on a specific time period and its singular focus on Uber constrain the breadth of its findings. To advance the understanding of investment dynamics in these sectors, future research endeavors should aim to address these limitations. Expanding the scope of investigation beyond a narrow time frame and incorporating a broader spectrum of companies would offer a more comprehensive understanding of the complex interplay between corporate announcements and capital market dynamics. By encompassing diverse time periods and a multitude of firms operating within the selected sectors, subsequent studies can provide a more nuanced and inclusive perspective on the effects of corporate announcements on market responses. Such efforts are crucial for advancing scholarly understanding and informing decision-making processes in investment and financial markets.

## 7. Conclusions

In conclusion, this study provides valuable insights into the varied effects of Uber announcements on stock markets across different sectors within the Asia Pacific region. Our findings underscore the heterogeneous nature of market responses to Uber's presence, highlighting sector-specific dynamics and strategic responses. While some sectors demonstrate adaptation and optimism in response to Uber's impact, others exhibit more muted reactions, reflecting differing levels of susceptibility to disruptive forces. These findings contribute to a deeper understanding of the implications of Uber's presence for investors and industry stakeholders within the Asia Pacific region.

## 8. Policy implications

Our findings offer valuable insights into the implications of Uber's announcements on stock markets across sectors within the Asia Pacific region. The research highlights the heterogeneous nature of market responses, indicating sector-specific dynamics and strategic adaptations. Policy implications stemming from these findings are significant, and policymakers must recognize the need for sector-specific regulations to address the challenges and opportunities presented by Uber's presence. In sectors heavily influenced by Uber, such as insurance and transportation, regulatory frameworks should balance innovation with consumer protection and market stability.

Moreover, policymakers should foster an environment conducive to innovation within affected sectors. This may involve incentivizing research and development, fostering collaborations between traditional companies and technology firms, and promoting investment in technological advancements. Supporting industry stakeholders in adapting to the evolving market landscape influenced by Uber is crucial. Policymakers can facilitate strategic planning by providing resources and guidance, encouraging partnerships, and promoting initiatives aimed at enhancing competitiveness. Continuous monitoring of market dynamics within affected sectors is essential for policymakers. Regular assessments of market performance can help identify emerging challenges and opportunities, enabling policymakers to adjust regulatory frameworks accordingly to ensure market efficiency and stability.

Furthermore, prioritizing consumer protection measures is paramount. Policymakers should implement regulations to ensure fair competition, safeguard consumer rights, and address issues related to safety, privacy, and accessibility in sectors where Uber operates. Overall, policymakers must consider these implications to effectively respond to the challenges and opportunities posed by Uber's presence in the Asia Pacific region. By doing so, they can promote innovation, competitiveness, and market stability across affected sectors.

## Use of AI tools declaration

The author declares they have not used Artificial Intelligence (AI) tools in the creation of this work.

## Conflict of interest

The author declares no conflicts of interest in this work.

## Data availability

The data that support the findings of this study are available in figshare at https://figshare.com/s/9ebd3b337a2edf29c132. These data were derived from the following resources available in the public domain: https://crunchbase.com.

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