

Assessing the Role of Islamic Calendar Anomalies: Qualitative Perspective of Pakistani Investors

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Abstract

This research aims to explore the perceptions of investors regarding Islamic calendar anomalies and their influence on investment decisions within the Pakistan Stock Exchange. To achieve this, the study employs a qualitative methodology involving 10 face-to-face structured interviews with brokers at the Pakistan Stock Exchange (PSX). The findings indicate that investors are not only aware of Islamic calendar anomalies but also actively consider them when making financial decisions, particularly during the months of Muharram, Safar, Ramadan, and Zil Hajj. Notably, Ramadan is identified as having the most significant positive impact on trading patterns, as many investors believe it to be a month of blessings, which influences their trading behavior. In contrast, the month of Safar is perceived negatively, with many investors choosing to avoid investments during this period due to prevailing cultural beliefs. Additionally, the study highlights the important role of investor sentiment in shaping price movements of stocks and trading behavior, highlighting the interplay between psychological factors and market dynamics. The implications of this research extend to both investors and market practitioners, as it provides valuable insights into how awareness of Islamic calendar anomalies can inform the strategies of investment, optimize the trading decisions, and enhancing the risk management practices in the context of the Pakistani financial market.

Keywords: *Ramadan, Anomalies, Sentiments, Bearish effect, Bullish effect, Stock return, Abnormal Gain.*

1. Introduction

The Efficient Market Hypothesis (EMH) initially found broad support in financial research which suggests that market prices reflect all available information, making it impossible to consistently achieve the abnormal profits. However, over time, numerous studies have identified market irregularities or "anomalies" that challenge the validity of EMH (Jensen, 1978). These anomalies manifest in various forms which include time-specific variations, such as differences in stock returns at different times of the day (Ariel, 1987; Harris, 1986), across different days of the week (Brooks & Kim, 1997; Jaffe & Westerfield, 1985), and between the different months

(Gamble Jr, 1993; Gultekin & Gultekin, 1983). In particular, monthly calendar anomalies have been a consistent focus of research which show patterns where returns in specific months, such as January, tend to be significantly higher than in others. While much of the early research on calendar anomalies concentrated on developed markets like the United States and the United Kingdom, recent studies have extended this analysis to emerging markets by including those in Muslim-majority countries like Pakistan (Ali & Akbar, 2008; Rafique & Shah, 2012; Zafar et al., 2010). The occurrence of calendar anomalies has been linked to various factors which include tax policies (Dbouk et al., 2013), institutional frameworks within the market (Hepsen, 2012), trading mechanisms (Fama & Blume, 1966), cultural influences (Chan et al., 1996). Consequently, calendar anomalies can differ significantly across countries due to these diverse influences. For countries like Pakistan, the examination of calendar anomalies especially those related to the Islamic calendar provides valuable insights into how cultural and religious factors shape the behavior of market. Given that over 97% of the population of Pakistan is Muslim, Islamic calendar events can have a profound impact on sentiment of investment and market dynamics which make the analysis of such anomalies particularly relevant. The Islamic calendar, unlike its Gregorian counterpart, is a lunar-based system that consists of 12 months but only 354 or 355 days in a year which makes it approximately 11 days shorter than the Gregorian calendar. This results in Islamic months, and significant religious observances which shift slightly each year when viewed from a Gregorian perspective (Halari, 2014). The lunar months consist of either 29 or 30 days, with the start and end determined by the sighting of the crescent moon, known as the 'Hilal.' The 12 months of the Islamic calendar include Muharram, Safar, Rabiul Awwal, Rabiul Thani, Jamatul Awwal, Jamatul Thani, Rajab, Shaban, Ramadan, Shawwal, Zil Qa'ad, and Zil Hajj. These months are marked by significant religious and cultural events, for instance, Ramadan, Hajj, and Muharram, which can strongly influence economic and investment activities in Muslim-majority countries.

This research study aims to examine the impact of the Islamic calendar anomaly on Pakistani investors. This research has the following contributions. Firstly, it broadens the existing literature on Islamic calendar anomalies by incorporating qualitative insights into investor sentiment and decision-making processes by addressing a gap in previous research that predominantly relies on quantitative methods (Husain, 1998; Al-Ississ, 2010; Al-Khazali, 2014). By exploring the qualitative dimensions, this study provides a more nuanced understanding of how religious events impact the stock market behaviors and investor attitudes. Secondly, this research specifically examines the Pakistani investors' perspectives by adding a cultural dimension that has been underexplored in previous studies. By focusing on Pakistan, the study reveals how cultural and religious contexts influence the investment decisions during Islamic calendar months which contributes to a more culturally informed view of market behavior associated with events like Ramadan, Zil-Hajj, and Muharram. Lastly, this study contributes methodologically by employing a qualitative approach through face-to-face interviews with investors which allows for an in-depth exploration of their perceptions and behaviors during Islamic calendar months. This approach provides rich, firsthand insights into how religious and cultural factors shape investment decisions

which offers a more comprehensive perspective on Islamic calendar anomalies than quantitative methods alone.

The structure of the paper is organized as follows: Section 2 reviews the existing literature on calendar anomalies and their effects on stock markets, with a focus on Islamic calendar anomalies. Section 3 discusses the methodology employed in this research which includes the qualitative approach and data collection through interviews. Section 4 presents the findings and analysis, followed by Section 5, which concludes with the implications of the study and suggestions for future research directions.

2. Literature Review

Various studies have explored the relationship between the sentiment of an investor and stock market anomalies which emphasize how emotional responses can drive the behaviors of the market. Investor sentiment has long been recognized as a key factor influencing investment decisions (Clark & Isen, 1982; Gardner & Vandersteel, 1984). Among the early empirical studies, Saunders (1993) demonstrated that sunny weather corresponded with higher stock returns on the NYSE, while cloudy days were associated with more moderate returns. Hirshleifer and Shumway (2003) extended this research by examining data from 26 countries between the years 1982 and 1997 which confirm that sunshine was positively correlated with stock returns across international markets. Their findings highlighted how mood can significantly affect the behavior of investors and stock market performance. Edmans et al. (2007) further explored how investor sentiment which is influenced by national sports events, affected stock markets. They documented that after a country's loss in major tournaments, such as the Soccer World Cup, stock markets typically experienced a next-day abnormal return of -0.49%. This pattern was also observed following losses in rugby, cricket, and basketball which suggest that emotional reactions to sporting events can create temporary market inefficiencies, which could be attributed largely to mood-driven investment behavior.

In the context of Pakistan, Husain (1998) focused on Islamic calendar anomalies by analyzing daily stock prices from 1989 to 1993. Using a symmetric GARCH model, he found that volatility in the Karachi Stock Exchange (KSE) decreased during the month of Ramadan, although the reduction was not statistically significant. Building upon Husain's findings, Mustafa (2008) expanded the scope by analyzing the KSE-100 index from the year 1998 to 2004 and including five additional Islamic months. These results indicated that while there was no significant "Ramadan effect," there were positive returns in the months following Ramadan (Shawwal and Zil Qa'ad), alongside a continued decline in the volatility of stock market during Ramadan. A broader analysis by Al-Ississ (2010) examined the impact of Islamic religious events on stock market indices and trading volumes in 17 Muslim-majority countries over a 20-year period (1988-2008). His research revealed that Ramadan had a consistent positive effect on stock returns, while Ashoura was linked to negative returns. Moreover, trading volumes declined by 0.33% on average during Ramadan. Similar results were found by Al-Hajieh, Redhead, and Rodgers (2011), who

reported higher mean returns during Ramadan in Egypt, Jordan, Kuwait, and Turkey as compared to other months, from 1992 to 2007.

Consistent with Husain's work, Seyyed et al. (2005) found no significant change in mean returns during Ramadan in the Saudi Arabian stock market, but they observed a decline in volatility, further reinforcing the idea that Islamic calendar months can influence the dynamics of the market. While these studies offer valuable quantitative insights into the effects of Islamic calendar anomalies, they neglect the subjective and emotional dimensions of investor behavior. As Abdul Rehman and Masood (2012) argue, that the emotional significance investors attach to Islamic months plays a pivotal role in shaping the anomalies of markets, yet this aspect remains underexplored. This study aims to fill that gap by adopting a qualitative approach through interviews with investors which provide a nuanced understanding of how investor sentiments during Islamic months influence the performance of the market.

By shifting the focus from quantitative metrics like stock returns and trading volumes to the qualitative experiences of investors, this study contributes to the growing field of behavioral finance, particularly within the Islamic economies. It seeks to provide a richer, more comprehensive understanding of how cultural factors and emotions influence the anomalies of the stock market during Islamic calendar months, expanding the literature on Islamic finance and behavioral market theory.

3. Research Methodology

This research employed a qualitative methodology, following the foundational principles outlined by Glaser and Strauss (2017), which emphasize systematic, data-driven analysis to generate insights directly from participants' perspectives. Following this methodology, this study employed structured face-to-face interviews with the PSX brokers in an attempt to understand their perceptions and actions regarding the Islamic calendar anomalies in the investment process. The study used interviews which were conducted with 10 active brokers, and the interviews were based on the awareness of the brokers concerning the anomalies in the stock market with special emphasis on the months of Muharram, Safar, Ramadan, and Zil Haj. The interview questions asked the background information on the brokers and specific case-oriented questions to understand the brokers' views on these calendar effects and how they impacted their trading based on investors' behaviors. All the interviews were conducted with the approval of the participants, and they were given identification numbers to maintain their anonymity (Saunders & Kitzinger, 2015). The digitally recorded interviews were transcribed and analyzed in two phases. First, the notes taken by the researcher during the interviews were reviewed to extract key themes and insights. These themes were then cross-referenced with the transcriptions to ensure accuracy and consistency (Gill & Baillie, 2018). Following the transcription process, an Excel sheet was employed to systematically document the responses of each participant. This allowed for the identification of prominent trends, common viewpoints, and any contradictions in the responses. The study aimed to explore not only the knowledge of the brokers of Islamic calendar anomalies but also their

perceptions of how the sentiment of an investor contributes to observable patterns in the prices of stocks during specific months. Special attention was given to the month of Ramadan, as it was reported to exhibit the most significant changes in the behavior of the market. The voluntary consent of all the participants and the security of their responses was ensured in line with ethical practices (Arifin, 2018).

4. Data Analysis

The purpose of this study is to analyze the relationship between Islamic calendar anomalies and investor behavior and sentiment in PSX particularly in line with their investing pattern. Several key themes were identified with the data collected from interviews with brokers – the differences in investor sentiment depending on the Islamic months. These themes revolve around four key months: Muharram, Safar, Ramadan, and Zil-Hajj where each month is characterized by certain patterns of trading due to beliefs and practices associated with the holy period. The result highlights how investor actions in the context of the PSX are predicated on these months implying specific trading volume and peculiarity in the market that has a strong correlation with religiosity and calendar effects.

Theme 1: Ramadan and Positive Sentiment-Driven Trading

The first theme revolves on the month of Ramadan, where all the brokers universally said that was a good feeling in the market. Some investors think that Ramadan is one of the blessed months they receive divine blessings and this is why they invest with confidence. Hearing or reading it makes the market move to the next phase which is a bullish phase that generates a higher volume of trades and provides optimism in the stock market. Interviewee BR08 encapsulated this view by stating:

"Trading in the month of Ramadan has moved positively in the last 5 to 10 years just because people believe that it is a month of blessings, so if we make an investment, it will be blessed from the side of Almighty Allah. On the basis of that reason, the market grows and shows a bullish impact, improving the trading volume."

This upward trend in trading during Ramadan is apparent to show the influence of religion on the behavior of investors and how the month is always associated with increased investor confidence in the market. Interviewees opined that there has been a steady increase in trading activity in the last decade without which it would not have been achievable. This trend implies that religious beliefs have an enormous effect on investor behavior and can propel market activity far beyond conventional financial indicators. Because Ramadan is seen as a period of heavenly benefits, people are more willing to take financial risks, which boosts market confidence overall. Bullish market conditions are further reinforced by psychological and social aspects of this

religious month, such as shared cultural values and communal optimism, which have contributed to the steady rise in trade volume and investor involvement over the last ten years. The way that faith and money interact serves as an example of how non-economic elements might affect market dynamics more broadly.

Theme 2: Safar and Cautionary Investment

In contrast, the month of Safar is marked by negative sentiment, with investors avoiding or reducing their investments. Safar is traditionally viewed as a month of bad luck or misfortune in the Islamic culture, and this perception strongly influences the behaviour of an investor. Brokers indicated that due to these cultural beliefs, investors often choose to withdraw or withhold their investments during the month of Safar which leads to a reduction in trading activity and a bearish market trend. According to BR02:

“It is a normal trend from the last 10 years that investors reduce their investment in this month because they consider that it is the month of difficulties, so that’s why they leave their investment from the Pakistan stock exchange, which reduces trading volume and causes a bearish market.”

The respondents underlined how these fears, which are motivated by religion, have a big influence on economic trends. Due to their collective opinion that Safar is an inauspicious month, investors decide to reduce their trading activity, which has a discernible impact on the performance of the stock market. The extent to which cultural and religious beliefs can impact financial decisions is demonstrated by this decline in activity. It draws attention to the wider relationship between non-economic elements, such as religious feeling, and market dynamics, demonstrating how these attitudes can lead to brief drops in trading even when conventional financial indicators would indicate otherwise.

Theme 3: Muharram and Emotional Withdrawal

The month of Muharram, particularly significant for the Shia Muslim community due to the historical and religious mourning of Imam Husain’s martyrdom at Karbala which presents another instance where religious sentiment strongly affects the market activity. Brokers noted that investors, especially those from the Shia community, tend to freeze their trading activities during Muharram as they focus on religious observances and mourning rituals. This emotional withdrawal from the market leads to reduced trading volumes which causes a bearish trend. Interviewee BR03 observed:

“In the first month of the Islamic calendar, Muharram, the stock market does not perform well. The reason behind the bearish impact is simple: the Shia community of Pakistan is busy in

their prayers and mourning over the tragic incident of Karbala, so they freeze their investments and resume them afterward, causing a drop in trading volume."

The stock market usually has a negative effect during Muharram, the first month of the Islamic calendar, since a sizable section of the investor base, especially the Shia community in Pakistan, lowers their market activity. The community's emphasis on religious observances and grieving over the tragic events in Karbala is blamed for this drop in trade. This set of investors frequently decides to freeze or withdraw their holdings during this period, which results in a brief decline in trading activity and underperformance of the market. This pattern demonstrates how cultural and religious customs can have a significant impact on market behavior. The choice to abstain from trading during such a time of religious significance is indicative of the strong emotional and social bonds that shape financial choices. When a significant portion of the population collectively pulls out of investments, it sets off a ripple effect that causes a decline based more on sentiments related to culture and religion than on economic realities. This perspective emphasizes how Pakistani financial markets, especially around Muharram, are influenced by seasonal religious traditions in addition to economic considerations, which can cause market performance to fluctuate.

Theme 4: Zil-Hajj and the Pilgrimage Effect

The final theme focuses on Zil-Hajj, the month of the Hajj pilgrimage, during which many investors temporarily halt their financial activities to perform the religious obligations. As many Muslims travel for the pilgrimage, the market experiences a decline in trading activity, as investors become preoccupied with their spiritual duties. Brokers emphasized that this annual event typically results in a slowdown in the performance of market which leads to a bearish trend. Interviewee BR05 explained:

"The Pakistan stock market shows a bearish pattern in the last month of the Islamic calendar because of Hajj. Investors stop their investing activities in this month, leading to downward trends in the trading volume of the Pakistan Stock Exchange."

This theme highlights how the Hajj pilgrimage, a significant religious duty, creates a temporary lull in market activity as many investors prioritize their religious responsibilities over their financial engagements. Thus, the study provides strong evidence that Islamic calendar anomalies significantly influence the sentiment and trading behaviour of an investor in the PSX. The impact of religious beliefs on investment decisions is most evident in months like Ramadan, Safar, Muharram, and Zil-Hajj, where the actions of investors are shaped by cultural and spiritual considerations which leads to varying market trends. This insight contributes to the broader understanding of how non-economic factors, such as religion and sentiment, can affect financial markets in Islamic countries.

5. Discussion

In this study, the impact of anomalies of the Islamic calendar on investor sentiment and trading behavior in the Pakistan Stock Exchange (PSX) was examined. The findings reveal that cultural beliefs and religions associated with certain Islamic months significantly influence the market patterns which lead to distinct trading behaviors. These results are consistent with previous research which reinforces the idea that non-economic factors, such as religion and cultural beliefs, play an important role in shaping the behavior of an investor in Islamic financial markets. The influence of Ramadan on market behavior is one of the most prominent findings of this study. Brokers consistently reported that trading volume increases during this month due to the widespread belief that Ramadan is a month of blessings, and investments made during this period will be divinely rewarded. This finding aligns with earlier research by Al-Ississ (2010), who documented a "Ramadan effect" in stock markets, where the optimism of an investor leads to bullish market behavior and higher trading volumes during the holy month. Similarly, Białkowski et al. (2012) found that Islamic stock markets experience lower volatility and higher returns during Ramadan, as the atmosphere of spiritual reflection and positive sentiment reduces risk-taking and promotes a more optimistic outlook. This study adds further evidence to the existence of this "Ramadan effect," which emphasizes the role of religious sentiment in driving positive market performance during this period.

In contrast, the findings related to Safar suggest that negative sentiment influences trading behavior, as investors are cautious about making investments during this month due to the belief that it is a time of bad luck and misfortune. Previous studies have not extensively examined the effect of Safar on financial markets, but the findings of this study are consistent with the broader literature on the impact of the sentiment of an investor on stock market behavior. For instance, Baker and Wurgler (2007) emphasized the importance of sentiment in financial decision-making which suggests that investor sentiment can cause markets to deviate from fundamental values. In the context of Safar, the culturally embedded belief in misfortune during this month can create a pessimistic outlook among investors which results in reduced trading activity and bearish market trends. This study provides valuable insights into how specific cultural beliefs, like those associated with Safar, shape the sentiment of investors and trading behavior in Islamic markets.

The findings related to Muharram also demonstrate the impact of emotional and cultural factors on trading behavior. Muharram is a month of mourning for the Shia Muslim community due to the historical tragedy of Karbala which led many Shia investors to withdraw from the market during this period. This phenomenon supports the concept of "cultural holidays" which influence market behavior, as noted by studies such as that by (Frieder & Subrahmanyam, 2004), who found that trading activity tends to decrease during major holidays or events that hold cultural significance. The emotional attachment associated with Muharram, similar to holidays in other cultures, leads to a temporary suspension of financial activity which causes a drop in the performance of the market. This finding is consistent with studies that highlight the role of

non-market factors, such as religious observance, in shaping market trends. Similarly, the impact of Zil-Hajj on market behavior, where trading volumes decrease as investors travel to perform the Hajj pilgrimage aligns with previous research on the effects of significant religious events on financial markets. Studies have shown that religious festivals and pilgrimages can influence the liquidity of market and trading patterns, as large portions of the population disengage from economic activities to focus on spiritual obligations (Al-Hajieh et al., 2011). The drop in trading volume during Zil-Hajj, as reported in this study, mirrors these findings which suggests that religious duties, such as Hajj, play a significant role in reducing market activity.

5.1 Theoretical and Practical Contributions

Therefore, this research aims at filling the above-mentioned research gap in the area of anomaly related to the Islamic calendar from a qualitative perspective. Unlike other forms of research that tend to rely on quantitative data, this research draws attention to the qualitative aspects of investors' experiences and perceptions. Compared with mainstream cultural and religious research in finance, the present study pays more attention to the investor psychology and social interactions, thus gaining a more comprehensive interpretation of the impact of cultural and religious factors on financial choices. It also brings out the necessity of how anomalies are related to other more general economic factors.

The findings of this study provide several actionable insights for investors in the Pakistani stock market, particularly regarding their trading strategies and investment decisions in relation to Islamic calendar anomalies. The month of Ramadan emerges as a highly favorable month for making investments. Therefore, investors are encouraged to time their purchases during Ramadan to capitalize on the typical uplift in prices and trading volume. By strategically investing during this month, investors can position themselves to achieve significant risk-adjusted profits which leverage the favorable sentiment and heightened market activity. In contrast, Muharram is viewed as a period where trading volumes decline due to the emotional and spiritual significance of the month for the Shia community. This insight suggests that investors should exercise the caution and potentially avoid substantial investments during Muharram, as the bearish sentiment may lead to lower trading volumes and decline in prices. Similarly, the month of Safar is perceived negatively by investors, with many choosing to refrain from investing due to its association with the difficulties. Investors should be aware of this sentiment and adjust their trading strategies accordingly, possibly by reducing their exposure to the market during this month to avoid potential losses.

5.2 Limitations and Future Directions

This study, while offering valuable insights, is not without its limitations. First, the sample size was limited to 10 face-to-face interviews with brokers. While this provided a deep understanding of investor perceptions, it may not fully represent the views of a broader investor base across Pakistan. Additionally, this study focused primarily on qualitative data, which, while rich in detail, may lack the generalizability of quantitative findings. The reliance on self-reported

data in interviews also presents the possibility of biases, for instance, social desirability bias, where respondents might have tailored their answers to appear more knowledgeable or align with perceived norms. Furthermore, the study only explored Islamic calendar anomalies within the context of Pakistan's stock market which limit the potential for cross-country or global comparisons. Future research could also adopt a mixed-methods approach by combining qualitative interviews with quantitative data analysis to validate and complement the insights gained from investor perspectives. Additionally, cross-country comparisons could be made to assess whether Islamic calendar anomalies impact the stock markets in other predominantly Muslim countries similarly. Finally, future studies could explore how technological advancements, such as algorithmic trading and AI, might mitigate or amplify the effects of investor sentiment and calendar anomalies in modern financial markets.

6. Conclusion

This study contributes to the literature by addressing a gap in existing research on Islamic calendar anomalies, particularly from a qualitative perspective. The study also indicates that the majority of the investors possess knowledge of Islamic calendar irregularities inferring that the irregularities influence stock prices and volumes particularly in certain months including Muharram, Safar and Ramadan and Zil Hajj. But some participants observed that other macroeconomic factors such as political environment, inflation, and rates also influence markets more than calendar anomalies. Another significant area identified was investor sentiment where issues to do with emotion and psychology were brought into light concerning investment decision making. This study therefore contributes to the existing literature on how Islamic calendar anomalies combined with investors' sentiments can affect the markets.

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