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Religious festivals and stock market returns: Evidence from south Asian countries

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ABSTRACT

This study examines the impact of major religious festivals on stock market returns across five countries in South Asia - Bangladesh, India, Nepal, Pakistan, and Sri Lanka - to assess how cultural factors influence stock market behavior. Religious traditions are deeply embedded in South Asian societies and significantly shape economic behavior and investor sentiment, creating potential market anomalies during culturally significant periods. Utilizing a comprehensive dataset and exploring Ordinary Least Squares (OLS), GARCH (1,1), and GJR-GARCH (1,1) methods, the seasonality of returns during key religious periods in South Asia has been analyzed. The results reveal significant favorable abnormal returns during the last ten days of Ramadan in Bangladesh and, to a lesser degree, in Pakistan. In contrast, other markets exhibit minimal or insignificant effects during major festivals, such as Diwali, Vesak, and Dashain, suggesting heterogeneous cultural influences on financial market behavior within the region. Our findings suggest that while anomalies related to religious festivals are diminishing, they remain potent in certain markets, particularly in Bangladesh. This research contributes to the literature in the field of behavioral finance by offering a novel, multi-country analysis using long-memory data from largely under-researched emerging markets. The results offer practical implications for investors, regulators, and policymakers in understanding market dynamics driven by religious culture.

Contribution/ Originality: This study provides a unique and comprehensive multi-country investigation of religious festival effects across five South Asian stock markets using cutting-edge econometric models with long-memory data, revealing novel evidence on seasonality in stock returns due to religious festivals in South Asia.

1. INTRODUCTION

There have been numerous empirical studies testing the efficient market hypothesis (EMH). The majority of these studies reveal that calendar-related anomalies weaken the EMH. However, it is claimed that calendar anomalies have disappeared in stock markets of developed countries such as the USA (Plastun et al., 2019). Similarly, Kim & Shamsuddin (2023) analyzed U.S. daily data for the years 1960 to 2013 and suggested that calendar anomalies are fragile and uncertain; investors would rather focus on stock fundamentals. However, empirical evidence shows that anomalies related to religious holidays or calendars are strongly present in emerging and developing country stock markets (Acharya et al., 2024; Hasan et al., 2022; Kayacetin & Lekpek, 2016; Shehadeh & Zheng, 2023).

In line with Sonjaya & Wahyudi (2016) calendar anomalies can be categorized into two types: Religious or cultural festivals related anomalies such as the Ramadan effect (Lobão & Costa, 2022; Seyyed et al., 2005; Sonjaya & Wahyudi, 2016; Wasiuzzaman & Al-Musehel, 2018) Jewish Yum Kippur effect (Frieder & Subrahmanyam, 2004; Kaplanski & Levy, 2010) Chinese new year effect (Chia et al., 2015; Huang, 2017; Yuan & Gupta, 2014) St. Patrick's Day effect (Bai, 2025; Bhana, 1994) and Eastern Halloween effect (Arendas & Chovancova, 2016; Chui et al., 2020; Zarour, 2007) and non-religious calendar related such as January effect (Wachtel, 1942) turn of the month effect (Ariel, 1987) day of the week effect (Cross, 1973).

Religious festivals are particularly important in understanding stock price behavior because they lead to emotions that distort behavioral patterns (Goodell et al., 2023). Religious festivals generate positive psychology that changes believers' moods and attitudes toward risk in buying and selling stocks (Białkowski et al., 2012; Jaziri & Abdelhedi, 2018). Similar to religious festivals, culture also influences stock price behavior, often leading to price clustering (Brown & Mitchell, 2008; Cai et al., 2007; Hu et al., 2016; Lobão, 2024).

The study investigates the influence of major religious festivals on stock market index returns in Bangladesh, India, Nepal, Pakistan, and Sri Lanka. A brief introduction to the major religious festivals studied in this paper is provided.

Ramadan is the most widely celebrated religious festival in the world. It is the ninth month of the Islamic calendar. The beginning and end of Ramadan are determined by the sighting of the crescent moon. Ramadan is characterized by immense religious fervor and a joyful atmosphere among Muslims, as it is regarded as the best time for seeking forgiveness and divine blessings (Al-Ississ, 2010). Ramadan is characterized by increased spending, increased donations, and more time devoted to Islamic rituals (Halari et al., 2015). Fasting and other rituals in Ramadan bring changes in investors' psychology, leading to better health and happiness (Sonjaya & Wahyudi, 2016).

Diwali or Deepavali is the largest Hindu religious festival in India. This festival occurs in October and November every year. People decorate their houses with lights during Diwali (Kedia, 2016). According to the Hindu religion, Diwali means lightness that drives away darkness from the lives of people. The religious celebration of Diwali leads to increased spending on food, clothing, jewelry, painting, and other items (Srikanth & Ram, 2013).

Dashain is one of the largest Hindu religious festivals. It is the largest religious festival in Nepal. Dashain is also called "Durga Puja."

The rituals and culture of Dashain have impacted commercial behavior and economic activities, with increased buying and selling. Usually, Dashain falls in September or October in some years, and the government of Nepal declares a weeklong holiday (Bhattarai, 2024).

Vesak Day, also called Buddha Purnima, is the largest religious festival in Sri Lanka, a Buddhist-majority country. The day is celebrated in commemoration of the Buddha's birthday, religious enlightenment, and nirvana (Chan et al., 1996). The festival is celebrated across Sri Lanka in April or May each year.

As religion is very influential in the culture of South Asian countries, it is expected that the cash flow in and out of stock markets will change significantly on the occasion of religious festivals. Figure 1 and Figure 2 depict the comparison of GDP growth and stock market capitalization in South Asian countries. The rest of the study includes an elaborate review of the literature in section 2, data and methodology are discussed in section 3, results and discussion are provided in section 4, and finally, the conclusion is in section 5.

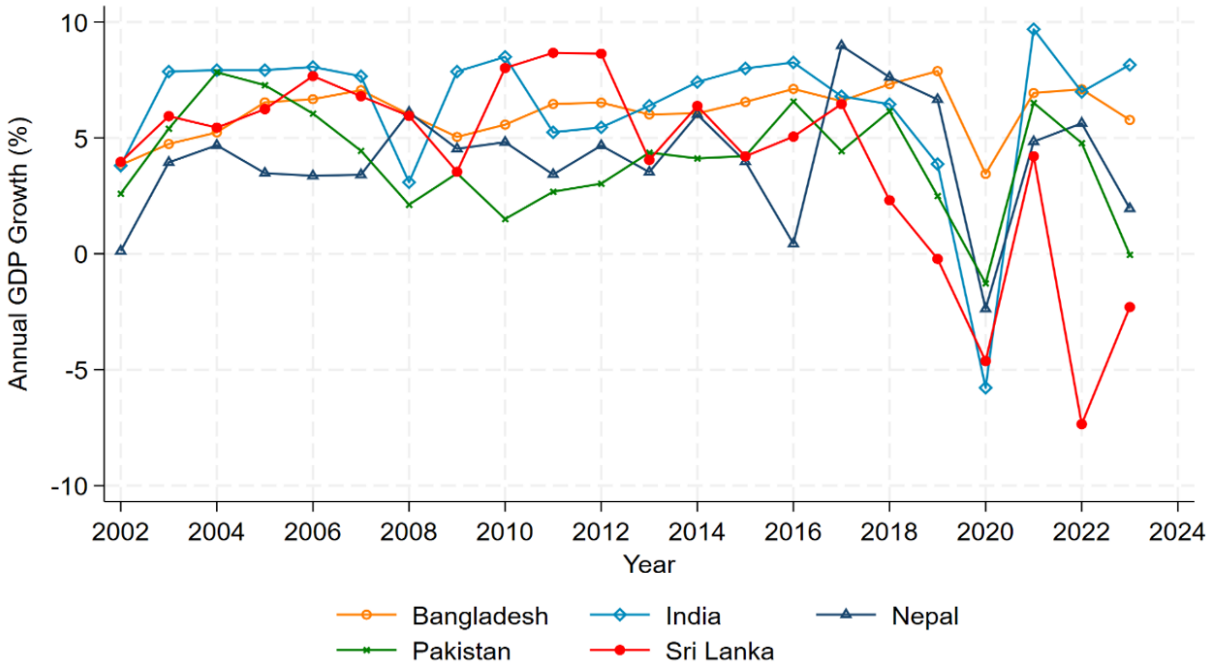

Figure 1. GDP growth (Annual %) in South Asian countries.

Note: Data of this figure is sourced from World Development Indicators.

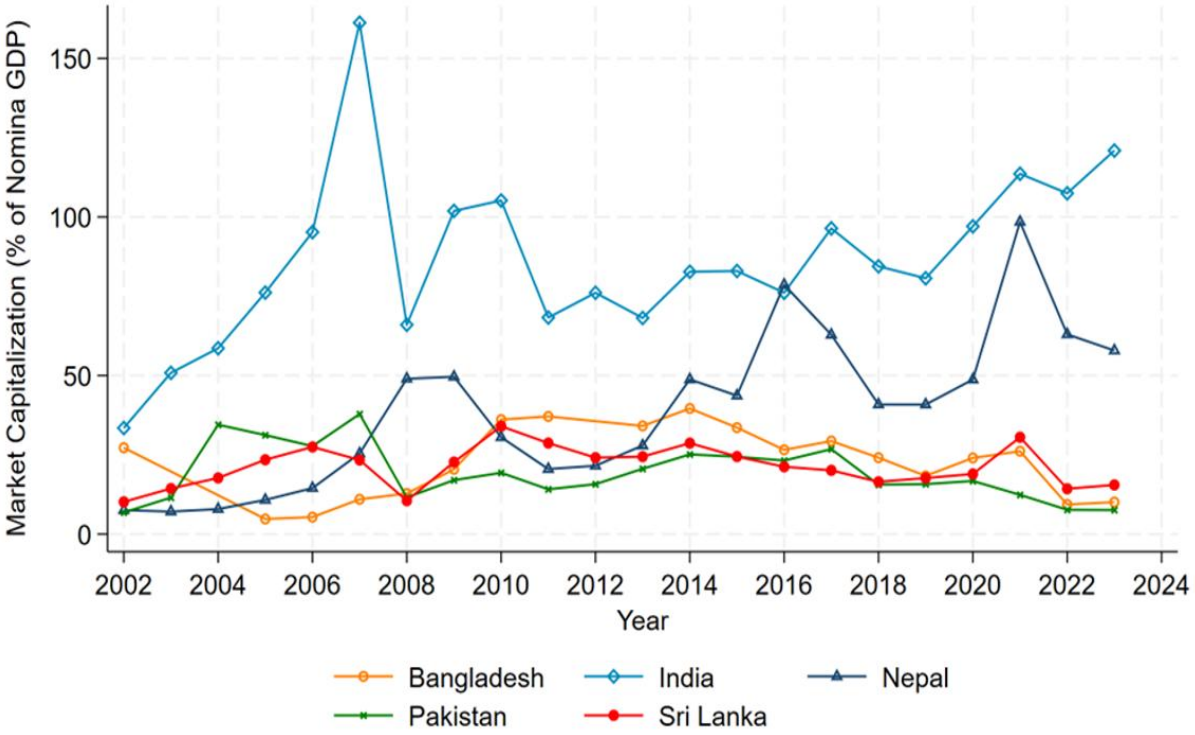

Figure 2. Stock market capitalization in South Asian countries.

Note: Data of this figure is sourced from World Development Indicators.

2. LITERATURE REVIEW

A review of the relevant studies is presented in this section. Białkowski et al. (2012) investigated anomalies in stock returns during the holy month of Ramadan, considering fourteen Muslim-majority countries for the period from 1989 to 2007. They applied a pooled OLS regression method, a fixed effects panel, and a seemingly unrelated

regression method. The findings reveal a significant Ramadan effect; specifically, the mean annualized return during Ramadan is nine times higher than the average annualized return in the rest of the months in the Islamic calendar. Chan et al. (1996) concluded that cultural and religious holidays affect stock returns more than state-declared holidays. They investigated stock markets in China, Singapore, Malaysia, and Thailand. Using OLS regression analysis, they showed that the Chinese New Year, Islamic New Year, Indian lunar holidays, and Vesak effects are significant. Sonjaya & Wahyudi (2016) examined the effect of Ramadan on the stock market return in ten Muslim-majority countries. They tested the weak form of efficiency of the sample countries' stock markets using autocorrelation tests and then used the event study abnormal return test and cumulative abnormal return (CAR) to conclude the effect of Ramadan on stock returns. Their findings revealed that while some countries' stock markets have a persistent presence of the Ramadan effect, other countries do not, even considering the economic crisis. Al-Khazali et al. (2017) studied the effect of religious practice on the stock market and investor behavior in fifteen Islamic countries beginning from 31 December 2005 to 31 December 2015. They divided the total sample period into four sub-periods based on the financial crisis and the Arab Spring. Using the ARMAX-GARCH model, their study suggests that during Ramadan, the mean return is higher, and the standard deviation of returns is lower than in non-Ramadan months. Zakaria et al. (2023) examined the effect of the Hungry Ghost Festival (HGF) on stock market returns and volatility in five Asian countries for the period January 2011 to December 2020. Applying the OLS regression approach and GJR-GARCH (1,1) framework, their findings disclosed that HGF affects the returns and volatility of stock markets in nations with a significant Chinese population. Brown et al. (2002) investigated the effects of culture on price clustering in stock markets in Asia-Pacific countries. They aimed to uncover the effect of Chinese cultural superstition on the tendency for prices to cluster around certain numbers. According to Chinese culture, some numbers are considered unlucky and are avoided. For example, 4 is such a number because it sounds like the word for "to die" in Chinese. Using the binomial logit method on six Asia-Pacific stock markets, three of which have a dominant Chinese population, they found that only the Hong Kong stock exchange shows the influence of Chinese culture on price clustering. Similarly, Lobão (2024) examined the cultural effect of price clustering in an Islamic context. The study included stock markets in Malaysia, Indonesia, and Pakistan. Using multivariate binary logistic analysis, they showed the existence of mild-level price clustering in Islamic stocks. In the case of half of the stocks, the uniformity of the distribution of prices is rejected because of the preference of investors for stocks with prices ending in five and zero. This work showed evidence of some level of behavioral pattern in Islamic stocks, despite Islamic law discouraging speculation and unjustified risk-taking. Chong et al. (2005) tested the existence of the pre-holiday effect in the U.S., U.K., and Hong Kong markets. The findings showed that the pre-holiday effect has declined in general, significant only in U.S. markets. However, there are reversals of the pre-holiday anomalies. They argued that the possible reason for the reversal is that some traders still try to exploit the anomaly that no longer exists; however, this behavior produces a new anomaly, which is the reverse of the original one.

One particular form of abnormality in the stock market is herding. Herding in the stock market is a phenomenon where investors behave similarly as a result of a homogeneous element in their environment. For example, relative homogeneity (Teh & De Bondt, 1997) and style investing (Bennett et al., 2003). Gavriilidis et al. (2016) demonstrated that positive mood due to Ramadan leads to herding behavior in stock markets. With a sample of seven Muslim countries' stock markets, their findings reveal that most of the markets exhibit significant herding during Ramadan.

Like Ramadan, Hajj is one of the five pillars of the Muslim religion. Hajj significantly changes the mood and emotions of the believers of Islam. Abbes & Abdelhédi-Zouch (2015) investigated the link between Islamic Hajj and stock market returns in Saudi Arabian stock markets through its impact on investor sentiment. According to Islam, the Hajj ritual brings believers of Islam closer to Almighty Allah; therefore, it is assumed that Hajj favorably influences investors' emotions and makes investors more optimistic. Using daily prices of eighty-six Islamic stocks

listed on the Tadawul stock exchange over the period from 2007 to 2013, the study concluded that investor sentiment is significantly higher after the Hajj ritual than before the Hajj. In contrast to the optimistic investor sentiment toward Ramadan, several studies support the pessimistic effect of Ramadan on stock prices and volatility (Iqbal et al., 2013; Zhu, 2015). In the case of Bangladesh, Hassan & Kayser (2019) found no significant effect of Ramadan's impact on stock return and volatility in the Dhaka Stock Exchange (DSE) has been studied, revealing a significant adverse effect of Ramadan on daily trading volume in DSE. However, there are limited studies investigating the effects of Diwali, Vesak, and Dashain on stock return and volatility in countries such as India, Sri Lanka, and Nepal. Agarwal et al. (2019) found no evidence of the Diwali effect on Indian stock markets either post or pre-holiday period. However, they showed the New Year post-holiday effect in India. Consistent with Agarwal et al. (2019) and Srikanth & Ram (2013) provided the same opinion of no significant Diwali effect (-10 days, +10 days) using the non-parametric Wilcoxon test. The results from the run test showed that abnormal returns are random in stocks constituting the BSE-100 index. In contrast, Sing & Singh (2025) found a significant November effect with the highest returns among all months of the year in Indian stock markets over the study period from 1999 to 2015. They claim the celebration of Diwali across India is a major reason for this anomaly.

However, there have been very few efforts made in the literature on the effects of the religious calendar on stock returns and volatility, especially in South Asian stock markets. The study extends the literature on seasonality in stock markets by investigating fast-growing South Asian stock markets, which, despite the possibility of influence from religious festivals, have received insufficient attention.

3. DATA AND METHODOLOGY

This study utilizes the daily stock index returns data of five South Asian countries, including Bangladesh (Dhaka Stock Exchange Broad Index), India (NIFTY 500 Index), Nepal (Nepal Stock Exchange Index), Pakistan (KSE 100 Index), and Sri Lanka (All Share Price Index). Figure 3 illustrates the stock index price and return series. The study considers only the major religious festivals in South Asia. The names of the festivals, sample period, and effect window are displayed in Table 1. To conduct this study, the following steps have been applied.

Step 1: Index return calculation. The daily returns (Rt) are calculated from the daily closing values of each index as the first differences in the natural logarithms. Equation 1 shows the formula.

$$R_t = ln\left(\frac{C_t}{O_t}\right) \times 100 \quad (1)$$

Where C_t is the closing value of an index at time t, and O_t is the opening value of the index at time t. A huge proportion of studies in the literature have applied dividend non-adjusted returns (Ariss et al., 2011; Hassan & Kayser, 2019; Kinateder et al., 2019; Lobão & Costa, 2022; Munusamy, 2018; Shehadeh & Zheng, 2023; Wasiuzzaman & Al-Musehel, 2018) therefore, daily returns of indices are not adjusted for dividends to maintain comparability with the extant body of literature.

Step 2: Summary statistics. A summary of statistics that describe the data, including mean, standard deviation, minimum, maximum, skewness, and kurtosis of the return series in different time horizons, is provided to gain an initial understanding of the impact of religious festivals on index returns.

Step 3: Diagnostic Test. To avoid spurious regression results, the Augmented Dickey-Fuller (ADF) test is conducted to check for the presence of unit roots in the return series. Additionally, the ARCH effect is tested using the Lagrange Multiplier (ARCH-LM) test (Engle, 1982).

Step 4: Ordinary Least Squares (OLS) Regression. The OLS regression analysis is conducted to show the relationship between index return and festival periods (during the festival period for Ramadan, and in the pre- and post-festival periods for Diwali, Dashain, and Vesak). The OLS model is formulated as in Equation 2.

$$R_t = \beta_1 NonFestivalDays_t + \beta_2 FestivalDays_2 + \varepsilon_t \quad (2)$$

Where R_t is the stock index return at time t, $NonFestivalDays_t$ indicates the days other than the festival of interest, $FestivalDays_2$ is the days of the festival, and ε_t is the error term where $\varepsilon_t \sim N(0,1)$.

Step 5: GARCH (1,1) and GJR- GARCH (1,1) method.

The GARCH model, pioneered by Bollerslev (1986), is the most commonly applied method for modeling volatility. In this study, the GARCH (1,1) model is applied with the following mean and conditional variance equations, as given by Equation 3 and Equation 4.

$$R_t = \alpha + \phi R_{t-1} + \varepsilon_t \quad (3)$$

$$\sigma_t^2 = \lambda_1 NonFestivalDays + \lambda_2 FestivalDays + \alpha_1 \varepsilon_{t-1}^2 + \beta_1 \sigma_{t-1}^2 \quad (4)$$

Where R_t is the stock index return at time t, $NonFestivalDays_t$ indicates the days other than the festival of interest, $FestivalDays_2$ is the days of the festival, ε_t is the error term where $\varepsilon_t \sim N(0,1)$.

The important limitation of the GARCH model is that it applies a symmetric response of volatility to both favorable and adverse news. It is commonly viewed that the magnitude of volatility in response to positive and negative shocks differs (Brooks, 2019). The GJR-GARCH model (Glosten et al., 1993) is an extension of the GARCH model that accounts for potential asymmetries in volatility. The study employs the non-linear GJR-GARCH (1,1) model to address Autoregressive Conditional Heteroscedasticity (ARCH) and volatility clustering in stock market returns. The conditional variance is described by Equation 5.

$$\sigma_t^2 = \lambda_1 NonFestivalDays + \lambda_2 FestivalDays + \alpha_1 \varepsilon_{t-1}^2 + \beta_1 \sigma_{t-1}^2 + \gamma \mu_{t-1}^2 I_{t-1} \quad (5)$$

Where I_{t-1} is assigned the value of 1 (adverse shock) for $\mu_{t-1} < 0$, and 0 otherwise. So, favorable shock and adverse shock have different effects. Favorable shock or positive news has an impact of β while adverse shock or negative news has an impact of $(\beta+\gamma)$. For asymmetry or leverage effect, $\gamma > 0$. The condition of non-negativity in the GJR-GARCH (1,1) model are $\alpha_1 > 0$, $\beta \geq 0$, and $\alpha_1 + \lambda \geq 0$.

With the purpose of depicting stronger evidence of the religious festival anomalies, the GJR-GARCH (1,1) model has been estimated with the conditional mean equation, adding a constant term. Equation 6 shows the formula.

$$R_t = \alpha + \lambda_1 NonFestivalDays + \lambda_2 FestivalDays + \varepsilon_t \quad (6)$$

Where R_t is the stock index return at time t, α is the constant term, $NonFestivalDays_t$ indicates the days other than the festival of interest, $FestivalDays_2$ is the days of the festival, ε_t is the error term where $\varepsilon_t \sim N(0,1)$.

Table 1. Effect window of a religious festival.

Country	Stock market	Stock index	Religious festival	Sample period	Effect window
Bangladesh	Dhaka Stock Exchange	DSEX index	Ramadan	January 1, 2002 – June 27, 2024	Ramadan: 1-10 days; 11-20 days; 21-30 days
India	National Stock Exchange of India	NIFTY 500 index	Diwali	March 1, 2005- July 31, 2024	± 10 days
Nepal	Nepal Stock Exchange	NEPSE index	Dashain	January 1, 2003 – July 22, 2022	± 10 days
Pakistan	Pakistan Stock Exchange	KSE 100 index	Ramadan	January 1, 2004 – July 31, 2024	Ramadan: 1-10 days; 11-20 days; 21-30 days
Sri Lanka	Colombo Stock Exchange	ASPI index	Vesak	March 1, 2005 - July 31, 2024	± 10 days

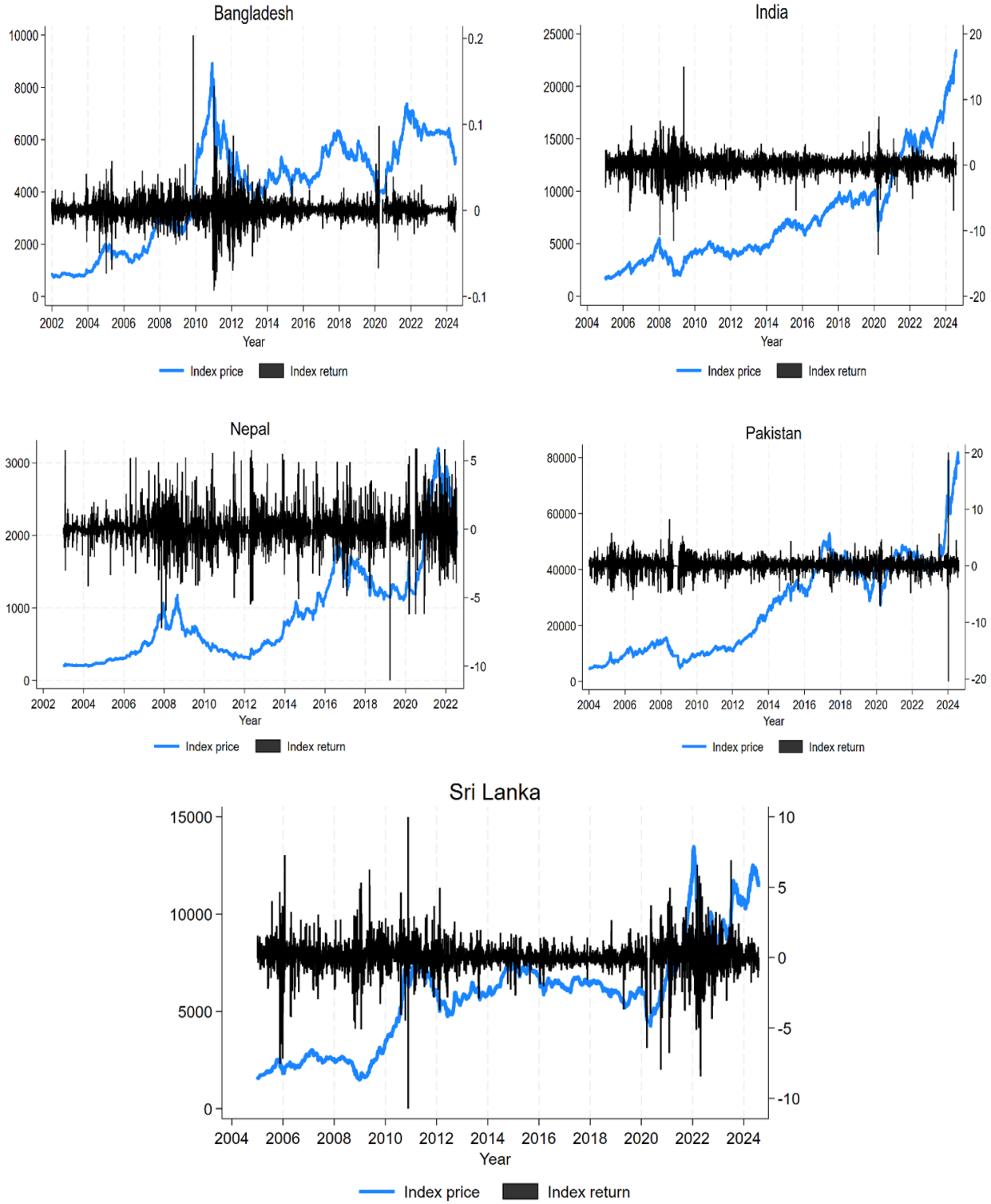

Figure 3. Stock index price and return in South Asian countries.

4. RESULTS AND DISCUSSIONS

4.1. Diagnostic Tests

The diagnostic tables present essential econometric test results for stock market indices across five South Asian countries. Table 2 displays Augmented Dickey-Fuller unit root test statistics, revealing that all stock indices, Bangladesh's DSEX, India's NIFTY 500, Nepal's NEPSE, Pakistan's KSE 100, and Sri Lanka's ASPI are stationary at levels, denoted as I(0). The highly significant test statistics suggest rejection of the null hypothesis of a unit root presence, confirming stationarity without requiring first differencing.

Table 3 presents ARCH LM test results examining heteroscedasticity patterns in the time series. All countries exhibit statistically significant Obs. R^2 values at the 1% level, indicating strong evidence of autoregressive conditional heteroscedasticity (ARCH) effects.

Table 2. Unit root test.

Country	Stock index	Augmented Dickey-Fuller		Remarks
		Level	1st Diff.	
		Test statistic	Test statistic	
Bangladesh	DSEX	(70.221) ***		I (0)
India	NIFTY 500	(64.457) ***		I (0)
Nepal	NEPSE	(57.210) ***		I (0)
Pakistan	KSE 100	(69.235) ***		I (0)
Sri Lanka	ASPI	(56.599) ***		I (0)

Note: *** indicate significance level at 1% respectively.

Table 3. ARCH LM test.

Country	Bangladesh	India	Nepal	Pakistan	Sri Lanka
Obs. R^2	185.696***	260.641***	312.812***	34.928***	199.228***

Note: *** indicate significance level at 1% respectively.

4.2. Descriptive Statistics

Table 4 shows the descriptive statistics of daily index returns. It is noticeable that, except in Sri Lanka, pre-, post-, and during-festival periods have higher mean returns than non-festival periods. In India, the post-Diwali period reports a fourfold higher mean return than the non-festival period, and a threefold higher return than the pre-Diwali period. In Nepal, the pre-Dashain period reports a twofold higher mean return than the non-festival period. During Ramadan, the mean return is more than double the non-Ramadan mean return. However, for Sri Lanka, the post-festival period has a negative return with the lowest standard deviation. The high value of kurtosis (greater than 3) indicates that all index return series follow a leptokurtic distribution, with heavy tails.

Table 4. Descriptive statistics.

Country	Obs.	Mean	Std. dev.	Minimum	Maximum	Skewness	Kurtosis
Bangladesh							
Ramadan	413	0.0730	0.9144	-3.214	3.671	-0.0369	4.750
Non-Ramadan	4,997	0.0314	1.258	-9.330	20.382	0.9431	27.382
India							
Pre-Diwali	208	0.0552	1.452	-11.592	5.991	-2.785	24.492
Post-Diwali	208	0.1696	1.368	-5.727	5.991	0.3556	8.953
Non-Diwali	4,476	0.0498	1.294	-13.706	15.034	-.5308	14.952
Nepal							
Pre-Dashain	170	0.1043	0.9640	-2.996	3.335	-0.3884	5.289
Post-Dashain	171	0.0779	0.9745	-3.791	3.338	0.0611	6.037
Non-Dashain	4,124	0.0467	1.285	-11.027	5.885	-0.1901	5.654
Pakistan							
Ramadan	405	0.1062	1.134	-4.058	3.754	-0.1989	4.891
Non-Ramadan	4,685	0.0518	1.292	-20.464	20.033	-0.4402	31.106
Sri Lanka							
Pre-Vesak	201	0.0696	1.1670	-8.445	5.290	-1.121	20.269
Post-Vesak	201	-0.0033	1.0136	-2.959	6.260	1.840	14.232
Non-Vesak	4,294	0.0439	1.044	-10.732	9.980	-0.5682	15.882

4.3. Ordinary Least Squares Results

Table 5 presents the OLS regression results examining the relationship between religious festivals and stock market returns across five South Asian markets. In Bangladesh, the terminal phase of Ramadan (Days 21-30) demonstrates a statistically significant positive effect on stock returns, while the initial and middle phases show

statistically non-significant negative coefficients. This suggests a distinctive temporal pattern within the Ramadan effect, with market optimism concentrated in the concluding period of the holy month. The non-Ramadan period exhibits a marginally significant positive effect, though substantially smaller in magnitude than the terminal Ramadan effect.

For Pakistan, a similar pattern emerges concerning Ramadan, with the last phase of Ramadan (Days 21-30) yielding significant positive returns, while the non-Ramadan period also demonstrates positive returns. In Nepal, the pre- or post-Dashain period shows no statistical significance. Similarly, in India, the post-Diwali period reveals marginally significant positive returns, while the significant non-Diwali period returns. The Sri Lankan market also exhibits no significant returns exclusively during pre- or post-Vesak festival periods.

Most of the results are consistent with the efficient market hypothesis, wherein systematic calendar-based anomalies should provide a limited effect on returns.

Table 5. OLS regression results.

Variable	Bangladesh	India	Nepal	Pakistan	Sri Lanka
Ramadan (Days:1-10)	-0.0490 (0.1004)			0.0479 (0.1102)	
Ramadan (Days: 11-20)	-0.0516 (0.1008)			0.0188 (0.1045)	
Ramadan (Days:21-30)	0.4047*** (0.1166)			0.2811** (0.1169)	
Non-Ramadan	0.0314* (0.0175)			0.0518*** (0.0187)	
Pre-Dashain			0.1002 (0.0971)		
Post-Dashain			0.0720 (0.0969)		
Non-Dashain			0.0467** (0.0197)		
Pre-Diwali		0.0250 (0.0921)			
Post-Diwali		0.1650* (0.0921)			
Non-Diwali		0.0498** (0.0195)			
Pre-Vesak					0.0748 (0.0759)
Post-Vesak					0.0029 (0.0759)
Non-Vesak					0.0439*** (0.0160)
Observations	5,410	4,854	4,455	5,090	4,675
R-squared	0.0029	0.0017	0.0016	0.0027	0.0018

Note: Standard errors are displayed in parentheses. ***, **, * indicate significance level at 1%,5% and 10% respectively.

4.4. GARCH (1,1) and GJR-GARCH (1,1) Results

Table 6 presents the GARCH (1,1) method results, and Table 7 presents the GJR-GARCH (1,1) method results, which account for conditional heteroskedasticity and leverage effects in the return series. The mean equation results largely corroborate the OLS findings, but with enhanced statistical significance. In Bangladesh, the terminal phase of Ramadan (Days 21-30) continues to exhibit a robust positive effect, while the non-Ramadan period shows a relatively smaller but significant positive return. Similar patterns are observed for Pakistan, with significant favorable returns during the later phase of Ramadan and non-Ramadan periods. For Nepal, significant positive returns are documented during the pre-Dashain period and non-Dashain periods. In India, the post-Diwali period exhibits positive returns, while non-Diwali periods also show significant positive returns. The Sri Lankan market demonstrates significant positive returns during the pre-Vesak and non-Vesak periods. The F Wald test

results are highly significant across all countries, confirming the rejection of the equality of coefficients in the conditional mean equation. This underscores the variability in market responses during different periods.

The variance equation components reveal important insights regarding market volatility dynamics. All five markets exhibit significant ARCH effects (α_1), indicating that past innovations significantly influence current volatility. The GARCH effect (β) is significant across all markets, suggesting strong volatility persistence. This implies that past volatility has predictive power for present volatility. Furthermore, the estimated sum of the ARCH and GARCH coefficients ($\alpha+\beta$) approaches unity, highlighting the persistent nature of volatility shocks in these markets. The asymmetric effect (γ) is also significant across all countries, but with varying signs: positive for Bangladesh, Nepal, and Sri Lanka, and negative for India and Pakistan. A positive γ coefficient indicates that negative shocks induce greater volatility than favorable shocks of equal magnitude, while a negative γ suggests the opposite effect. The findings from the GARCH (1,1) model are mostly consistent with those from the GJR-GARCH (1,1) model, except in the case of Nepal, where the F Wald test result is only marginally significant under the GARCH (1,1) specification.

Table 6. Mean returns of festival and non-festival days, GARCH (1,1) model.

Variable	Bangladesh	India	Nepal	Pakistan	Sri Lanka
Mean equation					
Ramadan (Days:1-10)	0.0016 (0.0649)			0.0674 (0.0800)	
Ramadan (Days: 11-20)	-0.0291 (0.0705)			0.0775 (0.0832)	
Ramadan (Days:21-30)	0.3933*** (0.0898)			0.2711** (0.1075)	
Non-Ramadan	0.0378*** (0.0106)			0.1148*** (0.0132)	
Pre-Dashain			0.1243 (0.0904)		
Post-Dashain			-0.0777* (0.0468)		
Non-Dashain			0.0212* (0.0127)		
Pre-Diwali		0.1420 (0.0885)			
Post-Diwali		0.1392 (0.0852)			
Non-Diwali		0.0803*** (0.0153)			
Pre-Vesak					0.0956* (0.0525)
Post-Vesak					0.0301 (0.0639)
Non-Vesak					0.0540*** (0.0100)
F Wald test	31.95***	33.16***	6.76*	83.45***	32.48***
Variance equation					
Con. (α_0)	-0.0431*** (0.0042)	0.0250 (0.0361)	0.1883*** (0.0156)	-0.0312 (0.0242)	0.0907*** (0.0107)
ARCH effect (α_1)	0.3675*** (0.0140)	0.2974*** (0.0167)	0.6587*** (0.0200)	0.3139*** (0.0160)	0.6030*** (0.0171)
GARCH effect (β)	0.6230*** (0.0080)	0.6770*** (0.0317)	0.2943*** (0.0177)	0.6661*** (0.0264)	0.3681*** (0.0179)

Note: Standard errors are displayed in parentheses. ***, **, * indicate significance level at 1%,5% and 10% respectively.

Table 7. Mean returns of the festival and non-festival days, GJR-GARCH (1,1) model.

Variable	Bangladesh	India	Nepal	Pakistan	Sri Lanka
Mean equation					
Ramadan (Days:1-10)	0.0119 (0.0644)			0.0610 (0.0790)	
Ramadan (Days: 11-20)	-0.0185 (0.0689)			0.0827 (0.0826)	
Ramadan (Days:21-30)	0.3994*** (0.0889)			0.2667** (0.1071)	
Non-Ramadan	0.0482*** (0.0113)			0.1064*** (0.0133)	
Pre-Dashain			0.1534* (0.0860)		
Post-Dashain			-0.0518 (0.0460)		
Non-Dashain			0.0440*** (0.0134)		
Pre-Diwali		0.1326 (0.0872)			
Post-Diwali		0.1392* (0.0842)			
Non-Diwali		0.0678*** (0.0158)			
Pre-Vesak					0.1003* (0.0531)
Post-Vesak					0.0346 (0.0648)
Non-Vesak					0.0586*** (0.0108)
F Wald test	38.36***	23.73***	14.67***	70.99***	33.07***
Variance equation					
Con. (α_0)	-0.0353*** (0.0048)	-0.0379 (0.0377)	0.2078*** (0.0151)	-0.0548** (0.0254)	0.0935*** (0.0107)
ARCH effect (α_1)	0.3475*** (0.0165)	0.3144*** (0.0247)	0.4708*** (0.0304)	0.3249*** (0.0247)	0.5519*** (0.0298)
GARCH effect (β)	0.5978*** (0.0104)	0.7459*** (0.0334)	0.2630*** (0.0164)	0.7013*** (0.0283)	0.3622*** (0.0176)
Asymm. effect (γ)	0.0825*** (0.0227)	-0.0913*** (0.0215)	0.3317*** (0.0359)	-0.0618*** (0.0183)	0.0885*** (0.0298)

Note: Standard errors are displayed in parentheses. ***, **, * indicate significance level at 1%,5% and 10% respectively.

4.5. Robustness Check

Table 8 displays the results of a more robust analysis of the effects of religious festivals on stock market returns. The results show that only for Bangladesh, the mean return of the ending phase of Ramadan is significantly above the mean return of the rest of the year. For India, Nepal, and Sri Lanka, none of the pre- or post-religious festival periods show significantly higher or lower mean returns. For Pakistan as well, none of the phases of Ramadan show significantly higher or lower mean return.

Table 8. Comparison of festival mean return versus rest of the year mean return using the GJR-GARCH (1,1) model.

Variable	Bangladesh	India	Nepal	Pakistan	Sri Lanka
Ramadan (Days:1-10)	-0.0435 (0.0654)			-0.0485 (0.0799)	
Ramadan (Days: 11-20)	-0.0751 (0.0703)			-0.0276 (0.0835)	
Ramadan (Days:21-30)	0.3582*** (0.0904)			0.1622 (0.1079)	
Pre-Diwali		0.0924 (0.0884)			
Post-Diwali		0.0971 (0.0853)			
Pre-Dashain			0.1119 (0.0861)		
Post-Dashain			-0.0946 (0.0475)		
Pre-Vesak					0.0422 (0.0531)
Post-Vesak					-0.0292 (0.0632)

Note: Standard errors are displayed in parentheses. *** indicate significance level at 1% respectively.

4.6. Discussion

The empirical results documented in the study indicate the dissipation of the impact of religious festivals on stock returns in South Asian countries, except in Bangladesh. The findings both corroborate and diverge from the extant literature on the impact of religious festivals on stock market returns (Hasan et al., 2022; Hassan & Kayser, 2019; Kumar et al., 2017; Shrestha, 2022; Sing & Singh, 2025; Srikanth & Ram, 2013; Tan & Özlem, 2018). The pronounced positive effect observed during the terminal phase of Ramadan in Bangladesh diverges from the findings of Hasan et al. (2022), Hassan & Kayser (2019), and Chowdhury & Hasan (2019), who find no abnormality of stock market return during Ramadan. However, this research differs from their works in that they didn't split the total month into three phases, and as a whole, they didn't find any abnormality. However, the significant "Ramadan effect" characterized by abnormal positive returns during the terminal phase may be attributed to elevated investor sentiment and the positivity effect of the Eid-ul-Fitr festival approaches, consistent with the positive mood hypothesis stated by Nofsinger (2005).

The results display that although post-Diwali, pre-Vesak, and post-Dashain effects are only marginally significant, the mean return in these periods is not statistically different from the average return of the rest of the year. Therefore, it can be stated that these major religious festivals in India, Sri Lanka, and Nepal have no significant impact on stock market returns in these countries. These findings in this study corroborate the findings of Shrestha (2022); Kumar et al. (2017); Sing & Singh (2025) and Srikanth & Ram (2013). However, in contrast to Bangladesh, although the effect of the last phase of Ramadan is significant in Pakistan, the mean return does not differ significantly from the mean return of other days.

5. CONCLUSION

This study provides a comprehensive analysis of the effects of major religious festivals on stock market returns across South Asian countries. The research employs the OLS regression technique, GARCH (1,1), and GJR-GARCH (1,1) methods with long memory data to analyze the index return series of five South Asian stock markets. Previous studies have noted significant abnormalities in stock returns during religious festivals in emerging economies.

Notably, the most pronounced effect is observed in the Bangladeshi stock market, where during the final phase of Ramadan, returns are significantly higher than those recorded throughout the rest of the year. In Pakistan, although the last phase of Ramadan has a significant positive return, this return is not significantly greater than the average return for the rest of the year. However, other South Asian markets in the study exhibit minimal festival-related return anomalies.

The findings reveal that post-Diwali, pre-Vesak, and pre-Dashain have marginally significant positive effects. Moreover, returns during these periods are not statistically higher than the mean returns for the rest of the year. The results indicate that the effects of religious festivals on South Asian stock market returns are diminishing, except in Bangladesh. Nonetheless, the study has certain limitations. The analysis focuses only on specific major religious festivals, which may not capture the effects of all religious festivals on stock market returns. The sample is confined to South Asian markets, limiting broader implications. Future research could expand the sample to include more markets and incorporate additional religious and cultural festivals.

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