A Case Study on the Effects of Ramadan on Stock Market Behaviour

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Abstract

This study reviews the effects of Ramadan, which is recognised as a notable religious ritual in the world among Muslims, on stock market behaviour. Based on the review, there is evidence that the effects of Ramadan lead to significantly higher stock market returns but less volatility. However, these results have predominantly been documented in Muslim regions, like Asia and the Middle East, with little attention given to its effects on stock market behaviour in a country, like Nigeria. Moreover, Nigeria is a country where Muslims and Christians are almost equal in number. In addition, in Nigeria, strictly Islamic financial products in the capital market are non-existent, except for the recent listing of an Islamic bank. Therefore, if such a study is carried out, it may help scholars, religious leaders and policymakers to have a better overview of whether or not religiosity plays any role in stock market behaviour, sustainable growth and individuals' financial portfolio determination in a less Muslim dominated country, like Nigeria.

Keywords: Ramadan, stock market, stock returns, volatility, Nigeria

1 Introduction

Religion may be considered as an integral part of people's daily life and their interaction within the society. It provides moral and ethical lessons that make an individual to behave in a specific manner (McCleary & Barro, 2006). For instance, a survey by Pew Research Centre in 2016, shows that for the more religious Americans, the family is their priority; they participate in community development and are generally more satisfied with their environment and wellbeing. Behavioural finance scholars and psychologists are also of the view that religion affects believers' mood, happiness, and risk-taking attitudes (Benjamin, Choi, & Fisher, 2016; Białkowski, Etebari, & Wisniewski, 2012; Kumar, Page, & Spalt, 2011), and hence, influences their financial wellbeing and investment decisions (Guiso, Sapienza, & Zingales, 2003; Leon & Pfeifer, 2017; Renneboog & Spaenjers, 2012). Thus, it can be argued that religious beliefs play a fundamental role in individuals' general financial and economic wellbeing (Gavriilidis, Kallinterakis, & Tsalavoutas, 2016; Klein, Turk, & Weill, 2017; Mazouz, Mohamed, & Saadouni, 2016; Ra, 2016).

There are two dominant religions in the world: Christianity and Islam. Islam has the second highest number of believers and is the fastest growing religion in the world to the extent that it is projected to constitute 70% of the global population by 2060 (Lipka, 2017). Muslims, who are the believers of the Islamic faith, are universally united in terms of belief in one God and the Prophet Mohammed (SAW), as well as in the practice of certain religious rituals. One of such religious rituals is fasting during the sacred month of Ramadan, which is the ninth month of the Islamic lunar calendar (Hijri calendar) and almost 10 - 11 days shorter than the Gregorian calendar. Fasting in the holy month of Ramadan is one of the five key pillars of Islam, mandatory for all adult followers of the Islamic faith, except for those who are weak, suffering from ill health or other permissible reasons (Lai & Windawati, 2017). In fact, several verses in the glorious Quran confirm this (Q2 vs 183 and Q51 vs 21). For instance, Q2 vs 183 of the holy Quran, states “Oh you who believe! Fasting is prescribed to you as it was prescribed to those before you, that you may attain piety”.

Besides fasting between dawn and sunset in the Holy Month, it is also a time for prayers (observing daily obligatory prayers and the Tarawih or Qiyamu-Ramadan), love, self-reformation, and humility, and promoting social awareness and closer relationship with Allah and with other fellow Muslims around the world. Fasting in this month brings solidarity and cooperation among Muslims and changes the behaviour of individuals because of submission to God’s command. For example, individuals abstain from drinking, eating, and other physical needs, such as smoking, sexual pleasures as well as strict control of desires during day light hours. In short, Muslims try as much as possible to refrain from participating in Allah’s prohibitions or “haram-related activities”, in order to improve their self-worth and to become responsible members of society. Thus, fasting can be considered as a way of acquiring self-restraint or “Taqwa” at individual and societal levels. In fact, Muslims are encouraged not to return to forbidden acts after Ramadan and avoid investments that involve excessive risk (gharar), or which are speculative in nature (maysir). Lai and Windawati (2017) evinced that Ramadan affects investors’ risk-taking attitude and market liquidity. Klein, Turk, and Weill (2017) reported that Sukuk issuance is more profitable than bond issuance during Ramadan, which means that the month of Ramadan must be taken into consideration before the issuance of any security. Ra (2016) revealed that there are always significant changes in the movement of economic variables during the Ramadan period compared to other periods. All these suggest that the Ramadan month has an influence on the emotions and moods of individuals, which may affect the pattern of stock market behaviour, in terms of returns, liquidity and volatility, relative to the other months of the year.

Although some studies have predicted certain patterns of behaviour in largely Muslim dominated countries (Bialkowski et al., 2012; Lai & Windawati, 2017; Safitri & Asandimitra, 2016; Sonjaya & Wahyudi, 2016), there is however, scant knowledge on how religious orientation affects the stock market during the month of Ramadan in Nigeria. The reason why the Nigerian capital market may be considered appropriate is because Nigeria is a country where religious faith continues to exert a powerful influence on individuals’ daily life. For instance, eight in 10 Nigerians (88%) consider religion as important (Theodorou, 2015), and Muslims and Christians constitute an almost equal percentage of the Nigerian population at 50% and 48%, respectively. Nigeria is also among the countries with the 10 largest Muslim and Christian populations around the world (Daimant, 2019).

Similarly, in many Muslim-majority countries, the private and public sectors shorten their work days by one, two or three hours, to allow employees to participate in Ramadan-related activities or Muslims workers are allowed shorter working hours, such as in the case of Egypt, Saudi Arabia, Malaysia, Indonesia and the United Arab Emirates (UAE). The UAE allows the same for Christian workers during the Christmas holiday. In Nigeria, it is a different scenario - generally, there is no reduction in working hours, except in the northern part of the country, which mainly consists of predominantly Muslim states. In addition, it is a well-known fact that while in most countries of the world, the prices of good are lower to display an act of charity to fellow Muslims, in Nigeria, traders seize the opportunity of the Holy Month to increase prices of highly demanded goods. For instance, price of eggs goes up by 25%, as with the prices of yam, potatoes, fruits, etc. (The Punch, 2017). However, this is against ‘Ribba’ which means excessive, unwarranted and ungodly profiteering (Leadership Editors, 2017). Thus, the Nigerian stock market may behave differently in the Holy Month, as compared to other months. Investigating this issue would provide insights on how new information is incorporated in stock prices and enable investors to know further pattern of stock prices that can be considered for future investment decisions. In addition, the functioning of Nigerian capital market and its effects on liquidity and risk diversification as it relates to the efficiency of the market would be better understood.

2 Literature review

Following the general assumption that Muslim investors' psychology and spirituality increase during the month of Ramadan, several studies have investigated how stock markets behave in this month compared to other months. For instance, Bialkowski, Etebari and Wisniewski (2012) examined how the stock market behaves in 14 predominantly Muslim countries (Bahrain, Egypt, Jordan, Indonesia, Kuwait, Oman, Morocco, Malaysia, Tunisia, the UAE, Turkey, Pakistan, Qatar, and Saudi Arabia) over the period of 1989 to 2007 during Ramadan period. The results show that investors enjoyed higher returns and less volatility during the holy month of Ramadan as compared to the rest of the year. Specifically, during the Holy Month, the average annual return was 38.09% compared to 4.32% throughout the rest of the year. In addition, there were no discernible declines in market liquidity. The documented evidence were robust to the likely effects of market liquidity, the number of fasting days and fixed calendar anomalies (e.g., Monday, January, and Halloween effects). This means that investors could earn high returns during the Ramadan month if they buy and sell shares days before and after the Holy Month, precisely after Eid al-Fitr. The results also confirm that in Muslim dominated countries, stock returns are nine times higher during the month of Ramadan than other times of the year. Therefore, it can be concluded that Ramadan positively affects investors' psychology, leading to optimistic behaviour that extends to investment decisions.

Al-Khazali, Bouri, Roubaud, and Zoubi (2017) studied a sample of 15 Muslim countries over the 2005 to 2015 period. The results show that during the month of Ramadan, stock volatility decreased and was significantly different from that observed in the other months of the Islamic calendar. Hence, it can be argued that changes in stock returns and volatility that occur during the Holy Month of Ramadan are associated with religious practices of this period. Sonjaya and Wahyudi (2016) also studied the effects of Ramadan on stock returns using a sample of 10 Muslim majority countries; they found that Ramadan effects exist, though not persistent. Al-Khazali (2014) also found the presence of Ramadan effects on 15 Muslim countries, but the magnitude diminished during the global financial crisis period. Gavriilidis et al. (2016), who by using a sample of seven Muslim majority countries, investigated whether or not the positive mood documented during Ramadan translated to higher herding, revealed that herding was significantly stronger and the magnitude was higher during Ramadan compared to other months. Similarly, Lai and Windawati's (2017) study on Indonesian and Malaysian stock markets, found that during the Ramadan month, the risk adjusted returns in both stock markets remained unchanged. Although there was high volatility in the Indonesian market, the patterns for the Malaysian market were more dynamic.

Other than cross-country studies, single country studies have also investigated the effects of Ramadan on the stock market. For instance, Risfandy, Trinarningsih, Harmadi, and Trinugroho (2019) documented that Ramadan increased the market power of both Islamic and conventional banks in Indonesia. However, Safitri and Asandimitra (2016) found that stock returns in the Ramadan month in Indonesia were not significantly different from returns in other months, which implies there were no Ramadan effects on the Indonesian stock market during their period of study. A similar study carried out by Husain (1998) in the Pakistan equity market, shows the stock returns during Ramadan were not significantly different from returns outside the Ramadan period, but evidence of a significant decline in stock volatility was found. Halari, Tantisantiwong, Power, and Helliar (2015) who examined Islamic monthly anomalies in the Pakistani stock market over the period of 1995 to 2001, found insignificant evidence of a monthly seasonal anomaly in average returns; however, they found strong evidence of monthly patterns in the volatility of returns. However, Shahid, Sattar, Aftab, Saeed, and Abbas (2019) who studied the Pakistani market over a period of 20 years, discovered that investors could earn abnormal returns during the Ramadan period, implying that they gained higher returns. They also found that there are Ramadan effects in Pakistan from time to time.

Seyyed, Abraham, and Al-Hajji (2005), using a sample period of 1985-2000 for the Saudi Arabia market, found no presence of abnormal returns because there was no significant change in the mean returns of stocks but volatility declined. On the contrary, Wasiuzzaman and Al-Musehel (2018), who also focused on Saudi Arabia as well as the Iranian market, reported some differences in the impact of Ramadan on stock returns and volatility. Specifically, a positive effect of Ramadan was documented on mean returns and volatility in the Saudi Arabia market, whereas no such significant effect was found in the Iranian market. Additional results show that in the case of the Saudi Arabia market, the positive effect remained when considering only the last 10 days of the Ramadan, while in the case of the Iranian market, only volatility was significantly and negatively associated with the last 10 days of Ramadan. Akbalik and Tunay (2016) who conducted a study on the Turkish stock market also revealed that the Ramadan effects were not present when stock returns were considered, but existed on stock returns volatility, in that stock returns volatility showed a decrease. However, Munusamy (2019), who carried out a study on the Indian market, showed that stock returns and volatility during the month of Ramadan were statistically significant. Further results evinced that the returns were much higher during the last 10 days compared to other days. As such, it can be argued that the positive effects of Ramadan are more visible during the days associated with higher worship intensity. In the case of Bangladesh, Hassan and Kayser (2019) found no evidence of Ramadan effects on stock returns and volatility; however, it negatively influenced the daily trade volume. The authors therefore associated this with the reduction in trading and banking hours as well as the religiosity of investors, which could affect their perception. Focusing on the religiosity portfolio allocation among Malaysians, Mahdzan, Zainudin, Hashim, and Sulaiman (2017) reported in their study, that the Islamic religiosity level, which determines how individuals are devoted, was found to be insignificantly associated with portfolio allocation. However, the two dimensions of religiosity (virtue and obligation) significantly affected the allocation of risky assets in the portfolio. In fact, individuals who possess a higher level of virtue appeared to be associated with a lower propensity to allocate risky assets in the portfolio.

Several studies have also investigated whether or not mutual fund managers can earn abnormal returns during Ramadan; in other words, whether or not the Ramadan period is beneficial to mutual fund managers. For instance, Białkowski, Bohl, Kaufmann, and Wisniewski (2013) documented that risk-adjusted performance of domestic institutional funds, hybrid funds and foreign Turkish equity funds, depicted substantially higher returns during Ramadan than other months of the year. However, no evidence of high abnormal returns was found in the case of the domestic index fund because this fund is negatively affected by the increase in money inflows during Ramadan. Another study by Rokhim and Octaviani (2019), for a sample of Indonesian and Malaysian fund managers over the period of 2007 to 2017, revealed that the Ramadan effects do not explain excess returns recorded for Sharia fund in both countries. However, a positive abnormal return was found for the Malaysian Sharia Equity Fund, which suggests evidence of Ramadan effects. Ashraf and Ramay's (2016), who studied the performance of mutual funds in Pakistan, indicated that expected growth of net asset value for Islamic mutual fund was low during Ramadan period, but a phenomenal growth was found for conventional mutual funds, which may suggest that growth of conventional mutual funds is not really influenced by the periods of religious sentiment.

All these findings may imply that there is a predictable variation influenced by emotion and moods of investors in virtually all markets during Ramadan. Thus, these emotions and moods help investors to judge and decide on the buying and selling of stocks, preference for risks and returns and response to uncertainty. However, empirical evidence on the behaviour of Nigeria stock market during the month of Ramadan is limited. Therefore, this review highlights the need for such study to be conducted in Nigeria because the variability of stock prices and changes in trading volumes are vital indicators of trading activity in a stock market. In addition, high liquidity and returns are prime indicators of capital formation and economic growth.

3 Methodology

This study showcases researches on Ramadan effects on stock market behaviour published in academic journals, in particular Scopus databases. Several key words, such as calendar effect, Ramadan effect, stock returns, liquidity and volatility among others were employed in identifying relevant articles. Thereafter, content analyses of articles retrieved from the Scopus database were reviewed systematically.

4 Conclusion

Since religion has been recognised as a key factor that influences economic decisions and behaviour of individuals, this study suggests that it would be pertinent to investigate the role it plays in stock markets. For instance, a vital religious ritual that is most celebrated around the world and affects the social and economic decisions life of an individual, is the fasting of Muslims in the month of Ramadan. The month of Ramadan is a highly revered month by individuals of Islamic faith and generates a positive mood in stock market behaviour in Muslim majority countries. It is based on this that the current study reviews prior literature on the effects of this special month on stock market behaviour. The review shows that extensive research has been carried out in Muslim majority countries, with a lesser focus on countries that are not Muslim dominated. Therefore, this study proposes that future studies should consider a country like Nigeria, where religion plays a significant role in power distribution and daily lives. In addition, the country's population is half Muslim and almost half Christian. As such, investigating this issue in Nigeria would provide insights on how religion affects stock market activities. This is important because trading activity generate indices that reflect market efficiency and instrumental to the country's economic growth.

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