

Ramadan Effect: Anomaly or Just Compensation for Liquidity

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Abstract

The recent past number of papers show evidence of so-called Ramadan effect-high returns and low volatility during the holy month. None of those studies scrutinize the hypothesis that the Ramadan effect may be compensation for illiquidity. Our paper aims to fill the gap by investigating the relationship between Ramadan and stock market liquidity in 11 Muslim countries for the period 2009 to 2018. Using three stock (il)liquidity measures such as Amihud, spread, and a fraction of zero returns, we find that the month of Ramadan is not characterized by lower liquidity in comparison to the rest of the year. The results support the idea that the Ramadan effect is a standalone stock market anomaly.

Keywords: Ramadan effect, Behavioral finance, Stock Liquidity, Religion

JEL Classification Codes: G02, G12 & G14

1 Introduction

Although Ramadan is a well-established anomaly, the existing literature has not explored the existence of this anomaly as compensation for lower liquidity. Białkowski, Etebari and Wisniewski (2012) investigate stock returns in 14 Muslim countries and find that stock returns are significantly higher and less volatile during Ramadan. The relationship between securities' liquidity and their expected return is supported by several studies like Amihud and Mendelson (1986), Brennan and Subrahmanyam (1996), Jacoby, Fowler and Gottesman (2000), and Pástor and Stambaugh (2003). These studies discuss that rational investors need to be compensated for holding illiquid securities. As a result, they will require a higher return for holding illiquid securities. Therefore, returns are lower for liquid stocks and higher for illiquid stocks. In this paper, we test if Ramadan anomaly documented by Białkowski et al. (2012) is compensation for lower liquidity during Ramadan or is a stand-alone anomaly.

There is a growing body of literature on calendar anomalies, religion, and stock markets. Examples of such studies are the effect of religion on creditor protection (Stulz and Williamson, 2003), the effect of religion on investors' portfolio choices and stock returns (Kumar, Page and Spalt, 2011), the effect of Ramadan on stock return and volatility (Białkowski et al., 2012; Al-Khazali, 2014; Sonjaya and Wahyudi, 2016; Lai and Windawati, 2017; Wasiuzzaman and Al-Musehel, 2018), the effect of Ramadan on funds' performance (Białkowski, Bohl, Kaufmann and Wisniewski, 2013), the effect of Ramadan on herding (Gavriilidis, Kallinterakis and Tsalavoutas, 2016), and the presence of a Friday-type effect during the month of Ramadan (Ariss, Rezvanian and Mehdian, 2011).

Most of these studies are supported by the fact that investors' mood affects their actions and behavior. Loewenstein, Weber, Hsee and Welch (2001) develop the "risk-as-feelings" hypothesis and explain how individuals' emotions and mood affect their decision making, especially in risky situations. The individuals assessments of risky situations and their behavior towards those situations are often based on emotional reactions that diverge from the cognitive assessment of those situations. In other words, mood affects individuals' judgments towards a situation, and people with an upbeat mood tend to be more optimistic. For instance, Kumar et al. (2011) find that sunshine is associated with a positive mood that results in higher stock return, and Goodfellow,

Schiereck and Verrier (2010) show that market makers' sentiments and mood affect liquidity. Besides, Edmans, Garcia and Norli (2007) investigate the effect of soccer outcomes on stock return and find that the results of soccer matches negatively affect the stock market of the losing country. From the religious perspective, Frieder and Subrahmanyam (2004) test the effect of two Jewish Holy Days on stock returns and dollar volume. They find a decline in the dollar volume around both holy days. They also find around Rosh HaShanah, which is associated with positive mood, stock returns are significantly higher, and around Yom Kippur which is associated with negative mood, the stock returns are significantly lower.

Ramadan - the Muslims' Holy month - is observed every year by over 1.8 billion adherents. It occurs during the ninth month of the Islamic calendar and takes about 30 days, depending on the appearance of the new moon. It abstains Muslims from eating, drinking, and other forms of pleasure from dawn to dusk. To Muslims, Ramadan is more than fasting; it is the celebration of their faith and unity across the globe. Muslims use this time to get closer to Allah. During the holy month, Muslims are encouraged to do good deeds, to be kind to one another, and support each other, which results in the sense of solidarity in Muslims society. However, shortened working hours in some countries, physical hardship of fasting, and fatigue affect investors' performance and lead to lower market activities and liquidity.

In this paper, we employ firm-level data from 11 predominantly Muslim countries, where the population of Muslims exceeds 50% of the total population. The Ramadan anomaly is a well-documented anomaly in previous studies, and we extend the literature by testing the existence of this anomaly in the context of stock liquidity. To our knowledge, this paper is the first to empirically test the effect of Ramadan on stock liquidity using firm-level data.

This paper proceeds as follows. Section 2 reviews the data, discusses the methodology, outlines the (il)liquidity variables, and reports the descriptive statistics of the variables. Section 3 tests the effect of Ramadan on stock liquidity for each of the 11 sample countries, as well as a combined data set of all 11 countries. Section 4 concludes.

2 Data and methodology

2.1 Data

Our sample consists of data from 11 emerging and developing Muslim countries from 2008 to 2018. We follow Białkowski et al. (2012) and include Muslim countries where the population of Muslims exceeds 50% of the total population in our sample.² Our sample countries are Malaysia, Indonesia, Turkey, Saudi Arabia, United Arab Emirates, Oman, Jordan, Egypt, Qatar, Bahrain, and Pakistan. We obtained daily firm-level data from the Thomson-Reuters DataStream database. Following Gavriilidis et al. (2016), we include both active and dead stocks to mitigate the possibility of survivorship bias. Besides, we follow Chang, Chen and Zolotoy (2017) and winsorize the data at the 1% level in both tails of the distribution.

One of the challenges involved in Ramadan's studies is the fact that Ramadan occurs during the ninth month of the Islamic calendar, and it does not have a fixed start and finish date in the Gregorian calendar. We follow Białkowski et al. (2012) procedure and identify Ramadan days in each year with precise astronomical calculations.³

To mitigate the errors associated with daily data, we create a weekly data series using the averages of each variable in each week after constructing variables. Creating a monthly data series is not plausible as Ramadan may commence at any day of a month in the Gregorian calendar. For a stock to be included in our weekly dataset, it should at least have three observations in a week.

The main result of this study uses stocks that cover 85% of each countries total market capitalization.⁴ We also test using all stocks in our Robustness section.

2.2 Liquidity proxies and measures

We use three measures as proxies for (il)liquidity.

²Białkowski et al. (2012) use Central Intelligence Agency (CIA)'s World Factbook and the Association of Religion Data Archives to indicate the proportion of Muslim population in each country.

³We find Ramadan dates in each year using the exact sighting of the New Moon. Positions of the moon are obtained from http://aa.usno.navy.mil/data/docs/RS_OneDay.php. Readers may refer to Białkowski et al. (2012) for the outlined procedure.

⁴In each emerging market country, the MSCI index covers about 85% of the country equity universe. Note that we do not use the definition of the MSCI equity universe due to the complexity of the MSCI method and data availability.

First, we follow Chung and Zhang (2014) and construct:

$$Bid - Ask Spread_{i,t} = \frac{Ask_{i,t} - Bid_{i,t}}{2 \times (Ask_{i,t} + Bid_{i,t})} \times 1000 \quad (1)$$

where $Ask_{i,t}$ and $Bid_{i,t}$ are the ask price and bid price of stock i on day t , respectively. $Bid - Ask Spread_{i,t}$ measures the degree of (il)liquidity of stock i on day t . The larger the $Bid - Ask Spread_{i,t}$, the more illiquid a stock is.

Second, we follow Amihud (2002) and construct:

$$Amihud_{i,t} = \frac{|r_t|}{Volume_t} \times 1000 \quad (2)$$

where $|r_t|$ is the stock return on day t and $Volume_t$ is dollar volume in local currency. $Amihud_{i,t}$ measure is an (il)liquidity measure that captures price changes per unit volume. A zero denominator makes an undefined $Amihud$ measure, i.e. where $Volume_t=0$. Because of the high frequency of $Volume_t=0$ in emerging market data, we need to be mindful when using $Amihud$ measure in emerging markets. We are inclined to drop observations with zero $Volume$ days as they represent no trading days and not a data issue. Lesmond, Ogden and Trzcinka (1999) discuss that if the value of an information signal does not outweigh transaction costs, participants in the market will choose not to trade, resulting in zero returns. By dropping observations with zero $Volume$ days, we also drop observations with zero return ($r_t = 0$) that represent no trading, which is a proxy for (il)liquidity. Therefore, we construct our third (il)liquidity measure to overcome this issue.

Third, we follow Bekaert, Harvey and Lundblad (2007) and construct a weekly zero return (il)liquidity measure. They show that the zero return measure is an effective measure of (il)liquidity in emerging markets. We construct:

$$WeeklyZR_{i,w} = \frac{ZR}{trading\ days} \times 100 \quad (3)$$

where the $WeeklyZR_{i,w}$ is the proportion of zero daily returns observed over the week, using firm-level daily returns data. ZR is the number of daily zero returns in a week, and $trading\ days$ is the number of trading days in a week.

2.3 Methodology

Our methodology is based on the model of Stoll (2000), used by Lesmond (2005).⁵ Stoll (2000) controls for firm-level variables that influence liquidity. These firm-level variables are volatility, volume, price, and firm size. Stoll (2000) explains the volatility variable controls for the risk of adverse price changes; volume and size variables are proxies for inventory considerations and order processing; and the price variable is an additional proxy for risk as low priced stocks tend to be riskier than high priced stocks.⁶

To test the effect of Ramadan on liquidity, we use a panel regression model to control for time-invariant firm heterogeneity, and the following empirical specification:

$$(Il)liquidity_{i,w} = \alpha_0 + \beta_1 Ramadan_w + \beta_2 Volatility_{i,m} + \beta_3 Volume_{i,m} + \beta_4 Price_{i,m} + \beta_5 Size + \alpha_i + \epsilon_{i,w} \quad (4)$$

where $(Il)Liquidity_{i,w}$ is one of the three $(Il)liquidity$ measures of constructed in Section 2.2, $Ramadan_w$ is a dummy variable set to one if it is Ramadan-week, and zero otherwise. $Volatility_{i,m}$ is the standard deviation of daily stock returns during the previous month, $Volume_{i,m}$ and $Price_{i,m}$ are the average trading volume and average closing price in local currency over a monthly trading period, respectively. $Size$ is a firm's market capitalization in local currency at the beginning of the year. Following Stoll (2000) and Lesmond (2005), $Size$, $Volume$ and $Price$ variables are log scaled.

⁵Also used by Chung, Elder and Kim (2010); Brennan, Chordia, Subrahmanyam and Tong (2012); Hillert, Maug and Obernberger (2016)

⁶Cohen, Ness Jr, Okuda, Schwartz and Whitcomb (1976) explain that volatility represents liquidity as narrow markets are more volatile than deep markets. Pagano (1989); Brennan and Subrahmanyam (1995) show that volume explains market depth. Stoll and Whaley (1983) argue that size explain bid-ask spread. Harris (1994) discuss that price explains discreteness and Benston and Hagerman (1974) argue that price explain bid-ask spread and risk.

2.4 Summary statistics

insert Table 1

Panel A of Table 1 reports the mean of three (il)liquidity measures used in this study, as well as the mean of *Ramadan* dummy variable, number of firms, and number of weeks in each sample country. Bahrain has the lowest number of firms, i.e., 13, and Indonesia, has the highest number of firms, i.e., 166 amongst the sample countries. The sample countries have around 509-516 weeks of data, and about 8% of these weeks are Ramadan weeks.

Panel B of Table 1 reports the average trading volume of the sample firms during Ramadan and non-Ramadan weeks in each country. The table shows the average trading volume decreases during Ramadan-weeks in Indonesia, Turkey, Saudi Arabia, UAE, Oman, Egypt, Qatar, Bahrain, and Pakistan, and increases in Malaysia and Jordan. Column (3) of Panel B shows the result of a t-test where the null hypothesis is the difference between the mean of trading volume during Ramadan and Non-Ramadan weeks is zero. The difference is significant at the 5% level in most sample countries, except Turkey, UAE, and Oman.

insert Table 2

Table 2 reports the pairwise correlation coefficients between the (il)liquidity measures and the explanatory variables, using a combined sample of all countries. Table 2 shows the (il)liquidity measures are positively correlated with *WeeklyZR* and *Spread* having the highest correlation at 32.6%. Besides, the tables does not report a significant correlation between *Ramadan* and (il)liquidity measures.

3 Results

3.1 Liquidity during Ramadan

insert Table 3

Table 3 summarizes the estimation results of Equation (4) using a combined sample of all countries as well as each sample country from 2009-2018. *Spread*, *Amihud*, and *WeeklyZR* are the dependent

variables, *Ramadan* is the variable of interest, *Volatility*, *Volume*, *Price* and *Size* are the firm-level control variables.

Panel A of Table 3 reports no statistically significant correlation between our three (il)liquidity measures and *Ramadan* using a combined sample of all countries. Panel B of Table 3 shows that in Malaysia, Indonesia, Turkey, Saudi Arabia, UAE, and Oman, the coefficients associated with *Ramadan* are not statistically significant. Our evidence suggests that in these countries, there is no Ramadan effect on liquidity. The table also shows a negative and statistically significant relationship between *Ramadan*, and *Amihud* measure in Jordan, *Ramadan* and *Spread* measure in Egypt, and *Ramadan* and *WeeklyZR* measure in Qatar. Besides, the table also shows a positive and statistically significant relationship between *Ramadan* and *WeeklyZR* measure in Bahrain, and *Ramadan* and *Spread* measure in Pakistan. However, as the evidence of increase/decrease in liquidity due to Ramadan is not consistent using all three (il)liquidity measures across the sample countries, we conclude that the Ramadan effect is a stand-alone anomaly, affecting the stock return but not liquidity.

Table 3 also shows signs of firm-level Stoll (2000)'s control variables are mostly consistent with the literature. The coefficients associated with volatility using *Spread* and *Amihud* (il)liquidity measures are positive and statistically significant and using *WeeklyZR* (il)liquidity measure are negative and statistically significant.⁷ In most cases, the coefficients associated with *Volume* and *Price* are negative and statistically significant. Like Lesmond (2005)'s findings, *Size* variable is inconsistently related to (il)liquidity measures.

We employ several robustness tests to evaluate if our results are robust to data collection methods and (il)liquidity measures.⁸ To test if our findings are robust to alternative data collection methods, we test using all listed stocks in each country and not just the stocks that cover 85% of each countries total market capitalization, and our main findings remain unchanged.

insert Figures 1, 2, and 3

⁷No trading is the cause of zero returns and is associated with a smaller standard deviation of the returns.

⁸Note that we use three (il)liquidity measures that examine the robustness of our findings to different measures of (il)liquidity.

Figures 1, 2, and 3 show the mean of *Spread*, *Amihud*, and *WeeklyZR* (il)liquidity measures during Ramadan and Non-Ramadan weeks using a combined sample of all countries from 2009-2018. As can be seen in these figures, there is no consistent increase or decrease in the mean of these three (il)liquidity measures. Figures 1, 2, and 3 support our main finding that in the context of stock liquidity, Ramadan anomaly does not exist. Our result shows that Białkowski et al. (2012)'s findings - i.e., higher stock return during Ramadan - is not a compensation for lower liquidity during Ramadan.

4 Conclusion

This paper investigates the Ramadan anomaly and examines the effect of Ramadan - the Muslims' Holy month - on stock liquidity. This paper is motivated by investors' actions and behaviors during Ramadan. Physical hardships of fasting and shortened working hours during Ramadan lead to lower market activities and smaller number of trades. Using a sample of 11 Muslim countries and firm-level data, we show that in the context of stock liquidity, Ramadan anomaly does not exist. Our evidence suggests that the higher stock return documented in previous studies is not a compensation for lower liquidity during Ramadan. To our knowledge, this paper is the first to empirically test the effect of Ramadan on stock liquidity using firm-level data.

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Table 1: Descriptive statistics

This table shows the descriptive statistics of (il)liquidity measures, and trading volume in each country. Section 2.2 constructs the (il)liquidity measures. *Spread* and *Amihud* measures are scaled by 10^3 and the *WeeklyZR* is in percentage.

Panel A reports the mean of three (il)liquidity measures, the mean of *Ramadan* dummy variable, the number of firms and the number of weeks in each sample country.

	<i>Spread</i>	<i>Amihud</i>	<i>WeeklyZR</i>	<i>Ramadan</i>	<i>N – firms</i>	<i>N – weeks</i>
<i>All countries</i>	14	0.16	34	0.079	770	516
<i>Malaysia</i>	7	0.024	41.5	0.077	132	516
<i>Indonesia</i>	18.98	0.001	35.29	0.079	166	513
<i>Turkey</i>	4.2	0.012	21	0.079	96	516
<i>SaudiArabia</i>	3.9	0.0012	13	0.079	49	511
<i>UAE</i>	26	0.35	46	0.079	24	516
<i>Oman</i>	24	3.7	79	0.079	48	515
<i>Jordan</i>	20	4.9	48	0.079	53	515
<i>Egypt</i>	48.17	0.105	36.25	0.079	64	509
<i>Qatar</i>	6.1	0.007	13	0.079	117	516
<i>Bahrain</i>	33.98	1.99	89.23	0.079	13	516
<i>Pakistan</i>	11	0.015	18	0.079	117	516

Panel B reports the average trading volume of the sample firms during Ramadan and non-Ramadan weeks, where the trading volume is the number of shares traded for a stock on a particular day expressed in thousands.

	<i>Non – Ramadan</i>	<i>Ramadan</i>	<i>Difference</i>	<i>%Difference</i>	<i>Test of Difference</i>
<i>All contries</i>	13081.7	11266.5	1815.2	14.9%	2.6 (0.0091)
<i>Malaysia</i>	2006.32	2243.61	-237.3	11.2%	-2.9 (0.0033)
<i>Indonesia</i>	20267.5	18161.2	2106.3	11.0%	2.5 (0.0142)
<i>Turkey</i>	6791.4	6332.8	458.6	7.0%	1.6 (0.1161)
<i>SaudiArabia</i>	3419.3	2134.4	1284.9	46.3%	3.46 (0.0007)
<i>UAE</i>	3471.5	3035.9	435.6	13.4%	1.2 (0.2246)
<i>Oman</i>	447.8	390.7	57.1	13.6%	0.5 (0.6451)
<i>Jordan</i>	48.2	50.2	-2.0	4.1%	-2.0 (0.0407)
<i>Egypt</i>	2119.9	1669.1	450.8	23.8%	2.1 (0.0397)
<i>Qatar</i>	374.9	352.0	22.9	6.3%	0.5 (0.0110)
<i>Bahrain</i>	105.04	58.32	46.7	57.2%	1.99 (0.0460)
<i>Pakistan</i>	59542.6	48789.3	10753.3	19.9%	2.0 (0.0420)

Table 2: Correlation coefficients

<i>All countries combined</i> - 231,674 observations								
Correlations	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) <i>Spread</i>	1							
(2) <i>Amihud</i>	0.297	1						
(3) <i>WeeklyZR</i>	0.326	0.202	1					
(4) <i>Ramadan</i>	0.004	0.001	0.005	1				
(5) <i>Volatility</i>	0.112	-0.036	-0.104	-0.007	1			
(6) <i>Volume</i>	-0.331	-0.255	-0.171	-0.012	0.149	1		
(7) <i>Price</i>	-0.0244	-0.230	-0.249	0.001	0.144	-0.037	1	
(8) <i>Size</i>	-0.079	-0.288	-0.206	-0.001	0.172	0.281	0.890	1

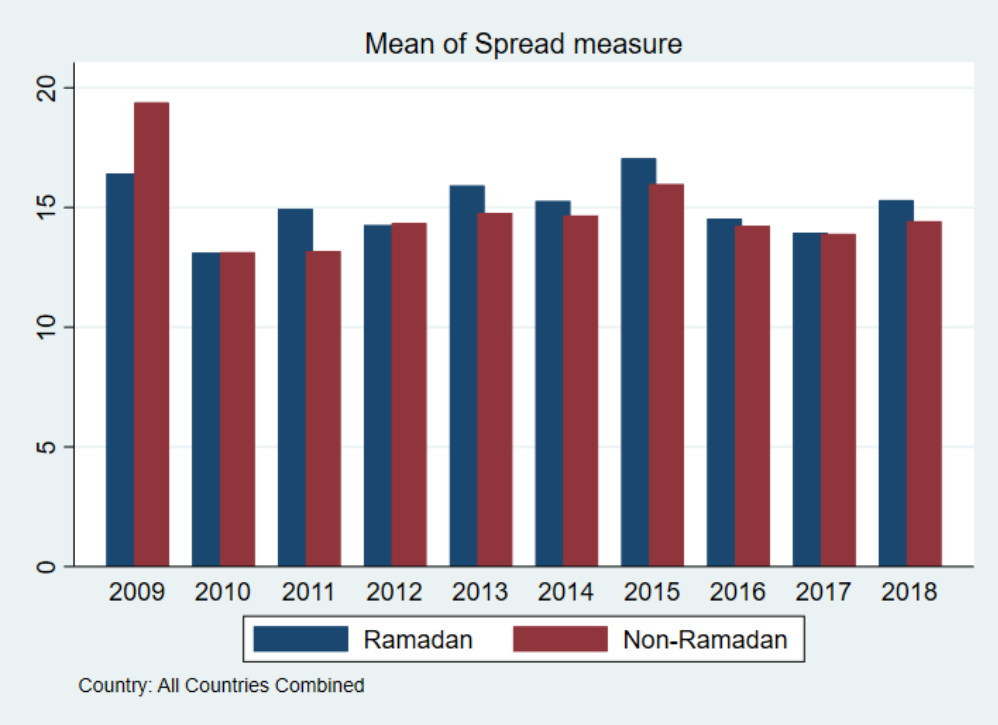


Figure 1: The vertical axis shows the mean of *Spread* measure of (il)liquidity, and the horizontal axis represents Ramadan and non-Ramadan periods from 2009-2018.

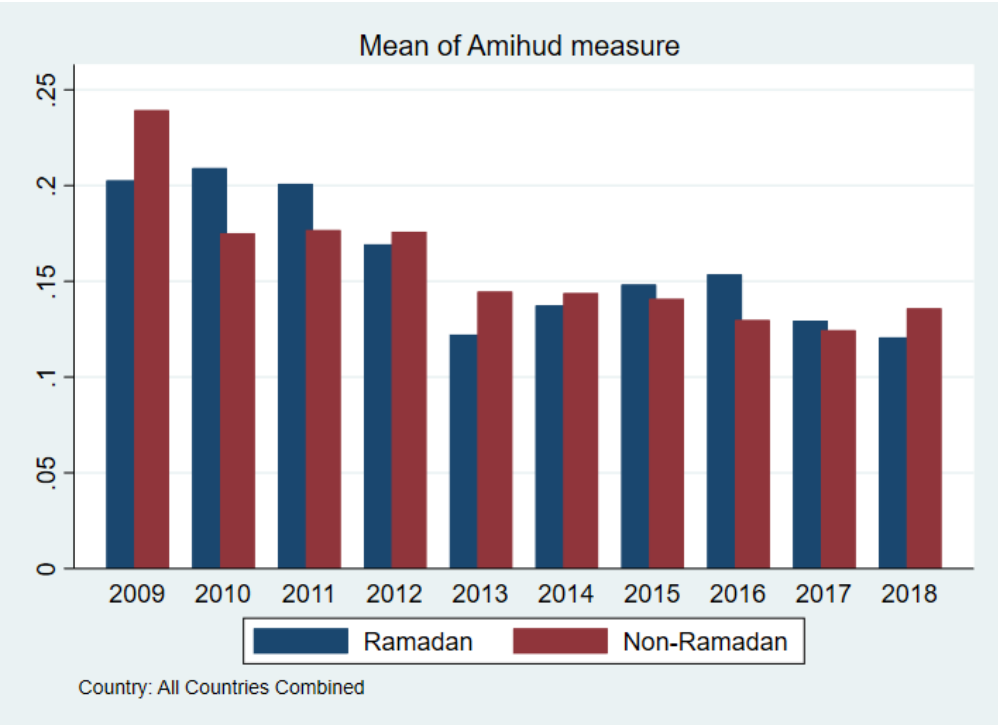


Figure 2: The vertical axis shows shows the mean of *Amihud* measure of (il)liquidity, and the horizontal axis represents Ramadan and non-Ramadan periods from 2009-2018.

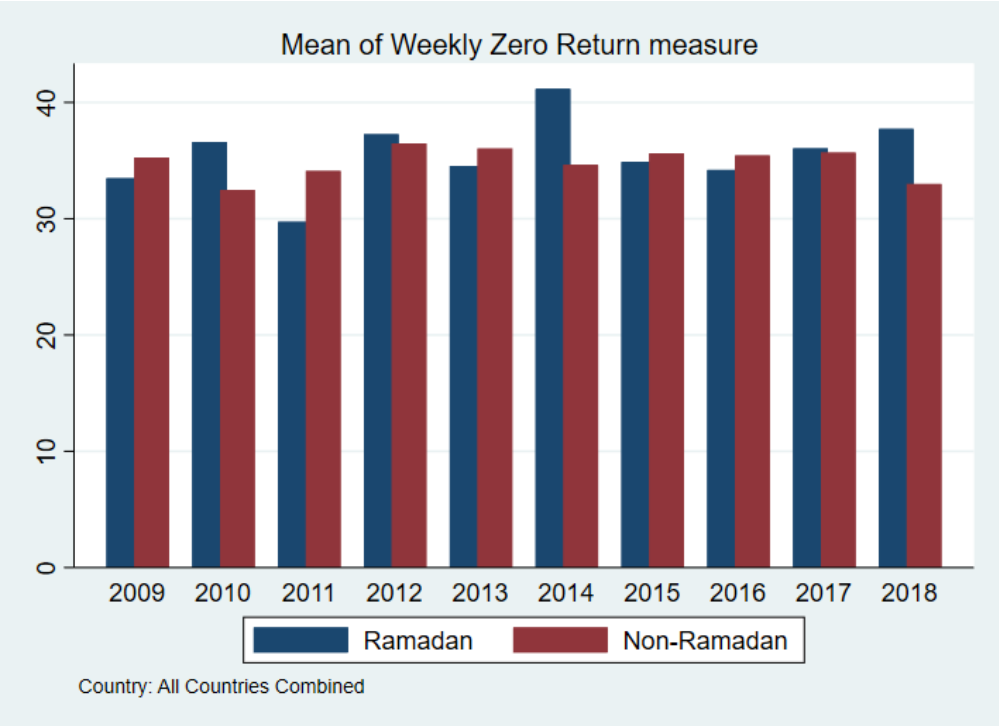


Figure 3: The vertical axis shows the mean of *WeeklyZR* measure of (il)liquidity in %, and the horizontal axis represents Ramadan and non-Ramadan periods from 2009-2018.

Table 3: Summary of Preliminary Results

This table summarizes the estimation results of Equation (4) for each country, where *Spread*, *Amihud*, and *WeeklyZR* are the dependent variables and (i)liquidity measures. *Ramadan* is the variable of interest, set to one if more than 60 percentage of days in a week are Ramadan days. *Volatility*, *Volume*, *Price*, and *Size* are the firm-level liquidity determinants. *Volatility* is the standard deviation of daily stock returns over the previous month in %, *Volume* is the average of daily traded volume over a month (in thousands), *Price* is the average of daily closing prices over each month, and *Size* the begging of a year market capitalization in local currency. Standard errors are clustered by both firm and week, and the 1%, 5% and 10% significance level denoted by ***, ** and *, respectively.

Country	<i>Ramadan</i>	<i>Volatility</i>	<i>Volume</i>	<i>Price</i>	<i>Size</i>	<i>Constant</i>	<i>N</i>	<i>R</i> ²
Panel A - Combined data set of all 11 sample countries – country and firm fixed-effect model								
<i>All countries combined</i>								
<i>Spread</i>	-0.044	0.141***	-0.003***	-0.003***	-0.00122***	0.050***	234,117	0.682
<i>Amihud</i>	-1.51	2.184***	-0.051***	-0.090***	0.0137	0.534***	231,518	0.467
<i>WeeklyZR</i>	0.30	-2.085***	-0.033***	-0.043***	-0.0153*	0.767***	236,902	0.527
Panel B - Individual countries data – firm fixed-effect model								
<i>Malaysia</i>								
<i>Spread</i>	-0.054	0.059***	-0.002***	-0.00326***	0.000471	0.0173***	44,484	0.526
<i>Amihud</i>	-0.001	0.0003***	-0.00002***	-0.00003***	0.000*	0.00014***	44,636	0.422
<i>WeeklyZR</i>	-0.013	-2.732***	-0.030***	-0.070***	0.018	0.416***	44,725	0.144
<i>Indonesia</i>								
<i>Spread</i>	-0.0544	0.141***	-0.00730***	-0.00186	-0.00500***	0.171***	44,213	0.603
<i>Amihud</i>	-0.00113	0.00001***	-0.0000***	-0.0000**	0.0000	0.0000046***	43,834	0.422
<i>WeeklyZR</i>	2.81	-1.761***	-0.0478***	-0.000879	-0.0386***	1.406***	45,367	0.406
<i>Turkey</i>								
<i>Spread</i>	0.0997	0.0296***	-0.000583***	-0.00118***	-0.00109***	0.0191***	30,234	0.512
<i>Amihud</i>	-0.000936	0.000082	-0.000015***	-0.000012**	0.0000036	0.000108***	30,334	0.577
<i>WeeklyZR</i>	-0.521	-0.280	-0.0227***	-0.0352**	-0.0352**	0.665***	30,337	0.125
<i>Saudi Arabia</i>								
<i>Spread</i>	-0.00335	0.0239***	-0.000209***	-0.000226	-0.000601**	0.0116***	18,109	0.271
<i>Amihud</i>	0.0000	0.00002***	-0.0000***	-0.0000***	-0.0000	0.00001***	18,107	0.526
<i>WeeklyZR</i>	0.505	-3.046***	-0.0387***	0.00668	-0.0975***	1.384***	18,294	0.081

Panel B of Table 3 (continued)

Country	Ramadan	Volatility	Volume	Price	Size	Constant	N	R ²
<i>UAE</i>								
<i>Spread</i>	-0.767	0.294***	-0.00217**	-0.00950***	0.00332	0.0150	6,297	0.725
<i>Amihud</i>	0.00424	0.00792***	-0.000356***	0.0000	-0.0000	0.00287**	6,196	0.347
<i>WeeklyZR</i>	0.353	-2.776***	-0.0295***	-0.0916***	0.0134	0.597***	6,800	0.603
<i>Oman</i>								
<i>Spread</i>	0.698	0.112***	-0.00497***	-0.00752***	0.0108***	-0.0170	13,694	0.345
<i>Amihud</i>	0.257	0.0413***	-0.00220***	-0.00371***	0.00124	0.00322	13,577	0.162
<i>WeeklyZR</i>	1.40	-3.089***	-0.0338***	-0.103***	0.0256	0.742***	15,188	0.340
<i>Jordan</i>								
<i>Spread</i>	-0.207	0.262***	-0.0018***	-0.00270	0.00096	0.0172*	15,216	0.597
<i>Amihud</i>	-0.864***	0.168***	-0.0024***	-0.000724	-0.000934	0.0144	14,720	0.326
<i>WeeklyZR</i>	0.360	-5.222***	-0.0474***	-0.0726***	0.0206	0.558***	15,797	0.448
<i>Egypt</i>								
<i>Spread</i>	-2.93**	0.348**	-0.0058***	-0.00371**	-0.00199	0.0968***	20,086	0.692
<i>Amihud</i>	-0.00161	0.00170*	0.0000***	-0.0000***	0.0000	0.00058***	20,076	0.469
<i>WeeklyZR</i>	0.580	-3.029***	-0.0585***	-0.0644***	0.0319**	0.467***	20,532	0.352
<i>Qatar</i>								
<i>Spread</i>	-0.120	0.149***	-0.00201***	-0.000722	-0.000140	0.0183	7,943	0.504
<i>Amihud</i>	-0.00001	0.000513***	-0.0000***	0.0000**	0.0000*	0.000169**	7,942	0.563
<i>WeeklyZR</i>	-2.55**	-1.665***	-0.0283***	-0.00363	-0.0321	0.635**	7,966	0.088
<i>Bahrain</i>								
<i>Spread</i>	-1.08	0.166***	-0.00383***	-0.00407	-0.00198	0.0496	4,136	0.334
<i>Amihud</i>	-0.407	0.0253***	-0.000527***	-0.000552	0.000443	0.000327	3,712	0.154
<i>WeeklyZR</i>	3.28***	-1.476***	-0.0233***	-0.0793***	-0.0258	1.004***	4,510	0.120
<i>Pakistan</i>								
<i>Spread</i>	0.928***	0.156***	-0.00125***	-0.00201***	0.000211	0.0156	32,064	0.710
<i>Amihud</i>	-0.00026	0.000351***	-0.0000*	-0.0000**	0.0000	0.0000	31,746	0.523
<i>WeeklyZR</i>	-0.0112	-0.505	-0.0209***	-0.0113	-0.0175	0.387***	32,688	0.435