

The effect of Ramadan on stock prices and liquidity indicators in listed companies in Tehran Stock Exchange

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Abstract

The purpose of this paper investigate the effect of Ramadan on stock prices and liquidity indicators in listed companies in Tehran Stock Exchange. This research attempts to look more the relationship between the effects of the ideological, psychological and spiritual issues of Ramadan on the stock price and liquidity indicators of corporations listed on the Stock Exchange of Tehran. In other words, the study look at for the relationship or lack of relationship between the solar and lunar months such as Ramadan and the effects of emotions, beliefs and spiritual issues on such corporations. In this study used a sample of 106 companies over the years 2010 until 2014. The results show that Ramadan effective on stock price, turnover and the number of stock traders in listed companies in Tehran Stock Exchange. Also, Ramadan not effective as the number of shares traded and the number of days of stock trading in listed companies in Tehran Stock Exchange.

Keywords: Ramadan effect, stock prices, liquidity indicators.

1. Introduction

Abstaining from ingesting food and liquids between sunrise and sunset is an integral part of Ramadan. With a “suhoor” pre-dawn meal and an “iftar” supper the consumption becomes entirely nocturnal. The Ramadan-time fasting can have a wide range of beneficial effects for health. Although in the initial stage of fasting individuals may experience a feeling of discomfort, this symptom typically abates after the second day of the fast. Proponents of natural medicine argue that it arises as a by-product of the detoxification process, in which the toxins previously stored in fatty tissues are expelled from the body (Fuhrman, 1998). Fasting also provides a respite to the digestive tract and allows for the elimination of superfluous tissue. (Biakowski, 2012).

Ramadan is not a normal month in Lunar (Hijri) Calendar, 1.5 billion Muslim fast during the day, and they focus more on their prayers. Further offices of the government and other businesses in other sectors tend to close down a bit earlier than the normal hours, Sharia shares have more positive effect by Ramadan in the Stock market trade (Yavuz, Guri and Kiran, 2008, Alatiyat, 2014). In the world today it is important high complexity in business units that can increase or reduce turnover listed companies in Stock Exchange and factors such as matters of faith and religious effective in this context.

Every investor, who enters the financial market, wants to maximize their returns consistent with the risks so that they tend to increase their returns at a certain risk level and/or reduce their risk at a certain level of efficiency. The tendency to gain arbitrage profits or risk-free profit or portfolio without investment directs the market towards a path that is called efficiency. Over the last years, investors have come to realize market anomalies (calendar effects) that contribute to additional returns. So, this research is trying to answer the following question: Is there a significant relationship between effect of Ramadan on stock prices and liquidity indicators?

2. Review of literature

Husain (1998) analyzed Pakistan's stock market the results showed volatility in the week of the Ramadan is lower. Marcos Noland (2004) in a research named (religious, culture and economic performance) tried to test this hypothesis that religious attitude affect national economic performance. He succeeded to discover correlation between religious dependant, religious beliefs intensity and cultural trends attribute. The impact of January on stock exchange index was investigated by Haugen at 1997 which its results indicated that January had high effect on stock exchange index but this result was not surprising because there was other month that had high positive effect on stock exchange index. Mohamad Al-Ississ (2010) studied impact of religious on financial markets of 17 Muslim countries during 1988 -2010 which its result was positive and significant effect of religious beliefs during Ramadan on income efficiency in Muslims financial markets. This positive effect of efficiency was about %0.16 in 5 days of Ramadan and about %0.37 in holiest day. It was remarkable that effects of holly days aren't uniformly positive so that these markets experience %0.26 significant negative falls in holly day Ashura. (Ramezane et al, 2013).

Fazel Saeid et al (2004) have conducted some researches on Arabia stocks exchange, which is the biggest stocks exchange of Islamic countries and has a value around 237 billion dollars. In this research, the model of GARCH, which is of time series models, has been used to test Ramadhan effect on stocks return changing. The results of their researches showed that stocks exchange average compared to other lunar months, did not change so much, and stocks return fluctuation decreased so much in this month. Al-rjub (2004) did a research on the effect of week days on Amman stocks exchange (Jordan) from 1992 January to 2002 September using virtual variables. Obtained findings showed that the first working day of week has a negative effect and the last working day of the week has positive effect. He believed that the best day of selling exchange papers is the last day of the week, and the best day of buying exchange papers is the first day of the week.

Lyrودي et al. (2004) studied the effect of day of the week on stock markets in Eastern and Central Europe countries (Romania, Hungary, Lithuania, Czech Republic, Russia, Slovakia, Slovenia and Poland) from September 22, 1997 to March 29, 2009. Their results showed that stock markets in Romania and Czech Republic had significant negative ROE on Mondays. Slovenia stock market had positive ROE on Wednesdays but a significant negative ROE on Fridays. Poland and Slovakia stock markets, however, showed no significant calendar effect. Russian stock market has positive and negative ROE on Fridays and Wednesdays, respectively. (Garkaz and et al, 2014).

3. Development of hypothesis

Based on the above study we consider the following hypotheses:

H1. The Ramadan effective on stock price in listed companies in Tehran Stock Exchange.

H2. The Ramadan effective on turnover in listed companies in Tehran Stock Exchange.

H3. The Ramadan effective on the number of stock traders in listed companies in Tehran Stock Exchange.

H4. The Ramadan effective on the number of shares traded in listed companies in Tehran Stock Exchange.

H5. The Ramadan effective on the number of days of stock trading in listed companies in Tehran Stock Exchange.

4. Methodology

In terms of goal this research is applied and considering the nature is descriptive research. In this study independent variable is related to a period than two months (before the month of Ramadan, the month of Ramadan) and dependent variables are stock price, the volume of stock trading, the number of stock traders,

number of shares traded and the number of days of stock trading. We use the method to remove systematic for sample selection. In this research to collect data of Tehran Securities Exchange Technology Management Company website and the Tehran Stock Exchange website. However, the study considered to be a five-year period from the beginning of 2010 to the end of 2014.

5. Empirical results

Table 2 shows Descriptive Statistics for all variables. For example, descriptive statistics the price stock before Ramadan 2014 is: the minimum observation is 896 and maximum observations is 45144 and average and standard deviation are 7777 and 8091.

Table 1
Descriptive Statistics

year	variable	N	Minimum	Maximum	Average	Standard deviation
2014	Stock prices before Ramadan	106	896.00	45144.00	7776.85	8090.77
	Turnover before Ramadan	106	1874.00	259065665.00	14504837.58	36231836.87
	the number of stock traders before Ramadan	106	3.00	6779.00	608.32	1003.54
	the number of shares traded before Ramadan	106	4.00	24923.00	2029.04	3624.20
	the number of days of stock trading before Ramadan	106	3.00	20.00	16.05	4.81
	Stock prices in Ramadan	106	788.00	43842.00	7206.78	7330.85
	Turnover in Ramadan	106	486.00	835565595.00	30101828.92	105096245.01
	the number of stock traders in Ramadan	106	7.00	6645.00	762.59	1060.07
	the number of shares traded in Ramadan	106	8.00	27902.00	2370.93	3705.22
	the number of days of stock trading in Ramadan	106	5.00	21.00	16.99	4.120
2013	Stock prices before Ramadan	106	582.00	39470.00	7129.35	7338.80
	Turnover before Ramadan	106	54.00	1926104234.00	42352082.98	194840402.58
	the number of stock traders before Ramadan	106	1.00	9661.00	890.23	1492.06
	the number of shares traded before Ramadan	106	1.00	36639.00	3039.69	5839.80
	the number of days of stock trading before Ramadan	106	1.00	21.00	16.17	4.88
	Stock prices in Ramadan	106	896.00	47138.00	7905.03	7943.03

	Turnover in Ramadan	106	2514.00	613742151.00	27644811.27	75749915.09
	the number of stock traders in Ramadan	106	8.00	10466.00	1116.96	1727.23
	the number of shares traded in Ramadan	106	9.00	38748.00	3370.31	5908.84
	the number of days of stock trading in Ramadan	106	5.00	21.00	17.14	4.44
2012	Stock prices before Ramadan	106	497.00	29521.00	4376.00	4786.31
	Turnover before Ramadan	106	20.00	836580926.00	17173834.95	85134677.10
	the number of stock traders before Ramadan	106	1.00	2571.00	239.65	465.13
	the number of shares traded before Ramadan	106	1.00	9166.00	769.38	1571.37
	the number of days of stock trading before Ramadan	106	1.00	20.00	13.04	5.67
	Stock prices in Ramadan	106	455.00	19003.00	3949.92	3832.00
	Turnover in Ramadan	106	6.00	515861151.00	9679009.18	51212617.00
	the number of stock traders in Ramadan	106	1.00	3513.00	241.65	476.28
	the number of shares traded in Ramadan	106	1.00	9616.00	652.18	1305.60
	the number of days of stock trading in Ramadan	106	1.00	21.00	13.70	6.84
2011	Stock prices before Ramadan	106	689.00	21299.00	4321.41	3863.91
	Turnover before Ramadan	106	650.00	116709452.00	8455604.72	22405969.80
	the number of stock traders before Ramadan	106	2.00	6041.00	382.63	1008.95
	the number of shares traded before Ramadan	106	2.00	15789.00	1077.67	2853.49
	the number of days of stock trading before Ramadan	106	1.00	21.00	13.77	5.81
	Stock prices in Ramadan	106	701.00	22697.00	4438.60	4012.76
	Turnover in Ramadan	106	100.00	354443440.00	13246080.17	44738339.45
	the number of stock traders in Ramadan	106	1.00	6799.00	490.74	1255.67

	the number of shares traded in Ramadan	106	1.00	17832.00	1181.42	3165.27
	the number of days of stock trading in Ramadan	106	1.00	19.00	14.82	5.08
2010	Stock prices before Ramadan	106	760.00	18088.00	4448.68	3788.15
	Turnover before Ramadan	106	80.00	326342886.00	15277234.95	50001939.92
	the number of stock traders before Ramadan	106	.00	4187.00	333.39	747.90
	the number of shares traded before Ramadan	106	1.00	15603.00	1081.91	2625.93
	the number of days of stock trading before Ramadan	106	1.00	21.00	15.39	6.09
	Stock prices in Ramadan	106	893.00	22324.00	5007.05	4446.76
	Turnover in Ramadan	106	1399.00	1425320337.00	25249763.54	141517102.36
	the number of stock traders in Ramadan	106	1.00	5942.00	381.50	857.83
	the number of shares traded in Ramadan	106	2.00	14716.00	1120.98	2605.07
	the number of days of stock trading in Ramadan	106	1.00	19.00	15.96	4.34

The hypotheses test

In this hypothesis, we use paired test this test compared two variables of a society. To test this claim we do this way:

$$\mu_D = 0 \quad H_0 =$$

$$H_1 = \mu_D \neq 0$$

Due to the significant level in 5 years, this value is smaller of the quorum. Then, the null hypothesis is rejected, and the research hypothesis is accepted. So, The Ramadan effective on stock price in listed companies in Tehran Stock Exchange. And in paired test in second hypothesis significant level is greater than 5%. So, the null hypothesis is accepted, and one hypothesis is rejected. Then, the Ramadan not effective on turnover in listed companies in Tehran Stock Exchange. Also, in paired test in third hypothesis significant level is greater than 5%. So, the null hypothesis is accepted and one hypothesis is rejected. Then, the Ramadan not effective on the number of stock traders in listed companies in Tehran Stock Exchange. And, in paired test in fourth hypothesis significant level is greater than 5%. So, the null hypothesis is accepted and one hypothesis is rejected. Then, the Ramadan not effective as the number of shares traded in listed companies in Tehran Stock Exchange. And finally the paired test in fifth hypothesis significant the null hypothesis is rejected and one hypothesis is accepted. So, The Ramadan effective on the number of days of stock trading in listed companies in Tehran Stock Exchange.

Table 2

Paired Samples Test (Hypothesis 1)

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Stock prices before Ramadan 2014 Stock prices in Ramadan 2014	.06793	.14688	.01427	.03964	.09622	4.761	105	.000
Pair 2	Stock prices before Ramadan 2013 Stock prices in Ramadan 2013	-.13907	.22758	.02210	-.18290	-.09524	-6.292	105	.000
Pair 3	Stock prices before Ramadan 2012 Stock prices in Ramadan 2012	.06227	.22099	.02146	.01971	.10483	2.901	105	.005
Pair 4	Stock prices before Ramadan 2011 Stock prices in Ramadan 2011	-.06221	.15840	.01539	-.09272	-.03171	-4.044	105	.000
Pair 5	Stock prices before Ramadan 2010 Stock prices in Ramadan 2010	-.10174	.15146	.01471	-.13091	-.07257	-6.916	105	.000

Table 3

Paired Samples Test (Hypothesis 2)

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Turnover before Ramadan 2014 Turnover in Ramadan 2014	-.46099	1.53682	.14927	-.75696	-.16502	-3.088	105	.003
Pair 2	Turnover before Ramadan 2013 Turnover in Ramadan 2013	-.14569	1.30378	.12663	-.39678	.10540	-1.150	105	.253
Pair 3	Turnover before Ramadan 2012 Turnover in Ramadan 2012	.54095	2.22173	.21579	.11307	.96883	2.507	105	.014
Pair 4	Turnover before Ramadan 2011 Turnover in Ramadan 2011	-.68906	1.77586	.17249	-1.03107	-.34705	-3.995	105	.000
Pair 5	Turnover before Ramadan 2010 Turnover in Ramadan 2010	-.35368	1.54097	.14967	-.65045	-.05691	-2.363	105	.020

Table 4
Paired Samples Test (Hypothesis3)

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	The number of stock trader before Ramadan 2014	-.36598	.75866	.07369	-.51209	-.21987	-4.967	105	.000
	The number of stock trader in Ramadan 2014								
Pair 2	The number of stock trader before Ramadan 2013	-.37950	.88393	.08586	-.54974	-.20927	-4.420	105	.000
	The number of stock trader in Ramadan 2013								
Pair 3	The number of stock trader before Ramadan 2012	.12853	1.01155	.09825	-.06628	.32334	1.308	105	.194
	The number of stock trader in Ramadan 2012								
Pair 4	The number of stock trader before Ramadan 2011	-.39575	.98481	.09565	-.58541	-.20608	-4.137	105	.000
	The number of stock trader in Ramadan 2011								
Pair 5	The number of stock trader before Ramadan 2010	-.28067	.99649	.09679	-.47258	-.08875	-2.900	105	.005
	The number of stock trader in Ramadan 2010								

Table 5
Paired Samples Test (Hypothesis4)

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	The number of shares traded before Ramadan 2014	-341.89623	1443.67841	140.22244	-619.93143	-63.86102	-2.438	105	.016
	The number of shares traded in Ramadan 2014								
Pair 2	The number of shares traded before Ramadan 2013	-330.62264	2821.22461	274.02156	-873.95677	-212.71149	-1.207	105	.230
	The number of shares traded in Ramadan 2013								
Pair 3	The number of shares traded before Ramadan 2012	117.19811	957.32864	92.98398	-67.17194	301.56816	1.260	105	.210
	The number of shares traded in Ramadan 2012								
Pair 4	The number of shares traded before Ramadan 2011	-103.75472	1283.90702	124.70407	-351.01986	-143.51042	-.832	105	.407
	The number of shares traded in Ramadan 2011								
Pair 5	The number of shares traded before Ramadan 2010	-39.07547	945.37767	91.82320	-221.14391	-142.99297	-.426	105	.671
	The number of shares traded in Ramadan 2010								

Table 6
Paired Samples Test (Hypothesis5)

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	The number of days of stock trading before Ramadan 2014	-							
	The number of days of stock trading in Ramadan 2014	.08663	.42355	.04114	.16820	.00506	2.106	.038	
Pair 2	The number of days of stock trading before Ramadan 2013	-							
	The number of days of stock trading in Ramadan 2013	.09321	.49683	.04826	.18890	.00247	1.932	.056	
Pair 3	The number of days of stock trading before Ramadan 2012	-							
	The number of days of stock trading in Ramadan 2012	.00866	.60227	.05850	.10733	.12465	.148	.883	
Pair 4	The number of days of stock trading before Ramadan 2011	-							
	The number of days of stock trading in Ramadan 2011	.08164	.60180	.05845	.19754	.03426	1.397	.165	
Pair 5	The number of days of stock trading before Ramadan 2010	-							
	The number of days of stock trading in Ramadan 2010	.11614	.58131	.05646	.22810	.00419	2.057	.042	

6. Conclusion

In this study mentioned the effect of Ramadan on stock prices and liquidity indicators in listed companies in Tehran Stock Exchange during the years 2010-2014. The results show several factors could be influential on stock exchange indices and the effect of emotions, beliefs, and religious issues could be an important factor in explaining the unusual phenomena in the stock market. Therefore, the parameters of emotions, ideologies, and spiritual beliefs are in scope of behavioral finance. Furthermore, the results show that Ramadan effective on stock price, turnover and the number of stock traders in listed companies in Tehran Stock Exchange. Also, Ramadan not effective on the number of shares traded and the number of days of stock trading in listed companies in Tehran Stock Exchange. Important limitation to this study is:

1. In this study not considered non-financial variables such as type of ownership, industry, product type.
2. Considered same economic conditions in all courses.
3. We hypothesized investors and capital markets use the stock price information and liquidity indicators.
4. Due to limitations of the study the sample is low.

At the last the following suggestion is addressed for the future studies:

1. The effect of Ramadan on other economic markets such as money market, foreign exchange market.
2. The effect of Mahram on stock prices and liquidity indicators.
3. The effect of the seasons on stock price indices of liquidity In the Tehran Stock Exchange.
4. The effect of special occasions (first decade of Mahram) the same period before or after on liquidity indicators.

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