

INDEPENDENCE DAY EFFECT IN THE STOCK PRICE OF ASEAN STATE- OWNED ENTERPRISES

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Abstract. Holiday effect is an anomaly on stock returns related to public holidays. This findings oppose Efficient Market Hypothesis directly as it proves that abnormal return presence. Lakonishok and Schmidt (1998) defined public holiday as days when market is closed, such as Labor Day, President's Day, Memorial Day, Independence Day, Thanksgiving, New Year, Good Friday, and Christmas. The study reported that 30% up to 50% more return can be gained in holiday season compared to non-holiday season.

Keyword(s): Holiday Effect, Independence Day, ASEAN

Introduction

Holiday effect is presence of anomaly in stock returns related to public holidays such as Christmas and Independence Day. The effect has attracted growing interest from researchers since Fields first evidenced it in 1934. This is one of the oldest findings yet empirical studies have proven that the effect is consistent of all seasonal regularities. Lakonishok and Schmidt (1988) defined holiday as public holidays when market is closed (such as Labor Day, President's Day, Memorial Day, Independence Day, Thanksgiving Day, New Year Day, Christmas Day, and Good Friday). The study reported that 30% up to 50% more return compared to non-holiday season can be gained during holiday season.

ASEAN members consist of emerging markets where the capital market are not efficient yet. There are plenty of factors that can influence the market price of a stock, and one of those is presence of new information. During Independence Day celebrations, it is common that the leader of the nation deliver a speech. Investors take information from the speech and use it as a consideration on making future investment decisions. In Indonesia for example, the speech delivered by President Jokowi in 2015 (Sekretariat Kabinet Republik Indonesia, 2015) mentioned several achievements and progress that has been made during his period of leadership. In the same speech, Mr. President also mentioned the goals that are going to be achieved such as infrastructure development (highways in Java and Sumatra, train in Sulawesi, reservoir, harbor, and shipyards). Investors take the information and use it to predict the country's future economy. Confidence level of investors in the country and the leader of the country is measured from the stock price of state-owned enterprises where government has strong influences.

Methodology

This study examines Independence Day Effect on stock of ASEAN state-owned enterprises. Event study was established to measure the effect. On data that are normally distributed, paired sample T-test was applied. Non-parametric alternative of T-test which is Wilcoxon Signed Rank was applied on data that are not normally distributed. T-test examined statistical significances on stock return under

two different conditions, before and after Independence Day with significance level of 5% for strong effect and 10% for less strong effect.

The data collected as sample are daily price from 10 days before until 10 days after Independence Day, or less, as long as it is possible before other events overlap. Overlapping events are going to result in bias effects as the arbitrage opportunity can be caused by one event more than the other, or by combination of both events in a composition that is hard to be measured precisely. Observation was held in short period (10 windows) because according to Lakonishok (1992) and Fama (1998), long period of observation will reduce sensitiveness.

In this research, the data was analyzed with Cumulative Non-Parametric Paired Test. The difference between cumulative and non-cumulative is that cumulative test evaluates reaction not only in Window-t but from Window-1 up to Window-t. The reaction is later interpreted as accumulated investors' reaction.

Independency Day Effect

In this event study the interval confidence level of 95% and 90% was used.

Null Hypothesis (H_0) is there is no significant difference of return between before and after Independence Day.

$$H_0 = R_{\text{before}} - R_{\text{after}}$$

Alternative Hypothesis (H_1) is that there is significant difference of return between before and after Independence Day.

$$H_1 = (R_{\text{before}} - R_{\text{after}} \neq 0)$$

Null Hypothesis (H_0) will be rejected if the significance level is less than 10%. Rejection of Null Hypothesis (H_0) means that there is significant difference between return of sample stocks before and after Independence Day.

Data

All the data collected in this research was secondary data, compiled from Yahoo Finance, Vietstock, Hanoi Stock Exchange, and Ho Chi Minh Stock Exchange. The data observed was within range of year 2008 until 2015 because it was meant to analyze the recent effects in the market. The effect of global crisis in 2007 are assumed to have changed global economic stability that resulted in bias observation of Independence Day effect in ASEAN stock market, thus years before 2007 was excluded. Filters are applied on selecting sample for the research to minimize bias effect from other events. Information on sampling period for each country is tabulated on table below.

Tabel 1. Sampling Rule

No.	Country	2008	2009	2010	2011	2012	2013	2014	2015
1.	Singapore	X_A	X_A	X_A	X_A	X_A	X_A		
2.	Brunei Darussalam	X_B	X_B	X_B	X_B	X_B	X_B	X_B	X_B
3.	Malaysia	X_A	X_A	X_A	X_A				
4.	Thailand	X_C	X_C	X_C	X_C	X_C	X_C	X_C	X_C
5.	Indonesia		X_A	X_A	X_A	X_A			
6.	Philippines	X_D	X_D	X_D	X_D	X_D	X_D	X_D	X_D
7.	Vietnam								
8.	Lao PDR	X_D	X_D	X_D	X_D				
9.	Myanmar	X_E	X_E	X_E	X_E	X_E	X_E	X_E	X_E
10.	Cambodia	X_D	X_D	X_D	X_D	X_D	X_D		

X_A: following years cannot be observed because the country's Independence Day effect overlapped with IdulFitri effect

X_B: following years cannot be observed because the country has no stock market

X_C: following years cannot be observed because the country has never been colonized thus has no Independence Day

X_D: following years cannot be observed because the country has no state owned enterprises (SOE) listed in its stock exchange

X_E: following years cannot be observed because the country's Independence Day effect overlapped with January effect

Result and Analysis

A. Independence Day Effect Occurrence in ASEAN Stock Market

The analysis of ASEAN state-owned enterprises stock markets' significances towards Independence Day during period of 2008 until 2015 is shown in table below.

Tabel 2. Period of Significances Towards Independence Day

Country	Year	Significant Period	
		$\alpha = 5\%$	$\alpha = 10\%$
Indonesia	2015	W ₁ , W ₂ , W ₅	W ₃ , W ₆
	2014	W ₁ , W ₂ , W ₇	-
	2013	W ₁ - W ₅	-
	2008	W ₁ , W ₂ , W ₉ , W ₁₀	-
Vietnam	2015	W ₄ - W ₆	W ₃
	2014	W ₂	
	2013	W ₇ - W ₁₀	W ₆
	2012	W ₁ , W ₃ - W ₆	-
	2011	W ₁ - W ₅	W ₉
	2010	W ₃ , W ₅ , W ₆	W ₄
	2009	W ₁ - W ₁₀	-
	2008	W ₁ - W ₃ , W ₆ - W ₁₀	-
Malaysia	2015	W ₁ , W ₂ , W ₄ , W ₁₀	-
	2014	-	-
	2013	W ₁ , W ₂ , W ₁₀	W ₉
	2012	W ₄ , W ₇	W ₃ , W ₆
Lao	2015	-	W ₂ , W ₄ , W ₅
	2014	-	-
	2013	-	W ₃ , W ₄
	2012	-	W ₈
	2011	-	-
Singapore	2015	W ₂	-
	2014	-	-
Cambodia	2015	-	-
	2014	-	-

T test indicates significance of abnormal return in the period tested. Consistent effect can be observed in Indonesia and Vietnam state owned companies stock. Effects in Indonesia was most consistent in the last three years, ranged from 5 window period until 7 window period. In short term period (up to window 5) Indonesia showed strong reaction, confirmed by significance level of $\alpha = 5\%$. Less strong reaction was still presence until window 10 in 2008. In Vietnam, consistent strong effect was captured since 2008 until 2015. It is possible for investors to take arbitrage opportunity from Indonesia and Vietnam state-owned enterprises' stock around Independence Day.

Malaysia owned companies reacted strongly on Independence Day. Only in 2014 Malaysia samples showed no significances at all. In 2015 and 2013, the samples reacted strongly in a short window period, it is until 2 windows period. Strong reaction was then appear again later on window 10 on both countries. In 2012 the reaction was rather early compared to 2013 and 2015. In window 3 a less strong reaction was noted and continued by strong reaction on window 4. The reaction lasted until 7 window period on this particular year.

Lao PDR capital market showed similar result with Malaysia. Lao's government owned companies showed significances in 2012, 2013, and 2015. The effect was quite strong with significance level of 10% in short term period (until window 5) in 2015 and 2013. Early reaction was shown in 2012 as the significances appeared on 8 window period. Singapore showed a strong reaction in 2015 on 2 window period (day 2 before until day 2 after Independence Day). However there was no significances detected on year 2014. Cambodia showed no reaction towards Independence Day in all observed years. However, during the research, there was indication that Cambodia stock market react to religion related holidays.

B. Abnormal Return

The value of abnormal return is calculated with different method. Cumulative Average Abnormal Return (CAAR) shows how much percentage of excess return the samples will give to investors in a certain period of investment. If the value of CAAR is other than 0, it means that abnormal return presence in the sample stocks. Positive value of CAAR shows that in the given time stocks observed gives return higher than its expected return. In the condition, investors are recommended to sell the stocks to gain relatively high return. In contrary, negative value of CAAR shows that samples at the given time gives less return than it is expected to be.

A pattern of positive abnormal return before the event and negative abnormal return on after event period is consistent throughout the observed time. To gain the highest abnormal return it is suggested that investors sell the stocks between day-9 until day-4 before event. Vietnam stock cannot be observed because the data required to run this test is not available.

Singapore and Cambodia showed presence of abnormal return during the observation period, but no pattern can be concluded from the result. The absence of pattern means that there is no Independence Day Effect on the samples and the abnormal return was caused by other factors. Malaysia and Lao's result of CAAR test showed that abnormal return presence in both countries' samples during observed period. Unfortunately the result of CAAR showed no consistent pattern. For that reason, it cannot be concluded that Independence Day effect presence on the samples. In 2011 there was Greek crisis that happened. The only country that includes 2011 in the sample is Lao and the pattern that is shown is consistent with the other years taken as sample. Therefore, the year is not excluded in this research.

Conclusion

This research found that there were consistent significances in Indonesia and Vietnam samples. The abnormal return that presence in Indonesia stock market has a pattern of positive value during 10 days before Independence Day and negative value during 10 days after Independence Day. The highest positive value of abnormal return was presence on day 9 until day 4 before the event. Singapore and Cambodia was proven to have abnormal return presence in their state-owned enterprises' stocks during the observation period. However the value of abnormal return showed absence of pattern, which was concluded as absence of Independence Day effect on the samples and that the abnormalities were caused by other factors.

Abnormal return also presence in Malaysia and Lao during all observed years. Referring to the previous statistical test, the effect of Independence Day presence in 2015, 2013, and 2012. To take advantage of the arbitrage opportunity, investors are suggested to make investment in Indonesia state-owned enterprises around Independence Day. High value of positive abnormal return means the actual return is way higher than it's expected to be. Highest positive abnormal return value was detected on day 9 until day 4 before the event, therefore investors are suggested to make a sell during those period of time.

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