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The Impact of The Russian-Ukraine Invasion on The Reaction of Asean Stock Markets

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ABSTRACT

This research is motivated by the Russian attack on Ukraine that occurred on February 24, 2022, which resulted in instability in the global stock market. This study aims to determine the reaction of the stock market in ASEAN countries to the event of Russia's invasion of Ukraine by comparing the abnormal value of returns before and after the event. Using quantitative methods based on the event study approach, this research was conducted on six ASEAN stock markets, namely Indonesia, Singapore, Vietnam, Malaysia, Philippines, and Thailand with an observation period of 30 days before and after the Russian-Ukrainian invasion. The data analysis techniques used in this study were normality tests and different tests with the Paired Sample T-Test and Wilcoxon Signed Rank Test. The results of the two different tests carried out showed abnormal return values that tended to be positive and insignificant. This means that the stock market reaction of ASEAN countries to the events of Russia's invasion of Ukraine is not so great or the information content is not very strong. In another sense, the announcement of this event does not put pressure on investors on the ASEAN stock market. The results of this study can help investors to see and evaluate the development of the stock market in ASEAN countries. This research can be a consideration for investors to see the resilience of ASEAN stock markets to an event that occurs.

Keywords: *ASEAN Stock Market Reaction, Abnormal Return, Russia-Ukraine Invasion*

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INTRODUCTION

The introduction is a little different from the short and concise abstract. Currently, the international focus is on Russia's invasion of Ukraine (Guo dkk., 2020; Klok dkk., 2020). The events of Russia invading Ukraine occurred on February 24, 2022. It started when Russian President Vladimir Putin felt he had failed to persuade Ukraine not to join the North Atlantic Treaty Organization (NATO) alliance and also feared it would join the European Union (Boungou & Yatié, 2022; Popov dkk., 2019). That concern poses a real threat to Russia because if Ukraine joins NATO it will threaten its country's sovereignty because Russia directly borders Ukraine. For this reason (Zhao dkk., 2019), until Ukraine meets the demands to remain a neutral country (Najeed dkk., 2022; Nopiana dkk., 2022), Russia will continue to launch its attacks.

This Russian attack on Ukraine was called the beginning of the war by world leaders (Green dkk., 2022). As a result, Russia came under international threat by being imposed economic sanctions by the United States, Great Britain, and countries in the European Union (Hartini dkk., 2022; Ilham dkk., 2022; Safitri dkk., 2022). Russia as a petroleum producing country and Ukraine as the world's largest wheat producer (Slavtcheva-Petkova, 2019), caused geopolitical tensions between the two as well as the economic sanctions Russia received adversely affected the Western economy and caused instability in the global market.

This global instability affects various sectors, one of which is stock market instability (Anoum dkk., 2022; Demina dkk., 2022; Firman dkk., 2022). The stock market is very sensitive to existing issues, including political issues. Fear of political instability has a significant negative effect on stock market returns and the risk profile of financial assets (Kapar & Buigut, 2020).

(Berkman, Jacobsen and Lee, 2011) Researching a number of international political crises reports that political crises may shed light on the average and volatility of stock market returns around the world. In addition, the inverse between political risk and stock returns is also explained (Lehkonen and Heimonen, 2015) which examined usingdata from 49 developing countries. In this case it can be concluded that the occurrence of political risiko will affect returns in currency trading (Dimic, Orlov and Piljak, 2016)

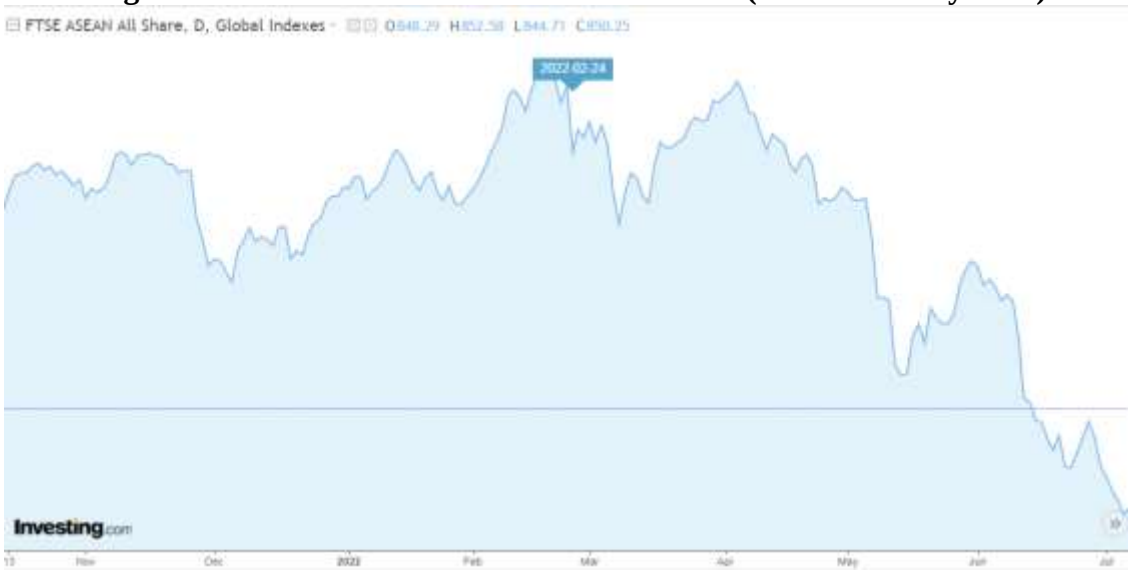
The impact of this Russian-Ukrainian invasion was felt by stock markets almost all over the world (Dewi S dkk., 2022; Hikmah dkk., 2022; Keshav dkk., 2022). The stock market shows a significant negative effect of the Ukrainian-Russian War on global stock indices but has heterogeneous effects on some countries (Boungou & Yatié, 2022). It is influenced by the significant role of country, industry and enterprise level factors; geopolitical risks; refugees and the announcement of company sanctions (Sun et al., 2022)

Previous research examining the effects of the Russian-Ukrainian crisis on European stock markets explains that European stock markets tend to react negatively

as indicated by the occurrence of significant abnormal negative returns (Ahmed et al., 2022). In addition, (Emelia et al., 2022) also explained that the Russian-Ukrainian war also reacted to the Japanese capital market from its abnormal return indicators . For this reason, from previous studies (Dianovi dkk., 2022; Rahmah dkk., 2022; Rohmalimna dkk., 2022), we are interested in researching the effects of the invasion that Russia carried out on Ukraine to find out the reaction of the stock market in ASEAN countries.

Based on the ASEAN countries' stock indices indicated by the FTSE ASEAN All Share Index (see Figure 1), stock markets in ASEAN reacted negatively to the events of the Russia-Ukraine war (Barchielli dkk., 2022; Umar dkk., 2022). It can be seen that the stock market experienced a sharp correction during the invasion on February 24, 2022. After that (Gabriela dkk., 2022; Kartel dkk., 2022; Qureshi dkk., 2022), the stock market also continued to experience a volatile decline after the event.

Figure 1. FTSE ASEAN All Share Index Trend (Oct 2021 - July 2022)



Sources : Investing.com

From theprevious research above, it canbe seen that the stock market reacted negatively due to the invasion carried out by Russia on Ukraine (Osiichuk & Shepotylo, 2020). This is evidenced by the market instability that occurs. This is also indicated by the stockp-asar which tends to decline since February 24, 2022 or since the event occurred.

This research provides novelty, namely first, this article will complement previous research that shows the sensitivity and impact of geopolitical issues on the stock markets of ASEAN countries (Eser dkk., 2019). Second, this article that we make in the future will be very useful for stakeholders, especially investors (Grossi & Vakulenko, 2022; Tomczewska-Popowycz & Quirini-Popławski, 2021; Umar dkk., 2023), to see the resilience of the ASEAN stock market and make better decisions in the face of uncertainty on political issues that may occur in the future.

From this study (Amado-Alonso dkk., 2019), it can be found that the gap or subject reseach is the unstable stock market in ASEAN countries due to the invasionof Ukraina and Rage (Ahmed dkk., 2022). So we took the title in this study, namely "The Impact of the Russian-Ukrainian Invasion on the Stock Market Reaction of ASEAN Countries".

RESEARCH METHODOLOGY

Data

From 10 ASEAN countries, we selected 6 countries whose stock indices we will sample and we will test. These countries are Indonesia, Singapura, Vietnam, Malaysia, Philippines, and Thailand. We use the purposive sampling technique with several reasons and considerations that the 6 countries are included in the countries that accept Foreign Direct Investment (FDI) or foreign direct investments. In addition, the stock exchanges of the 6 countries represent in the ASEAN stock index that we use, namely the FTSE ASEAN All-Share Index.

We collect secondary data on the closing price and volume of daily stocks traded on each country's index sourced from Investing.com. Data we take from the 30-day trading period before and the 30-day trading period after the Russian-Ukrainian invasion (or [-30, +30]) as well as with an estimated period of 10 days (-40, -31). The stock indices we take represent large, medium, and small companies from ASEAN countries, and include from several industries in the country.

Withhodology

This research is a quantitative research using the event study approach method proposed by (Fama, 1970). An event study is a study that studies market reactions to an event published as an announcement (Jogiyanto, 2016). The Event Study in this study is the event of the invasion carried out by Russia to Ukraine which was announced on February 24, 2022. In this study, it will be examined whether the invasion event gave a reaction to the ASEAN stock market as seen from the abnormal difference in return (AR) during the observation period and AR before and after the event.

Calculating the abnormal difference in return that occurs around the day of the incident, we first calculate the stock return with the following equation:

$$\boldsymbol{R}\text{it} = \frac{\mathbf{Pt-(Pt-1)}}{\mathbf{(Pt-1)}}$$

Information:

Rit : Return on shares

Pt : Share price in period t

Pt-1: Share price on peride t-1 (before)

In this study, we used the FTSE ASEAN All-Shares Index as a proxy for the market index. Market model parameters α and β are estimated using OLS regression with an estimated period of 10 days before the event [-40, -31]. From the results of the parameter estimation, an abnormal return is then calculated during the observation period using the equation:

$$ARit = Rit - (\alpha + \beta R\ mt)$$

Information:

ARit : abnormal return for capital markets m on the t-th event (or on the t-th heart).

Rm.t : actual return on the capital market m that occurred on the t-day.

The data analysis technique in this study was the first to test normality with the Saphiro-Wilk Test with a significance level of 0.05. The results of the data normality test were further tested using parametric tests for normally distributed data using the Paired Sample T-Test. Data with abnormal distribution will be tested non-parametrically using the Wilcoxon Signed Ranks Test. The results of the data analysis that has been carried out will prove that H1: there was a significant abnormal return during the observation period (-30.+30) and H2: there was an abnormal difference in return from before the announcement of the invasion with after the announcement of the Russian-Ukrainian invasion.

RESULT AND DISCUSSION

Data Normality Test

The normality test of abnormal return data was carried out with the Saphiro-Wilk Test with a significance of 0.05 where if > 0.05 then the data is normally distributed and if < 0.05 the data is abnormally distributed. Normality Test results for the range of days (-30,+30) are presented in the following table:

Table 1. Tests of Normality

	Shapiro-Wilk			
	Statistic	df	Itself.	Information
TMINS30	.895	6	.348	Normal
TMINS29	.878	6	.260	Normal
TMINS28	.948	6	.726	Normal
TMINS27	.939	6	.652	Normal
TMINS26	.929	6	.572	Normal
TMINS25	.927	6	.561	Normal
TMINS24	.960	6	.818	Normal
TMINS23	.940	6	.662	Normal
TMINS22	.725	6	.011	Abnormal
TMINS21	.976	6	.929	Normal
TMINS20	.943	6	.682	Normal
TMINS19	.829	6	.105	Normal
TMINS18	.677	6	.003	Abnormal
TMINS17	.870	6	.225	Normal
TMINS16	.938	6	.643	Normal
TMINS15	.952	6	.759	Normal
TMINS14	.876	6	.251	Normal
TMINS13	.896	6	.353	Normal

TMINS12	.886	6	.298	Normal
TMINS11	.916	6	.478	Normal
TMINS10	.828	6	.103	Normal
TMINS9	.830	6	.108	Normal
TMINS8	.937	6	.638	Normal
TMINS7	.914	6	.462	Normal
TMINS6	.846	6	.147	Normal
TMINS5	.930	6	.577	Normal
TMINS4	.861	6	.193	Normal
TMINS3	.838	6	.125	Normal
TMINS2	.931	6	.588	Normal
TMINS1	.868	6	.217	Normal
TNOL	.940	6	.660	Normal
TPLUS1	.903	6	.394	Normal
TPLUS2	.946	6	.710	Normal
TPLUS3	.835	6	.117	Normal
TPLUS4	.912	6	.448	Normal
TPLUS5	.902	6	.387	Normal
TPLUS6	.977	6	.935	Normal
TPLUS7	.922	6	.517	Normal
TPLUS8	.688	6	.005	Abnormal
TPLUS9	.916	6	.479	Normal
TPLUS10	.883	6	.283	Normal
TPLUS11	.769	6	.030	Abnormal
TPLUS12	.977	6	.936	Normal
TPLUS13	.938	6	.647	Normal
TPLUS14	.968	6	.878	Normal
TPLUS15	.894	6	.337	Normal
TPLUS16	.960	6	.823	Normal
TPLUS17	.864	6	.202	Normal
TPLUS18	.964	6	.850	Normal
TPLUS19	.932	6	.594	Normal
TPLUS20	.958	6	.805	Normal
TPLUS21	.901	6	.378	Normal
TPLUS22	.885	6	.292	Normal
TPLUS23	.932	6	.592	Normal
TPLUS24	.825	6	.098	Normal
TPLUS25	.901	6	.378	Normal
TPLUS26	.974	6	.919	Normal
TPLUS27	.980	6	.952	Normal
TPLUS28	.964	6	.851	Normal
TPLUS29	.905	6	.401	Normal
TPLUS30	.958	6	.805	Normal

Source : Author research of SPSS 26

The results of the Normality Test above show that most of the data is normally distributed with sig values. > 0.05. The normally distributed abnormal return data will then be tested with One Sample T-Test to find out if there is a significant abnormal return. However, from the results above, there are 4 days that show a sig.< value of 0.05, which means that the data is not normally distributed. The data that is not normally distributed will be tested with the One-Sample Wilcoxon Signed Rank Test.

Hypothesis Test 1

The H1 test was performed to see if there was a significant abnormal difference in return during the observation period [-30, +30]. We conducted 2 tests for normally distributed data and normally undistributed data. The test results of normally distributed data with One Sample T-Test are as follows:

Table 2. One-Sample Test

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
TMINS30	1.522	5	.188	.0058118075	-.004002971	.015626586
TMINS29	1.848	5	.124	.0042298572	-.001653141	.010112855
TMINS28	-1.239	5	.270	-.0045469733	-.013978276	.004884329
TMINS27	-1.486	5	.197	-.0038087853	-.010396398	.002778827
TMINS26	-.019	5	.985	-.0000817380	-.010887970	.010724494
TMINS25	-3.670	5	.014	-.0064231578	-.010922372	-.001923944
TMINS24	-1.490	5	.197	-.0025211908	-.006871906	.001829525
TMINS23	-.571	5	.593	-.0035052742	-.019284517	.012273969
TMINS21	-.482	5	.650	-.0017163240	-.010869493	.007436845
TMINS20	-.024	5	.982	-.0000936972	-.010107988	.009920593
TMINS19	-.313	5	.767	-.0007596197	-.006996781	.005477542
TMINS17	1.397	5	.221	.0068583228	-.005763401	.019480047
TMINS16	.967	5	.378	.0035023353	-.005809055	.012813726
TMINS15	.118	5	.911	.0004489323	-.009353341	.010251205
TMINS14	1.925	5	.112	.0065175653	-.002184861	.015219992
TMINS13	.170	5	.872	.0006789633	-.009596108	.010954035
TMINS12	.795	5	.463	.0024341253	-.005441275	.010309525
TMINS11	1.977	5	.105	.0055179022	-.001657994	.012693798
TMINS10	.375	5	.723	.0011315353	-.006616927	.008879997
TMINS9	-1.050	5	.342	-.0046007575	-.015866733	.006665218
TMINS8	-1.126	5	.311	-.0047911652	-.015731080	.006148749
TMINS7	.604	5	.572	.0018497167	-.006019605	.009719039
TMINS6	1.383	5	.225	.0057266428	-.004914915	.016368201
TMINS5	.618	5	.564	.0011324690	-.003581531	.005846469
TMINS4	-.613	5	.567	-.0012291285	-.006381421	.003923164
TMINS3	-1.532	5	.186	-.0048554873	-.013000222	.003289248

TMINS2	-2.216	5	.077	-.0039824162	-.008601624	.000636792
TMINS1	.168	5	.873	.0003511608	-.005025038	.005727360
TNOL	-2.456	5	.058	-.0190049463	-.038897836	.000887944
TPLUS1	2.105	5	.089	.0075188467	-.001663886	.016701580
TPLUS2	.114	5	.914	.0005135465	-.011081513	.012108606
TPLUS3	-.745	5	.490	-.0023568205	-.010489400	.005775759
TPLUS4	-.356	5	.736	-.0013118918	-.010780027	.008156243
TPLUS5	.619	5	.563	.0020028963	-.006308086	.010313879
TPLUS6	-3.382	5	.020	-.0088837112	-.015636808	-.002130615
TPLUS7	-1.530	5	.187	-.0169668145	-.045471864	.011538235
TPLUS9	1.473	5	.201	.0084547063	-.006299254	.023208666
TPLUS10	2.716	5	.042	.0043210940	.000231074	.008411114
TPLUS12	.469	5	.659	.0025460432	-.011417875	.016509961
TPLUS13	-1.490	5	.197	-.0032494022	-.008857113	.002358309
TPLUS14	1.540	5	.184	.0080904343	-.005410610	.021591479
TPLUS15	.417	5	.694	.0011164167	-.005773137	.008005970
TPLUS16	-.138	5	.896	-.0003428268	-.006738657	.006053003
TPLUS17	1.299	5	.251	.0038569763	-.003776814	.011490767
TPLUS18	.510	5	.632	.0007960585	-.003218814	.004810931
TPLUS19	.278	5	.792	.0008335474	-.006881148	.008548242
TPLUS20	.691	5	.520	.0018446985	-.005014943	.008704340
TPLUS21	-.103	5	.922	-.0001635287	-.004259224	.003932167
TPLUS22	-.133	5	.899	-.0003841953	-.007787949	.007019559
TPLUS23	.079	5	.940	.0002151907	-.006827212	.007257594
TPLUS24	-.247	5	.815	-.0007080540	-.008078168	.006662060
TPLUS25	-.641	5	.550	-.0016779690	-.008412062	.005056124
TPLUS26	1.662	5	.157	.0042191122	-.002306383	.010744607
TPLUS27	-1.474	5	.200	-.0021762617	-.005970269	.001617746
TPLUS28	-1.322	5	.243	-.0030601590	-.009011238	.002890920
TPLUS29	-.503	5	.637	-.0031119017	-.019025681	.012801877
TPLUS30	-1.099	5	.322	-.0032587380	-.010881153	.004363677

Source : Author research of SPSS 26

The test results of the data are not normally distributed with *the One Sample Wilcoxon Signed Rank Test* are;

Table 3. Hypothesis Test Summary

	Null Hypothesis	Test	Itself.	Decision
1	The median of TMINS22 equals .0000000.	One-Sample Wilcoxon Signed Rank Test	.046	Reject the null hypothesis.
2	The median of TMINS18 equals .0000000.	One-Sample Wilcoxon Signed Rank Test	.600	Retain the null hypothesis.

3	The median of TPLUS8 equals .0000000.	One-Sample Wilcoxon Signed Rank Test	.249	Retain the null hypothesis.
4	The median of TPLUS11 equals .0000000.	One-Sample Wilcoxon Signed Rank Test	.116	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

Source : Author research of SPSS 26

From the two tests above, it can be seen that there are only 4 days that show a significant abnormal difference in returns, namely days [-25, -22, +6, and +10]. This shows that the invasion that occurred between Russia and Ukraine did not have a meaningful effect on the stability of the ASEAN capital market which dalam this is indicated by the abnormal difference in its returns which has a positive and insignificant effect.

Hypothesis Test 2

The H2 test is conducted to test whether there is a difference in stock returns or abnormal returns within 30 days before the announcement of the event with 30 days after the announcement of the event.

Table 4. Tests of Normality

	Shapiro-Wilk		
	Statistic	df	Itself.
AARSBLM	.902	6	.389
AARSSDH	.844	6	.142

Source : Author research of SPSS 26

The results of the normality test with the Saphiro Wilk Test average abnormal return (AAR) showed that the AAR before and AAR after were all normally distributed with sig values. >0.05. So in this case, the test of the difference in the significance of AAR before with AAR after will be carried out with a Paired Sample T-Test or a T-paired test.

Table 5. *Paired Sample T-Test Abnormal Return*

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	AARSBLM - AARSSDH	.00031	.00116	.00047	-.00090	.00153	.666	5	.535

Source : Author research of SPSS 26

The H2 d difference testfrom the table above can be seen that the value of the sig value. (2-tailed) indicates a value of 0.535 which means that this value is greater than the significance of 0.05. Therefore, it can be concluded that Ho was accepted and H2

was rejected or there was no difference between AR before and *AR* after the Russian invasion of Ukraine occurred.

The results of this research show that the events of the Russian-Ukrainian Invasion did not significantly affect the instability of the stock market in ASEAN as seen from the difference in stock returns or abnormal returns (Kurapov dkk., 2023; Sziklai dkk., 2020). This may happen because of the distance of ASEAN's geographical location far from the place where the event occurred so that this event does not put pressure on investors' influence in the ASEAN stock market.

CONCLUSION

The results of research on the events of the Russian–Ukrainian Invasion used the event study approach method which is included in quantitative research. This research has gone through various tests. The first test, using a data normality test with the result that most of the data has a normal distribution. However, there is data that is not normally distributed with a sig value< 0.05.

Then this research through the testing of Hipthesis I and Hypothesis II, where the results of this test said that the Russian-Ukrainian Invasion event had little effect on the movement of ASEAN stock prices in the 30 days before the event and 30 days after the event. And stock investors are not so affected by the pressure exerted on the impact of this event, due to ASEAN's long geographical distance from Russia and Ukraine. It is hoped that further research will look for other possibilities that occurred during the Russian-Ukrainian Invasion so that the research has better insight and expansion.

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