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Which Index is More Affected by CDS Premium and VIX Index: BIST-30 or Participation-30?

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Abstract: Purpose: This study aims at determining the existence and, if any, the extent of comparative effects of the CDS premium and the VIX index on the BIST-30 and the Participation-30 indices before and during the pandemic. Methodology: The study explores the relationships of the CDS premium and VIX index to the BIST-30 index and the Participation-30 index for two time periods, as pre-pandemic and pandemic. The date range is set as 02.01.2018-10.03.2020 for the pre-pandemic period and as 11.03.2020-31.12.2021 for the pandemic period. Following the Johansen cointegration and ARDL tests employed to detect the long run relationships between the variables, FMOLS regression tests were used to determine the effect sizes. Results: As a result of the cointegration tests, long-term cointegration relationships of both the BIST-30 and the Participation-30 indices with the variables of the CDS premiums and the VIX index were determined before and during the pandemic period. FMOLS regression results posited that the VIX index had greater effect on the Participation 30 index in both periods. Originality and Practical Implications: The fact that the literature review does not reveal the existence of any study providing the comparative effects of the CDS premiums and the VIX index on both the BIST-30 and Participation-30 indices contributes to the originality of this paper.

Keywords: VIX Index; CDS premium; BIST-30 index; Participation-30 index; Johansen cointegration test; ARDL bounds test; FMOLS regression test; COVID-19

1. Introduction

BIST-30 is an index calculated to track the movements of the stocks of 30 companies with the highest trading volume and market value in Borsa Istanbul. On the other hand, the BIST Participation-30 index is formed by selecting 30 companies listed on Borsa Istanbul with the highest trading volume and market value operating in accordance with Islamic principles. Principally, the BIST Participation indices exclude the listings of the firms whose activities are about, among others, financial transactions with interest, production and trade of alcoholic beverages and gambling activities. The interaction between the BIST-30 index and the Participation-30 index, in fact, has been the subject of several studies such as Baykut & Çonkar (2020), Kahyaoğlu & Akkuş (2020) and Yıldırım & Sakarya (2019). The present study, however, is the first attempt to provide the comparative behavior patterns of these two indices against the movements in the major risk indicators of the Credit Default Swaps (CDS) and the Volatility Index (VIX), or as commonly called the Fear Index.

The Credit Default Swap (CDS) premiums are the most widely known and traded credit derivative product in financial markets with the capacity of reflecting country level risks. The CDS premiums enable the credit risk of the asset subject to the contract to be transferred from one party to the other without transferring the ownership of the asset. CDS contracts can be arranged for both private and sovereign debt securities. The CDS premiums provide important information about credibility and perceived risk level of countries. It is also possible to call the CDS premiums as a type of insurance against the risk of debt default by the borrower (Han & Zhou, 2015). CDS is one of the important indicators that reflect the perception of investors regarding the risk level of countries (Akgüneş, 2021a).

In order to follow the volatility in the markets, an index was developed by the Chicago Stock Exchange in 1993

known as the VIX index or the Fear Index which rather represents the international risk level. The VIX index gives information about the risk perception, or more precisely the risk appetite of the investors in the markets. The VIX index score of more than 30 means the high level of uncertainty in the market, reflecting negative expectations of investors about the future. If the VIX index gets a value below 20, it means decrease in the perceived level of risk and anxiety in the market. This index is called "Fear Index" as the increase in the index during the crisis spreads fear in markets (Kaya et al., 2015).

Evaluating the effects of fluctuations in the CDS premium and the VIX index on financial markets is important for investors while making investment decisions. This study aims at attempting to explore how the CDS premium and the VIX index affect the Turkish financial markets. Meanwhile this research will have the capacity to show how the markets are affected by the COVID-19 global pandemic that broke out in 2019 and spread rapidly all over the world. Therefore, the study aims to reveal the effects of the CDS premium and VIX index on the BIST-30 and Participation-30 indices for both pre-pandemic and pandemic periods separately. The number of studies in the literature on the relationship between the CDS premium, VIX index and BIST-30 and Participation-30 is limited. In addition, the study will provide original contribution to the literature in that it will be the first study providing the comparative effects on the BIST-30 and Participation-30 indices of the variables of the CDS premium and VIX index.

In the next part of the study, a literature review will be provided regarding the concise summary of past studies on the subject. Then, the data set, methodology and the analysis of the study will be discussed. As the first step of the analysis, the stationarity levels of the variables will be determined by the ADF and PP unit root tests. Then, the long-term relationship between the variables will be determined using the Johansen and ARDL cointegration tests. The Johansen cointegration test will be used for the variables with the same stationarity levels while the ARDL bounds test will be employed for the variables with different stationarity levels. Then, the effects of the CDS premium and the VIX index on the BIST-30 and Participation-30 indices will be measured by FMOLS regression method based on cointegration test results. The study will end by the concluding part.

2. Literature Review

There are several studies in the literature examining the relationship between stock markets and the variables of the CDS premiums and the VIX index. In those studies, the VIX index and CDS premiums and different stock indices data were analyzed using different methods such as Correlation test, Johansen Cointegration Test, ARDL model, Granger causality test, Variance Decomposition test and Impact-Response graphs. While tests such as the Johansen and ARDL model examine whether there is a long-term relationship between the variables, the Granger causality test determines the direction of the relationship between the variables.

Of these studies, some focus on the relationship between stock indices and CDS premiums (for example, Aydın et al., 2016; Baykut & Diyar, 2021; Coronado et al., 2011; Mataev & Marinova, 2019; Tanyıldız & Yiğiter, 2021). While a part of those studies examining the causality relationship between stock indices and CDS premiums has found a one-way causality relationship (for example, Bektur & Malcioğlu, 2017; Topaloğlu & Ege, 2020; Tüzün et al., 2021; Vurur, 2021), some others have detected a bidirectional causality relationship between stock indices and CDS premiums (for example, Fung et al., 2008; Gün, 2018; İltaş & Güzel, 2021; Vurur & Özen, 2020). There are also studies finding out that CDS premiums affect stock indices negatively (for example, Akçayır, 2022; Bali & Yilmaz, 2012; Bayrakdaroğlu & Mirgen, 2021; Evci, 2020; Hancı, 2014; Shahzad et al., 2018; Sovbetov & Saka, 2018).

When the studies examining the relationship between the VIX index and the stock indices are concerned, some studies have determined just the existence of relationship (Baykut & Diyar, 2021; Kaya, 2015; Lin & Chang, 2010), while some studies have posited that there is negative relationship between the variables (Akgüneş, 2021b; Chandra & Thenmozhi, 2015; Ersin et al., 2022; Giot, 2005; González & Novales, 2009; Kaya & Çoşkun, 2015; Kula & Baykut, 2017; Nefelli & Resta, 2018; Sarwar, 2012; Uçar & Kıdemli, 2021). In some of the studies on the causality relationship between stock indices and VIX index, one-way causality was found (Erdoğdu & Baykut, 2016; Kaya & Çoşkun, 2015; Ögel & Fındık, 2020; Öner et al., 2018), some other studies, whereas, detected bidirectional causality (Emna & Myriam, 2017; Öner et al., 2018; Ozair, 2014).

There are only a limited number of studies investigating the BIST-30 and Participation-30 indices and the variables of the CDS premiums and the VIX index. Focusing on the CDS premium and the BIST-30 index, Kılcı (2017) found a cointegration relationship by using Engle-Granger cointegration test. Koy (2015) determined, based on Impact-Response graphs, mutual interaction while Variance Decomposition test by Noorie et al. (2020) indicated a negative relationship between the same variables. On the other hand, Essayem et al. (2022), found a negative relationship between the CDS premium and the Participation-30 index using the quantile regression method. Another study by Önem (2021) employing DCC-GARCH model concluded that there is a positive and strong relationship between the VIX index and the BIST-30 index. Using Granger causality test, Çonkir et al. (2021) determined the existence of one-way causality relationship between the VIX index and the BIST-30 index. İlgin (2021) revealed, with the employment of the ARDL limit test, that the VIX index negatively affected the

Participation-30 index.

In summary, almost each study in the literature posits existence of a relationship between the BIST-30, Participation-30 indices and the variables of the CDS premium and the VIX index, with most of them asserting a negative relationship. It is, therefore, expected that there will be a negative relationship between the variables in this study. Accordingly, the alternative hypotheses of the research are set as follows:

H_1: There is a cointegration relationship between the BIST-30 index and the variables of the CDS premium and the VIX index.

H_2: There is a cointegration relationship between the Participation-30 index and the variables of the CDS premium and the VIX index.

H_3: The CDS premium and the VIX index affect the BIST-30 index negatively.

H_4: The CDS premium and the VIX index affect the Participation-30 index negatively.

The next section of the study will provide the discussion of the analyses that are performed to test the hypotheses.

3. Data Set of the Research

The study made use of the CDS premium, VIX, BIST-30 and Participation-30 indices. With the outbreak of the COVID-19, the economies of many countries have been affected by this global pandemic. While most of the past studies were about how the pandemic affected the economy, in this study the effects of the CDS premiums and the VIX index on the BIST-30 and Participation-30 indices were examined for both pre-pandemic and pandemic period. As COVID-19 was declared a pandemic by the World Health Organization on 11.03.2020, the pre-pandemic period in the study spanned from 02.01.2018 to 10.03.2020. Data set for the pandemic period in the study was collected for 11.03.2020 to 31.12.21. While the data on the CDS premiums, VIX and BIST-30 indices were obtained from the investing database, the data on the Participation-30 index were collected from Bizim Menkul Değerler A.Ş. (BMD, 2022).

The descriptive statistics of the variables for both pre-pandemic and pandemic periods are reported in Table 1.

Table 1. Descriptive statistics of the variables

Değişkenler	Periods	Mean	Standard deviation	Skewness	Kurtosis	Jarque-Bera
CDS	Pre-pandemic	332.4250	92.99120	-0.079428	2.543101	5.381813***
	Pandemic	443.7598	89.35735	0.179836	2.076457	18.95012***
VIX	Pre-pandemic	16.43404	5.402547	2.905436	15.88646	4596.022***
	Pandemic	24.77991	9.995923	2.704999	12.45574	2289.519***
BIST-30	Pre-pandemic	1261.786	105.2015	0.428455	2.188953	30.80003***
	Pandemic	1470.542	244.8010	1.047429	5.046782	158.6884***
Participation-30	Pre-pandemic	1040.930	135.3136	1.484066	4.911806	286.6906***
	Pandemic	2045.676	479.6838	-0.024002	2.996032	146.7898***

Note: *** %1 significance level. This table was prepared by the authors.

Table 2. Unit root test results

Data	Dönem	ADF intercept and trend		PP intercept and trend		Stationarity level
		Level	Difference	Level	Difference	
CDS	Pre-pandemic	-2.047571(1)	-20.10301(0) ***	-1.990689(5)	-20.08360(4) ***	I (1)
	Pandemic	-1.550545(0)	-19.97697(0) ***	-1.701307(2)	-19.94743(5) ***	I (1)
VIX	Pre-pandemic	-3.053237(0)	-24.93722(0) ***	-3.037072(5)	-24.93722(0) ***	I (1)
	Pandemic	-5.352662(0) ***	-25.24754(0) ***	-4.983430(11) ***	-29.21416(24) ***	I (0)
BIST-30	Pre-pandemic	-2.402546(0)	-21.64949(0) ***	-2.494540(5)	-21.61401(8) ***	I (1)
	Pandemic	-1.902593(0)	-20.87936(0) ***	-2.113757(6)	-20.95106(5) ***	I (1)
Participation-30	Pre-pandemic	-1.378060(1)	-20.90808(0) ***	-1.370513(2)	-20.97322(3) ***	I (1)
	Pandemic	-1.826421(0)	-19.09548(0) ***	-1.947312(6)	-18.99476(9) ***	I (1)

Note: *** %1 significance level. The values in parentheses indicate the optimal lag length. This table was prepared by the authors.

As reported in Table 2, the mean values of all variables increased in the pandemic period, with the most noticeable one being the Participaton-30 index which nearly doubled from 1040,93 in the pre-pandemic period to 2045,68 in the pandemic period. Based on the skewness and kurtosis coefficients, it is understood that the series do not show a normal distribution. This is confirmed by the statistically insignificant Jarque-Bera test value, revealing that the series are not normally distributed.

4. Methodology and Findings of the Research

This section will firstly report the results of stationarity analysis, which will be followed by the discussion of cointegration and regression analyses.

4.1 Stationarity Analysis

For stationarity analysis, both ADF (Augmented Dickey-Fuller) unit root test was developed by Dickey & Fuller (1979) and PP (Phillips-Perron) unit root test that was developed by Perron (1990) were used. The test results are shown in Table 2.

ADF and PP unit root test results indicate that all series are not stationary at the level in the pre-pandemic period and become stationary when the first differences are taken. In the pandemic period, however, it is seen that the BIST-30, Participation-30 indices and CDS premium, not stationary at the level, become stationary when the first differences are taken, while the VIX index is stationary at the level.

4.2 Cointegration Analysis

4.2.1 The pre-pandemic period cointegration relationships between the BIST-30 index, participation-30 index and the variables of the CDS premium and the VIX index

As a result of the stationarity tests, the BIST-30 and Participation-30 indices, the CDS premium and the VIX index were all found to be stationary at the first difference. For this reason, the Johansen Cointegration test (Johansen, 1988; Johansen & Juselius, 1990) was used to determine the cointegration relationship between the variables. In Johansen cointegration method, two different test statistics, trace test statistics and maximum eigenvalue test statistics, have been used to reveal the existence of the co-integration relationship and the number of co-integrated vectors. These test statistics are as follows.

$$\lambda_{trace}(r) = -T \sum_{i=r+1}^{g} \ln(1-\hat{\lambda}_i) \tag{1}$$

$$\lambda_{max}(r, r+1) = -T\, ln\left(1-\hat{\lambda}_{r+1}\right) \tag{2}$$

The cointegration vector number is represented by *r*. While the trace test indicates the number of the co-integration relationships as r, and maximum eigenvalue test indicates the number of cointegration relationship as $r + 1$ (Brooks, 2014).

In order to perform the Johansen cointegration test, the VAR model must be estimated and the lag number of the model must be determined. The appropriate lag length, according to the AIC criterion was determined as 2 for the VAR models estimated in the analysis of the cointegration relationships of the CDS Premium and the VIX Index with the BIST-30 index and the Participation-30 index. In order to see whether the estimated VAR models contain unit root, the position of the inverse roots of the AR characteristic polynomial within the unit circle is examined. It has been determined that all the inverse roots of the AR characteristic polynomial lie within the unit circle revealing that the estimated models exhibit a stationary structure. Table 3 reports the cointegration test results performed for the specified lag length.

As seen in Table 3, according to the trace statistics the null hypothesis is rejected, which indicates the existence of cointegration relationship between the BIST-30 Index and the variables of the VIX index and the CDS premium at 5% significance level. According to the Max-Eigenvalue Statistics, the null hypothesis that there are at least two relationships is rejected, showing the existence of at least one relationship. On the other hand, according to the maximum eigenvalue and trace statistics of the cointegration test between the Participation-30 index and the variables of the VIX index and the CDS premium, the existence of at least one cointegration relationship was confirmed as the null hypothesis is rejected at 5% significance level.

Resultantly, there is a cointegration relationship between the BIST-30 index and the variables of the CDS premium and the VIX index during the pre-pandemic period. Likewise, there is a long-term cointegration relationship between the Participation-30 index and the variables of the CDS premium and the VIX index.

Table 3. Johansen cointegration test results

BIST-30 Index - VIX Index – CDS Premium			
Hypothesis	Trace statistics	%5 critical value	Probability
r=0*	38.21398	35.01090	0.0219
r≤1	15.37890	18.39771	0.1259
r≤ 2*	4.417785	3.841466	0.0356
Hypothesis	**Max-Eigenvalue statistics**	**%5 critical value**	**Probability**
r=0	22.83508	24.25202	0.0761
r≤1	10.96111	17.14769	0.3148
r≤ 2*	4.417785	3.841466	0.0356
Participation-30 Index - VIX Index – CDS Premium			
Hypothesis	**Trace statistics**	**%5 critical value**	**Probability**
r=0*	28.61413	24.27596	0.0133
r≤1	6.271701	12.32090	0.4037
r≤ 2	0.134104	4.129906	0.7626
Hypothesis	**Max-Eigenvalue statistics**	**%5 critical value**	**Probability**
r=0*	22.34243	17.79730	0.0097
r≤1	6.137597	11.22480	0.3343
r≤ 2	0.134104	4.129906	0.7626

Note: This table was prepared by the authors.

4.2.2 The pandemic period cointegration relationship between the BIST-30 index, participation-30 index and the variables of the CDS premium and the VIX index

As discussed above, while the VIX index is stationary at the level, the BIST-30, Participation-30 indices and CDS premium became stationary when the first differences were taken. For this reason, the ARDL cointegration test was used to determine the cointegration relationship between the variables. The ARDL (Autoregressive Distibuted Lag) approach was developed by Pesaran and Shin (1995) and Pesaran et al. (2001) to investigate whether there is cointegration relationship between the variables irrespective of the differences in the degree of stationarity of the variables. The first step of the ARDL model is to determine the appropriate lag length. Based on the AIC value, the appropriate lag length was determined as 2 for the BIST-30 index, the VIX index and the CDS premium and as 1 for the Participation-30 index, the VIX index, and the CDS premium.

The null hypothesis of no cointegration relationship between the variables is tested when the long-term cointegration relationship between the variables is analyzed with the ARDL bound test, If the F statistics is less than the critical lower bound, then H0 is not rejected. However, H0 is rejected if the F statistics is more than the critical upper bound. In case the F statistics falls between the critical lower and upper bounds, other cointegration tests should be applied because there is not enough evidence to reject or not to reject the H0 hypothesis (Pesaran et al., 2001).

The existence of cointegration relationship between the variables was examined using the boundary test, whose results were shown in Table 4.

Table 4. ARDL bound test results

Estimated equation, BIST-30= *f*(CDS, VIX)		
F-statistics	44.05338	
Optimum lag length	[2, 1, 1]	
Statistical significance	***Critical values***	
	Lower bound	***Upper bound***
%1	4.13	5
%5	3.1	3.87
%10	2.63	3.35
Estimated equation, Participation-30= *f*(CDS, VIX)		
F-statistics	102.7163	
Optimum lag length	[1, 0, 1]	
Statistical significance	***Critical values***	
	Lower bound	***Upper bound***
%1	4.13	4.13
%5	3.1	3.1
%10	2.63	2.63

Note: This table was prepared by the authors.

As shown in Table 4, the H0 hypothesis was rejected because the F statistical value (44,05338) was greater than the upper limit (5) value at 5% significance level. Therefore, cointegration relationship was found between the

variables. From this point of view, it has been determined that there is a long-term relationship between the BIST-30 index, and the variables of the CDS premium and the VIX index. Likewise, a long-term relationship was detected between the Participation-30 index and the variables of the CDS premium and the VIX index.

4.3 Regression Analysis

Cointegration tests detected cointegration relationships in the long run between the dependent variables of both the BIST-30 and Participation-30 indices and independent variables of the CDS premium and the VIX index in both the pre-pandemic and pandemic period. In order to have information about the magnitude of the relationship between the BIST-30 and the Participation-30 indices and the independent variables with which they have a long-term relationship, Fully Modified Least Squares (FMOLS) Regression Models were formed as follows.

$$BIST30 = \beta_0 + \beta_1 cds + \beta_2 vix + \varepsilon \quad (3)$$

$$Participation30 = \beta_0 + \beta_1 cds + \beta_2 vix + \varepsilon \quad (4)$$

The regression results are presented in Table 5.

Table 5. FMOLS regression test

$BIST30 = \beta_0 + \beta_1 cds + \beta_2 vix + \varepsilon$		**FMOLS**	
Period	**Variables**	**Coefficient**	**t-istatistiği**
Pre-pandemic	CDS	-0.208346	-4.829508***
	VIX	-0.006959	-0.139093
	β_0	8.351093	29.79544***
Pandemic	CDS	0.355964	1.399653
	VIX	-0.941925	-5.611949***
	β_0	8.036728	5.797640***
$Participation30 = \beta_0 + \beta_1 cds + \beta_2 vix + \varepsilon$		**FMOLS**	
Period	**Variables**	**Coefficient**	**t-istatistiği**
Pre-pandemic	CDS	-0.039862	-0.323138
	VIX	1.276813	8.833414***
	β_0	3.609641	4.472916***
Pandemic	CDS	-0.150687	-0.579271
	VIX	-1.058206	-6.175515***
	β_0	11.80541	8.370776***

Note: *** %1 significance level. This table was prepared by the authors.

In the pre-pandemic period, as the FMOLS regression results indicate, the CDS premiums had a statistically significant negative effect on the BIST-30 index whereas it is the VIX Index that had a statistically significant positive effect on the Participation-100 index. A 1% increase in CDS premiums causes 0.21% decrease in the BIST-30 index while 1% increase in the VIX index causes a 1.28% increase in the Participation-30 index.

As for the pandemic period, it is only the VIX index that had statistically significant negative effects on both the BIST-30 and Participation-30 indices. A 1% increase in the VIX index causes 0.94% decrease on the BIST-30 index and 1.06% decrease in the Partşcipation-30 index.

5. Conclusions

While economic globalization brings prosperity, it is also likely to bring risks to the financial system. It is important for investors to follow the important risk indicators in order to protect themselves from the risks they are faced with. Among the most important of these indicators are the Credit Default Swaps which represent the country risk premium, and the VIX Fear Index reflecting the international risk level.

The study aims to present the comparative evaluation of how the CDS premium and VIX index affected the BIST-30 and Participation-30 indices in the pre-COVID-19 pandemic and pandemic period. As COVID-19 was officially declared a pandemic by the World Health Organization on 11.03.2020, the pre-pandemic period in the study covered the period of 02.01.2018-10.03.2020 while the pandemic period extended from 11.03.2020 to 31.12.2021.

As all variables were found to be stationary at the first difference in the pre-pandemic period, Johansen Cointegration test was used for this period to investigate the cointegration relationship between the BIST-30 index and the Participation-30 index and the variables of the CDS premium and the VIX index. However, as discussed in the analysis section, for the pandemic period the VIX index was stationary at the level while the BIST-30, Participation-30 indices and the CDS premium became stationary when the first differences were taken. Therefore,

for the pandemic period, the ARDL bounds tests were employed for the variables. The cointegration tests revealed cointegration relationships, that is, a long-term equilibrium relationship, between both the BIST-30 index and the Participation-30 index and the variables of the CDS premium and the VIX index for both pre-COVID-19 pandemic period and the pandemic period. This result is consistent with the existing studies in the literature that found out cointegration relation between, for example, the BIST-30 and the CDS premium (Kılcı, 2017; Noorie et al., 2020), and between the Participation-30 and the VIX index (İlgin, 2021).

Following the determination of the cointegration relationships between the variables, the effects of the CDS premium and the VIX index on the BIST-30 and Participation-30 indices were analyzed with the FMOLS regressions. Based on the results of the FMOLS regression tests, the effects of the CDS premium and the VIX index on both the BIST-30 and Participation-30 indices can be summarized as in the Table 6.

Table 6. The effects of CDS premium and VIX index on BIST-30 and Participation-30 indices

Period	Independent Variables	BIST-30	Participation-30
Pre-pandemic	CDS Premium	Negative (0.21)	No effect
	VIX Index	No effect	Pozitive (1.27)
Pandemic	CDS Premium	No effect	No effect
	VIX Index	Negative (0.95)	Negative (1.05)

Note: Effects are given in parentheses. This table was prepared by the authors.

A set of important conclusions could be derived from Table 6 summarizing the FMOLS regression test results. Firstly, in the pandemic period, it is not the CDS Premium, but the VIX index that had significant effects on both the BIST-30 and Participation-30 indices. This is plausible as the VIX index is used as an indicator of market uncertainty on a global scale. Pandemic period marked common concerns such as logistic problems, supply chain disruptions and economic slowdown that affected all countries. The VIX index, hence, appears to have taken the lead in affecting BIST-30 and Participation-30 indices in this period.

Other conclusion of the tests is that in the pre-pandemic period the CDS Premium surpassed the VIX index in influence on BIST-30. This appears to imply that under the rather steady economic conditions, country-specific risk concerns were followed more closely in the local markets. The other conclusion of the regression analysis is the positive effect of the VIX index on the Participation-30 index in the pre-pandemic period. In fact, shares of banks are excluded from the Participation indices as they perform financial transactions with interest. Moreover, companies whose ratios of interest bearing assets and interest bearing debts in the financial statement to the total assets exceed 33% are also excluded from the Participation indices. As these conditions somehow insulate the Participation index companies against the risk of debt, they might have benefited from the VIX index that imply challenges for companies that are heavily involved with interest bearing assets and debts.

The higher effect sizes as represented by coefficients of the regressions indicate the VIX index had greater influence on the Participation-30 index than the BIST-30 index in both periods. Thus, investors considering the BIST-30 and Participation-30 indices as investment venues should take into account the CDS premium and the VIX index when making their investment decisions. In global crisis times, investors should be wary of adverse consequences of investing in both indices, but especially of the Participation-30 index as it has stronger inverse relationship with the VIX index. But under the rather steady economic conditions, the Participation-30 index could be preferred due to its positive relationship with the VIX index.

This study compared the effects of the CDS Premium and the VIX index on both BIST-30 Participation-30 indices for the pre-pandemic and pandemic periods. The future studies could enlarge the scope by adding the post-pandemic period into their analyses. Moreover, other BIST indices such as the Corporate Governance index and specific sector indices could be picked for the analysis by the incoming studies.

Data Availability

The data used to support the research findings are available from the corresponding author upon request.

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Conflicts of Interest

The authors declare no conflict of interest.

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