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An Empirical Analysis of the Relationship Between Türkiye's CDS Premium and Economic, Financial and Political Risk[1]

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Türkiye'nin CDS Primi ile Ekonomik, Finansal ve Politik Risk Arasındaki İlişkinin Ampirik Analizi[2]

Abstract

This study investigates the causal relationship between Türkiye's economic, financial, and political risk rates and CDS premiums. This assessment uses the Bootstrap TY and time-varying causality test to scrutinise the relationship between the risk rates and CDS premium between the periods 2000:10 and 2020:06. While the former analysis finds no causal relationship among the variables, the latter analysis deduces a significant causality. The Bootstrap TY asymmetric causality test findings discover causality arising from the negative shocks from political risk to CDS premium. The findings of the time-varying causality test identify periods in Türkiye in which a causal relationship is prevalent between economic, financial, and political risk with CDS premium.

Keywords : CDS Premium, Economic Risk, Financial Risk, Political Risk, Causality Analysis.

JEL Classification Codes : G12, C22, F51.

Öz

Bu çalışmanın amacı, Türkiye'nin ekonomik, finansal ve politik risk oranları ile CDS primi arasındaki nedensellik ilişkilerini incelemektir. Çalışmada 2000:10-2020:06 döneminde söz konusu risk oranları ile CDS primi arasındaki ilişkiyi incelemek için Bootstrap TY ve zamanla değişen nedensellik testi kullanılmıştır. Bootstrap TY nedensellik analizi bulgularına göre ekonomik risk ve finansal risk ile CDS primi arasında nedensellik ilişkisi bulunmazken, politik risk ile CDS primi arasında nedensellik ilişkisinin bulunduğu görülmektedir. Bootstrap TY asimetrik nedensellik testi bulgularına göre politik risk değişkeninden CDS primine doğru negatif şoklardan kaynaklanan bir nedensellik ilişkisi söz konusudur. Zamanla değişen nedensellik analizi bulgularına göre ise Türkiye'de ekonomik, finansal ve politik risk ile CDS primi arasındaki nedensellik ilişkisinin bulunduğu dönemler tespit edilmiştir.

Anahtar Sözcükler : CDS Primi, Ekonomik Risk, Finansal Risk, Politik Risk, Nedensellik Analizi.

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[1] *This assessment has been derived from Esra Soyu-Yıldırım's Ph.D. thesis titled "Three Essays on the Determinants of Türkiye's CDS Premium" supervised by Assoc.Prof. Munise Ilıkkan-Özgür in 2022.*

[2] *Bu çalışma Esra Soyu-Yıldırım'ın 2022 yılında Doç.Dr. Munise Ilıkkan-Özgür danışmanlığında gerçekleştirdiği "Türkiye CDS Priminin Belirleyicileri Üzerine Üç Deneme" başlıklı doktora tezinden üretilmiştir.*

1. Introduction

Myriad crises have been experienced globally and in Türkiye, among which the 2008 Global Financial Crisis can be singled out with its worldwide influence and detrimental impact. The root causes contributing to this crisis can be listed as US economic policies focusing on consumption rather than savings, loan bubbles, growth of derivative markets, lack of transparency of credit-rating institutions in their assessment and rating processes and insufficient attention given to expectations vis-a-vis a possible downturn (Alexe et al., 2003: 3; Fulghieri et al., 2014). Because the credit-rating agencies were under scrutiny following the eruption of the crises, countries have started to look for alternatives to obtain more updated, transparent and credible information regarding credit risk.

Being the most prominent of these quests, a CDS premium is a derivative agreement allowing investors to transfer the credit risk of a company, institution or country to another counterparty in return for a defined premium. CDS is used to mitigate the risk vis-a-vis the creditor if there is suspicion that the debtor might default on his obligation and hence cannot pay back (Fontana & Scheicher, 2010; Tamakoshi & Hamori, 2018; Kiff & Morrow, 2000). Therefore, CDS, issued by institutions such as corporations, banks, and countries, is an important tool for borrowing (Ranciere, 2002: 4).

When the literature about CDS is reviewed, various assessments conducted both globally and in Türkiye are encountered, in which primarily economic and financial variables are used as determinants of the concept above. Still, it should be noted that political factors play a significant role in Türkiye since many political risks, such as political upheavals, ethnic conflicts, religious tensions and terror incidents, are constantly on the agenda. Therefore, assessments taking into account these concepts (Gün et al., 2016; Balding, 2011; Huang et al., 2019; Akkaya & Kanar, 2017; Bozkurt & Kaya, 2018; Ulusoy & Kendirli, 2019) are also reviewed within this study. Among these, Gün et al. (2016) take into account the Gezi Park Protests of 2013; Akkaya and Kanar (2017) focus on Türkiye's downing of Russian warplane and the coup d'état attempt on 15th July; Bozkurt and Kaya (2018) assess the news coming from the Arabian Peninsula and Ulusoy and Kendirli (2019) scrutinise the terrorist attacks in Türkiye to investigate the effects of political developments on CDS premia. It should be noted that the common denominator of these studies is the relatively limited scope of their assessment of the relationship between political variables and the financial phenomenon in question, whereas a multifaceted approach to economic, financial and political determinants of CDS is crucial. Therefore, this work focuses on two main research questions: (1) Apart from economic and financial proxies, is there a significant impact of political indicators and the related sub-variables on CDS premium? (2) Are the subsequent effects of economic, financial and political factors on CDS premium time-invariant? In conclusion, the main objective of this assessment is to put forward the causal relationship between economic, financial and political risks and CDS premium.

Contrary to the common approach in the literature, this study aggregates each indicator under a common risk group rather than taking into account each economic (5 sub-

components[3]), financial (5 sub-components[4]) and political (12 sub-components[5]) separately. Moreover, the interdependencies between the twelve sub-components constituting the political risk and CDS premium are investigated individually. Therefore, more political risk variables are utilised compared to previous literature, and the relationship of each factor with CDS is presented, resulting in a relatively more detailed analysis of the correlations among the variables above.

This study follows a two-step approach to investigate the relationship between Türkiye's CDS premium and the economic, financial and political risk indicators between the periods 2000:10 and 2020:06. First, to identify the prevalence of causality between the variables in the periods studied, the Bootstrap Toda-Yamamoto (TY) causality test is utilised. Then, the time-varying causality test is applied to assess the causality through sub-periods since it accounts for the time-varying structure of relationships. In their respective analyses, Tang (2008) and Arslantürk et al. (2011) emphasise that causal relationships vary over time, mainly due to the effects of economic and political events. Therefore, this study aims to identify the prevalence of different causal relationships in different periods by assessing these interdependencies through a time-varying causality method.

This assessment comprises the literature review, data and model, method and application, and empirical findings and results.

2. Literature

Literature focusing on CDS premiums reviewed within the scope of this assessment can be classified under two groups: micro/corporate-based and macro/country-based factors that influence the aforementioned dependent variable.

Being one of the studies where corporate-level variables are embedded into the model developed, Kapar and Olmo (2011) suggest that the explanatory power of corporate-specific (i.e., stock prices, liquidity, etc.) and market-based (i.e., S&P 500 Index, VIX Index, etc.) factors change among periods (pre and post crises). Kajurova (2015) finds that the change in CDS premium can be explained by leverage, liquidity, return on stocks, share price volatility and risk-free premium, whereas for Lee and Hyun (2019), the impact of high leverage ratios and small-scale firms on CDS spreads is of a more emphasised nature. Hassan et al. (2013) do not reject the hypothesis that company-specific characteristics (i.e., Return on Equity (ROE), credit note, etc.) are statistically significant in explaining CDS pricing. Hasan, Liu and Zhang (2016) argued that variables estimated by structural models (leverage,

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[3] *GDP Per Capita, Real GDP Growth, Annual Inflation Rate, Budget Balance (% GDP), Current Account (%GDP).*

[4] *Foreign Debt (% GDP), Foreign Debt (% Total Goods and Services Exports), Current Account (% Total Goods and Services Exports), Net International Liquidity Monthly, Exchange Rate Stability (%).*

[5] *Government Stability, Socio-Economic Conditions, Investment Profile, Internal Conflicts, External Conflicts, Corruption, The Effect of Military in Politics, Religious Tensions, Law and Order, Ethnic Tensions, Democratic Accountability, Quality of Bureaucracy.*

volatility and risk-free interest rate) significantly correlate with bank CDS spreads. Ericsson et al. (2009) discovered a significant and positive relationship between CDS and leverage and a significant and negative relationship between the latter variable and bond yields.

The studies reviewed that focus on a macro-level can be grouped under three categories: economic, financial and political variables that determine CDS.

One of the assessments that utilise economic variables as the primary determinant of CDS premium is Brandorf and Holmberg (2010), which argued that while there is a positive correlation between public debt and the aforementioned dependent variable, the most and least significant variables have an influence on CDS premium are unemployment and inflation, respectively. Sand (2012) posits that while the relationship between CDS premium and current account, risk-free interest rate and the real exchange rate is negative, an opposite inter-dependency is prevalent when debt/GDP and inflation rate are considered. Aizenman et al. (2013) conclude that inflation, public debt/tax revenues, budget deficit/tax revenues, foreign debt/GNP and trade volume (sum of exports and imports) to GNP ratio influence CDS premium. Rashid et al. (2017) found that the relationship between interest rates and currency reserves with CDS premium is negative, whereas the relationship between imports and inflation with the aforementioned explained variable is positive. Moreover, they reject the hypothesis that currency rates and exports have a long-term impact on CDS premiums. Yılmaz and Ünlü (2018) put forward that while there is a positive correlation between currency rate and CDS premium, no such significance exists regarding the explanatory power of the current account deficit. Ekrem et al. (2018) conclude that, as the countries within the scope of analysis get more developed, the CDS premia decrease if the respective central banks engage in monetary tightening and increase when the public debt/GDP ratio, EMBI+ Index and real effective exchange rates rise. Şahin (2018) argues that the current account deficit is a leading indicator in determining Türkiye's CDS premium. Kılcı (2019a) deducts a positive relationship between foreign debt/GDP ratio and country CDS premia. In a later study (2019b), the author also finds a short-term influence of the current account deficit/GDP ratio on the dependent variable. Lastly, Süsay et al. (2020) fail to find a significant causal relationship between growth and CDS.

In the second group, classified as the studies utilising financial variables to explain CDS premia, Kunt and Taş (2008) identify a long-term relationship between risk-free interest rate, return and volatility of the reference entity and CDS premia. Norden and Weber (2009) found that stock market deviations cause CDS shifts, whereas Hancı (2014) discovered a negative relationship between Türkiye's CDS premium and BIST-100 returns. Bozkurt (2015) concludes that, in line with theoretical expectations, there is a negative correlation between financial stability indicators and the studied dependent variable. Çavdar (2015) argues that CDS premium impacts bond returns, and a causal relationship between these two markets is prevalent for all countries studied. In their study, Başarır and Keten (2016) conclude that a one and two-way causality exists for exchange rates and stock market indices, respectively, vis-a-vis their relationship with CDS premia. In addition, they fail to find a significant relationship between the variables above when a longer-term period is

tested. Değirmenci and Babuçcu (2016) propose a two-way causality exists between stock prices and CDS. Kılcı (2017) identifies long-term inter-dependencies between real effective exchange rates, banking sector capital adequacy, non-performing loans/total loans and BIST 30 indicators with CDS premia. Çonkar and Vergili (2017) identify a one-way causal relationship between exchange rates and CDS premia. Shahzad et al. (2017) posit that stock prices, interest rates and the yield curve slope significantly affect the explained variable. Guesmi et al. (2018) establish a non-linear relationship between stock prices and financial determinants with CDS premia. Meanwhile, Özpınar et al. (2018) emphasise the positive correlation between the latter variable and exchange rates. Şahin and Özkan (2018) posit a two-way causal relationship between the BIST100 Index and CDS. Chuffart and Hooper (2019) said that crude petrol price returns significantly influence Venezuela's CDS premia, emphasising the influence of base interest rates on the latter factor.

In the last group, where political factors are tested to explain CDS, Ersan and Günay (2009) failed to find a significant impact of the AK Party closure trial on Türkiye's CDS spreads. Gün et al. (2016) do not reject the hypothesis that the relationship between Gezi Park protests and Turkish CDS spreads is statistically significant. The assessment of Akkaya and Kanar (2017), in which the impacts of the Turkish-Russian "warplane crisis" and 15 Temmuz events on the economy and financial markets are investigated, it is concluded that as the duration of similar political events grows longer, their effects on CDS can increase on a time-variant manner. Similarly, Dinç et al. (2018) emphasise that economic and political events significantly impact the variable above. Bozkurt and Kaya (2018) found that only news -regardless of the favourableness of the content- related to Iran has explanatory power over Turkish CDS premia. Ulusoy and Kendirli (2019) conclude that the terror attacks' influence over the Turkish CDS premia emerges on the sixth day after the studied incident. Can and Acar (2019) investigate the impact of various political and economic developments in Türkiye on the country's CDS premium, reaching the outcome that those factors reflect on the CDS premia and have a boosting impact. Balding (2011) argues that the elections can significantly explain the CDS pricing. Likewise, Sovbetov and Saka (2018) discovered that Türkiye's CDS premia are highly elastic concerning changes in exchange rates and political uncertainties.

In summary, when all these studies are taken into account corporate-level variables like leverage, liquidity and stock market returns; macro-level economic indicators such as inflation, unemployment, public debt, current account deficit, exports+imports/GNP; financial proxies like stock prices, exchange rates, interest rates and stock indices and political indicators such as Gezi Park protests, Turkish-Russian "warplane crisis" and 15 Temmuz can be listed as the main determinants impacting Türkiye's CDS premium.

3. Data and Model

This study investigates the relationship between CDS premium and economic, financial and political risks between 2000:10 and 2020:06 via Bootstrap TY and time-varying causality tests. The variables used in the model are listed as follows: CDS premium

(CDS), economic risk rate (ER), financial risk rate (FR) and political risk rate (PR), in which the data related to the first factor is collected from Bloomberg and the remaining factors is gathered from PRS Group ICRG Database. Moreover, the twelve sub-components constituting the political risk rate are also embedded into the model, these being Government Stability (GS), Socio-Economic Conditions (SC), Investment Profile (IP), Internal Conflicts (IC), External Conflicts (EC), Corruption (COR), The Impact of Military on Politics (MP), Religious Tension (RT), Law and Order (LO), Ethnic Tensions (ET), Democratic Accountability (DA) and Quality of Bureaucracy (BQ). The data related to those components are also gathered from the PRS Group ICRG Database.

ICRG directly constructs the economic, financial and political risk rates used in the analyses. A detailed literature review to assess the utilisation rate of these rates (in research papers and theses) is conducted to examine the reliability of data[6].

Models estimated to identify the relationship between the variables used in the analysis are presented below:

Model 1:

$$ln\ C\ DS_t = \beta_0 + \beta_1\ ln\ E\ R_t + \beta_2\ ln\ F\ R_t + \beta_3\ ln\ P\ R + u_t$$

Model: 2

$$ln\ C\ DS_t = \alpha_0 + \alpha_1 GS_t + \alpha_2 SC_t + \alpha_3 IP_t + \alpha_4 IC_t + \alpha_5 EC_t + \alpha_6 COR_t + \alpha_7 MP_t + \alpha_8 RT_t + \alpha_9 LO_t + \alpha_{10} ET_t + \alpha_{11} DA_t + \alpha_{12} BQ_t + e_t$$

In the first model, *lnCDS*, *lnER*, *lnFR* and *lnPR* are the logarithm of CDS, economic risk rate, financial risk rate and political risk rate, respectively. Moreover, the coefficients β_1, β_2 and β_3 represent the magnitude and sign of change a deviation of economic risk, financial risk and political risk incurs on CDS premium. The second model incorporates the sub-components of the political risk rate: (GS, SC, IP, IC, EC, COR, MP, RT, LO, ET, DA and BQ). Similarly, α_1, α_2, α_3, …, α_{12} are the slope coefficients that show the sign and magnitude of the effects political sub-components have on the aforementioned explained variable. u_t and e_t are the error terms of the models, respectively.

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[6] *Howell and Chaddick (1994), Hoti (2005) and Bekaert et al. (2014) identify that ICRG indices are more reliable than their counterparts and bear more explanatory power in explaining risk than other major political risk information providers. Moreover, they found that risk rates gathered from ICRG are reliable estimators of political events and can be used as political proxies. Moreover, many studies use ICRG dataset, some of them being: Bekaert et al. (2014), Belkhir et al. (2018), Chow et al. (2019), Filippou et al. (2018), Hoti (2005), Huang et al. (2015), Suleman and Berka (2017), Gao et al. (2020), Gregory (2019), Cooray and Dzhumashev (2018), Braga-Alves (2018), Li and Tanna (2019), Mshelia and Anchor (2019), Gakpa (2019), Flores Mendez (2018), Pulok and Ahmed (2017), Chen et al. (2016), Randrianarisoa et al. (2015), Law et al. (2013), Meyer and Habanabakize (2018), Sekkat and Veganzones-Varoudakis (2007), Tuncay (2018), Ayaydın et al. (2016), Kaya (2019), Kök et al. (2015), Şanlısoy and Kök (2010), Oral and Yılmaz (2017), Topal and Gül (2016), Tükenmez and Kutay (2016), Yapraklı and Güngör (2007), İltaş and Üçler (2019), Üçler and Uysal (2017), Kartal and Öztürk (2017), Yılmaz and Meydan (2019), Üçler (2017) and İltaş (2020).*

4. Methodology

Being an advanced version of the TY causality test, the bootstrap causality test developed by Hacker and Hatemi-J (2006) is based on the VAR model with an increased lag. Making use of the superior aspects of the Toda-Yamamoto (1995) test (i.e., the ability of the series to have differing orders of stationarity and the nonnecessity of cointegration among series), Hacker and Hatemi-J (2006) follow the Toda-Yamamoto (1995) process and observe that the utilisation of a bootstrap approach yields better results while obtaining critical values.

VAR (p) model with an increased lag is presented in Equation 1:

$$y_t = v + A_1 y_{t-1} + \ldots + A_p y_{t-p} + \varepsilon_t \quad (1)$$

Here, *v*, Y_t, ε_t and *A* represent a fixed vector, explanatory variable vector, error term vector and *nxn* sized parameter matrix, respectively (Hacker & Hatemi-J, 2006: 1490). Toda and Yamamoto (1995) propose a Wald-test statistic with an asymptotic Chi-Square distribution, independent from the integration or cointegration characteristics of the variables studied. The increased VAR (p+d) model constructed to test the causality between variables is presented below, where p represents the lag length and d refers to the maximum integration level of the variables (Hacker & Hatemi-J, 2006: 1491).

$$y_t = \hat{v} + \hat{A}_1 y_{t-1} + \ldots + \hat{A}_p y_{t-p} + \hat{A}_{p+d} y_{t-p-d} + \hat{\varepsilon}_t \quad (2)$$

The VAR model shown in (2), when written using the variables analysed, is as follows:

$$\begin{bmatrix} \mathrm{CDS_t} \\ \mathrm{ER_t} \end{bmatrix} = \hat{\mathrm{v}} + \hat{\mathrm{A}}_1 \begin{bmatrix} \mathrm{CDS_{t-1}} \\ \mathrm{ER_{t-1}} \end{bmatrix} + \cdots + \hat{\mathrm{A}}_{\mathrm{p+d_{max}}} \begin{bmatrix} \mathrm{CDS_{t-p+d_{max}}} \\ \mathrm{ER_{t-p+d_{max}}} \end{bmatrix} + \hat{\varepsilon}_t$$

$$\begin{bmatrix} \mathrm{CDS_t} \\ \mathrm{FR_t} \end{bmatrix} = \hat{\mathrm{v}} + \hat{\mathrm{A}}_1 \begin{bmatrix} \mathrm{CDS_{t-1}} \\ \mathrm{FR_{t-1}} \end{bmatrix} + \cdots + \hat{\mathrm{A}}_{\mathrm{p+d_{max}}} \begin{bmatrix} \mathrm{CDS_{t-p+d_{max}}} \\ \mathrm{FR_{t-p+d_{max}}} \end{bmatrix} + \hat{\varepsilon}_t$$

$$\begin{bmatrix} \mathrm{CDS_t} \\ \mathrm{PR_t} \end{bmatrix} = \hat{\mathrm{v}} + \hat{\mathrm{A}}_1 \begin{bmatrix} \mathrm{CDS_{t-1}} \\ \mathrm{PR_{t-1}} \end{bmatrix} + \cdots + \hat{\mathrm{A}}_{\mathrm{p+d_{max}}} \begin{bmatrix} \mathrm{CDS_{t-p+d_{max}}} \\ \mathrm{PR_{t-p+d_{max}}} \end{bmatrix} + \hat{\varepsilon}_t$$

This model is defined as follows for a *T* sized sample:

$$Y := (y_1, \ldots, y_T), (n \times T)$$

$$\widehat{D} := (\hat{v}, \hat{A}_1, \ldots, \hat{A}_p, \ldots, \hat{A}_{p+d}), (n \times (1 + n(p+d))$$

$$Z_t := \begin{bmatrix} 1 \\ y_t \\ y_{t-1} \\ \vdots \\ y_{t-p-d+1} \end{bmatrix}, (1 + n(p+d)) \times 1)\ t = 1,2,\ldots,T$$

$Z := (Z_0, \ldots, Z_{T-1}), (1 + n(p + d)) \times 1)$

$\hat{\delta} := (\hat{\varepsilon}_1, \ldots, \hat{\varepsilon}_T),\ (n \times T)$

In light of these structures, the VAR model is represented as $Y=\hat{D}Z+\hat{\delta}$ (Hacker & Hatemi-J, 2006: 1491), whereas the estimated variance-covariance matrix of the residuals in the matrix is $S_u=\hat{\delta}'\hat{\delta}_u/T$.

Modified Wald statistics (MWALD) proposed by Toda and Yamamoto (1995) is presented in Equation (3).

$$MWALD = \left(C\hat{\beta}\right)'[C((ZZ')^{-1} \oplus S_U)C']^{-1}\left(C\hat{\beta}\right) \quad (3)$$

Here, $\oplus$ represents the Kronecker coefficient, and C refers to the $pxn(1+n(p+d))$ matrix. The base hypothesis testing for the lack of a Granger causality is H_0:$C\hat{\beta}=0$. *MWALD* test statistic is asymptotically x^2 distributed with a degree of freedom equal to p and the number of tested limitations (Hacker & Hatemi-J, 2006).

In their study, Hacker and Hatemi-J (2006) propose that the bootstrap distribution is the best method to minimise the size disruption of the MWALD test. It should also be noted that the lag length is endogenously determined via the estimated VAR model. In the bootstrap causality test proposed by Hacker and Hatemi-J (2012), unlike Hacker and Hatemi-J (2006), cases where the lag length is determined internally were investigated.

Although this test has superior features, the effects of positive and negative shocks cannot be evaluated separately. To eliminate this situation, variables should be separated into positive and negative components (Granger & Yoon, 2002). Based on this, Hatemi-J (2012) developed the asymmetric causality analysis.

Hatemi-J (2012) defines the two series y_{1t} and y_{2t}, whose causality relationship is investigated, as follows:

$$y_{1t} = y_{1t-1} + \varepsilon_{1t} = y_{1,0} + \sum_{i=1}^{t} \varepsilon_{1i} \quad (4)$$

$$y_{2t} = y_{2t-1} + \varepsilon_{2t} = y_{2,0} + \sum_{i=1}^{t} \varepsilon_{2i} \quad (5)$$

$y_{1,0}$ and $y_{2,0}$ in the definition of the variable indicate their initial values while ε_{1i} and ε_{2i} within the the variables indicate the total shocks. These shocks are defined as follows:

$$\varepsilon_{1i}^{+} = \text{maks}(\varepsilon_{1i}, 0),\ \varepsilon_{1i}^{-} = min(\varepsilon_{1i}, 0)$$
$$\varepsilon_{2i}^{+} = \text{maks}(\varepsilon_{2i}, 0),\ \varepsilon_{2i}^{-} = min(\varepsilon_{2i}, 0) \quad (6)$$

Can be indicated as $\varepsilon_{1i} = \varepsilon_{1i}^{+} + \varepsilon_{1i}^{-}$ and $\varepsilon_{2i} = \varepsilon_{2i}^{+} + \varepsilon_{2i}^{-}$. If y_{1i} and y_{2i} variables are redefined;

$$y_{1t} = y_{1t-1} + \varepsilon_{1t} = y_{1,0} + \sum_{i=1}^{t} \varepsilon_{1i}^{+} + \sum_{i=1}^{t} \varepsilon_{1i}^{-}$$

$$y_{2t} = y_{2t-1} + \varepsilon_{2t} = y_{2,0} + \sum_{i=1}^{t} \varepsilon_{2i}^{+} + \sum_{i=1}^{t} \varepsilon_{2i}^{-} \quad (7)$$

The positive and negative shocks in each variable are expressed in equation (8) in cumulative form.

$$y_{1i}^{+} = \sum_{i=1}^{t} \varepsilon_{1i}^{+},\ y_{1i}^{-} = \sum_{i=1}^{t} \varepsilon_{1i}^{-},\ y_{2i}^{+} = \sum_{i=1}^{t} \varepsilon_{2i}^{+}, y_{2i}^{-} = \sum_{i=1}^{t} \varepsilon_{2i}^{-} \quad (8)$$

y_{1t}^{+} indicates positive shocks of the first variable, y_{1t}^{-} indicates negative shocks of the first variable, y_{2t}^{+} indicates positive shocks of the second variable and finally y_{2t}^{-} indicates negative shocks of the second variable.

A myriad of structural changes, such as economic, political and social events, can cause a shift in the existing relationship among variables. As Tang (2008) and Arslantürk et al. (2011) state, the interdependency among two variables may change for different reasons. Significantly, the impact of the aforementioned structural changes may shift through time. Within this context, the interdependencies among variables can be assessed via the time-varying causality methods to identify differing relationships in different periods. Therefore, a non-negligible amount of previous research (Balcılar & Özdemir, 2013; Inglesi-Lotz et al., 2014; Yılancı & Bozoklu, 2014; Zeren & Koç, 2016; Kanda et al., 2018; Cekic et al., 2018; Li et al., 2018, etc) emphasise the importance of time-varying analysis methods in their respective investigation of the relationships among macroeconomic variables.

It should be noted that, in time-varying causality analysis, some periods might demonstrate a causal relationship while others do not. While this association is investigated through the time span studied, a misdescription problem may arise if the causality needs to be consistent among variables. Therefore, the possible causal relationship in specific periods that amount to changes in the levels of variables might be overlooked (Balcılar et al., 2010: 1399).

The method is based on Hacker and Hatemi-J's (2006) causality test. While the latter focuses on the sample as a whole, the time-varying causality test assesses the sub-periods of the sample. As emphasised by Brooks and Hinich (1998), a crucial step of this test is the identification of the sub-period length (the number of windows) since the number of windows is used to assess the impacts of structural changes on the causality periods, as stated by Arslantürk et al. (2011). The number of windows also refers to the length of the sub-periods of the time span studied.

$$t = \tau - l + 1, \tau - l, \ldots, \tau, \tau = l, l + 1, \ldots, T \quad (9)$$

l shown in Equation (9) represents the rolling window length (Arslantürk et al., 2011). The identification of the minimum sub-sample size is important within the analysis, and hence, the formula $T(0.01 + 1.8/\sqrt{T})$ developed by Phillips et al. (2015) is used to establish the sub-sample size (number of windows) (Hatemi-J, 2021). This study utilises the formula above and determines the number of windows as 30. To undertake the method, first, the Hacker and Hatemi-J (2006) causality test is applied for the interval from the first

observation to the 30th. Then, the first observation is omitted, and the same test is replicated for the range between the second observation and the observation number (30+1). This replication continues until the last observation in the sample is used. The significance of test statistics obtained for each window is compared with the bootstrap[7] critical value. Therefore, the time-varying nature of the Wald test statistics and the bootstrap critical values are considered. In other words, the test statistic obtained for each observation range is compared to the 10% bootstrap critical value obtained in the same range. The periodic test-statistic value[8] is calculated for each sub-period, and then the Wald test statistics obtained are graphed where the line "1" is characterised as the limit to defining causality (Hatemi-J, 2021; Erdoğan et al., 2019; Yılancı & Bozoklu, 2014).

5. Empirical Findings

The study analyses the relationship between Türkiye's CDS premium and economic, financial and political risk ratios using a monthly data set for 2000:10-2020:06.

In the study, firstly, it is tested whether there is a unit root in the variables. For this purpose, traditional unit root tests (Augmented Dickey-Fuller (ADF) and Phillips and Perron (PP)). Then, Bootstrap TY causality analysis was performed to determine the causality relationship for the entire period analysed. A time-varying causality test was performed considering the possibility of unstable relationships within the period analysed.

Determining stationarity among variables is critical during an assessment of interdependencies between variables in a time series analysis since, in the lack of such stationarity, a spurious regression problem may arise, leading to faulty estimates. Within this context, an analysis has to be conducted considering the orders of stationarity of the variables (Gujarati, 1995). The stationarity levels of each variable are identified through ADF and PP tests.

Table: 1
ADF and PP Unit Root Test Results

	Variables	ADF				PP				
		At Level		First Difference		At Level		First Difference		
		Test sta.	Prob.	Test sta.	Prob.	Test sta.	Prob.	Test sta.	Prob	Result
Constant	LNCDS	-2.3678	0.1521	-15.5914	0.0000	-2.3910	0.1454	-15.8530	0.0000	I(1)
	LNER	-1.6630	0.4488	-11.2015	0.0000	-3.2487	0.0185	-17.5213	0.0000	I(0)
	LNFR	-3.3103	0.0156	-8.6169	0.0000	-3.3414	0.0142	-17.7356	0.0000	I(0)
	LNPR	-1.0540	0.7338	-4.0911	0.0012	-1.2676	0.6449	-17.7786	0.0000	I(1)
Constant and Trend	LNCDS	-2.3028	0.4328	-15.6274	0.0000	-2.3380	0.4113	-16.0754	0.0000	I(1)
	LNER	-2.6086	0.2770	-11.2269	0.0000	-3.4229	0.0508	-17.5444	0.0000	I(0)
	LNFR	-3.7740	0.0197	-8.6795	0.0000	-4.5578	0.0015	-17.6988	0.0000	I(0)
	LNPR	-2.7369	0.2229	-4.1508	0.0062	-1.9513	0.6242	-17.7040	0.0000	I(1)

[7] *Bootstrap method for the study in question is designated as 10000.*

[8] *Periodic test-statistic level = MWALD statistics calculated for any sub-period %10 bootstrap critical values for any sub-period.*

Results presented in Table 1 show that while the CDS premium and political risk variables are stationary at the first difference for both constant and constant-and-trend models, economic risk and financial risk variables are stationary at level, hence I(0). The unit root test results for the twelve sub-components constituting political risk rate are presented in Table 2.

Table: 2
ADF and PP Unit Root Test Results of the Political Risk Sub-Components

	Variables	ADF				PP				
		At Level		First Difference		At Level		First Difference		
		Test sta.	Prob	Test sta.	Prob	Test sta.	Prob	Test sta.	Prob	Result
Constant	LNCDS	-2.3678	0.1521	-15.5914	0.0000	-2.3910	0.1454	-15.2736	0.0000	I(1)
	BQ*	-	-	-	-	-	-	-	-	-
	COR	-3.7891	0.0035	-15.2736	0.0000	-3.9065	0.0023	-15.2736	0.0000	I(0)
	DA	-1.7497	0.4049	-7.3342	0.0000	-1.6144	0.4736	-15.3233	0.0000	I(1)
	EC	-1.7207	0.4194	-4.8943	0.0001	-2.2760	0.1807	-14.5330	0.0000	I(1)
	ET	-1.6261	0.4676	-15.2643	0.0000	-1.6436	0.4587	-15.2643	0.0000	I(1)
	GS	-3.8245	0.0031	-8.9891	0.0000	-3.7023	0.0046	-17.8402	0.0000	I(0)
	IC	-1.7159	0.4219	-11.8616	0.0000	-1.7001	0.4299	-14.9365	0.0000	I(1)
	IP	-5.5084	0.0000	-25.0367	0.0000	-5.4567	0.0000	-25.0128	0.0000	I(0)
	LO	-0.6295	0.8602	-6.4103	0.0000	-0.7275	0.8364	-15.3384	0.0000	I(1)
	MP	-1.769	0.3953	-15.2752	0.0000	-1.8192	0.3706	-15.2751	0.0000	I(1)
	RT	-1.0755	0.7258	-15.2736	0.0000	-1.0810	0.7236	-15.2736	0.0000	I(1)
	SC	-3.9609	0.0019	-15.3297	0.0000	-4.1091	0.0011	-15.3474	0.0000	I(0)
Constant and Trend	LNCDS	-2.3028	0.4303	-15.6274	0.0000	-2.3380	0.4113	-16.0754	0.0000	I(1)
	BQ	-	-	-	-	-	-	-	-	-
	COR	-3.7599	0.0204	-15.2777	0.0000	-3.8698	0.0148	-15.2777	0.0000	I(0)
	DA	-1.9775	0.610	-7.3353	0.0000	-1.8424	0.6809	-15.3087	0.0000	I(1)
	EC	-1.7558	0.722	-4.9138	0.0004	-2.7274	0.2266	-14.492	0.0000	I(1)
	ET	-1.9367	0.632	-15.257	0.0000	-1.9516	0.6241	-15.257	0.0000	I(1)
	GS	-4.2704	0.004	-8.9636	0.0000	-4.2965	0.0038	-17.7799	0.0000	I(0)
	IC	-2.5579	0.300	-11.8396	0.0000	-2.5354	0.3108	-14.9073	0.0000	I(1)
	IP	-6.4612	0.000	-25.0866	0.0000	-6.9173	0.0000	-25.1849	0.0000	I(0)
	LO	-2.1683	0.504	-15.3047	0.0000	-2.2788	0.4434	-15.3322	0.0000	I(1)
	MP	-2.2885	0.438	-15.2431	0.0000	-2.3978	0.3797	-15.2431	0.0000	I(1)
	RT	-2.2591	0.454	-15.2987	0.0000	-2.2641	0.4515	-15.2987	0.0000	I(1)
	SC	-3.308	0.067	-15.6051	0.0000	-3.2637	0.0750	-15.7897	0.0000	I(0)

** This variable is omitted from the analysis because data about the BQ variable has the same value for all periods considered.*

Results presented in Table 2 show that in the constant model, while CDS premium, democratic accountability, external conflict, ethnic tension, internal conflict, law and order, the influence of the military on politics and religious tension are stationary at the first difference for both models, therefore I(1); corruption, government stability, investment profile and socio-economic conditions are stationary at level, hence I(0).

The findings of the causality test developed by Hacker and Hatemi-J (2012) are presented in Table 3.

Table: 3
Hatemi-J Causality Test Findings

	Test sta.	Critical Values				Causality
		P	%1	%5	%10	
ER → CDS	2.564	8	7.418	3.984	2.799	X
FR → CDS	0.745	8	6.537	3.938	2.726	X
PR → CDS	3.872**	8	6.731	3.864	2.699	✓

*Note: *, ** and *** represent the 10%, 5% and 1% significance levels, respectively. P demonstrates the optimal lag length and is obtained by embedding an additional lag to the VAR model identified via the Hatemi-J (2003) criteria. ✓, Available; X, Not Available.*

Findings presented in Table 3 show that while no causal relationship can be deduced between CDS premium and economic and financial risk, causality exists between the former variable and political risk. When investigated through the perspective of the aforementioned explanatory factor, it is widely known that many events that might hamper or facilitate Türkiye's political risk have been experienced during the studied period. Especially for the years between 2002 and 2020, even though the same government has ruled the country, has seen increases in investment rates and developments in socio-economic conditions and experienced political stability to a certain degree; issues such as allegations of corruption, ethnic tension, terrorism, internal and external conflicts can be said to have triggered political risks. Within this context, the volatility of the political risk rate has an impact on the CDS premium.

Table: 4
Hatemi-J Causality Test Findings Related to the Political Risk Components

	Test sta.	Critical Values				Causality
		P	%1	%5	%10	
GS → CDS	1.924	8	6.890	3.932	2.749	X
SC → CDS	0.083	8	6.770	4.021	2.752	X
IP → CDS	1.257	8	7.128	4.077	2.881	X
IC → CDS	0.171	8	6.747	3.874	2.732	X
EC → CDS	1.567	8	6.703	3.878	2.692	X
COR → CDS	4.439**	8	6.955	3.944	2.723	✓
MP → CDS	0.331	8	6.901	3.842	2.735	X
RT → CDS	2.114	8	7.371	3.991	2.765	X
LO → CDS	0.787	8	7.470	3.955	2.811	X
ET → CDS	0.222	8	7.936	3.952	2.666	X
DA → CDS	0.444	8	7.274	3.945	2.736	X

*Note: *, **, *** represent the 10%, 5% and 1% significance levels, respectively. ✓, Available; X, Not Available.*

Results shown in Table 4 demonstrate a causal relationship between corruption and CDS premium. Transparency International has constructed global indices to identify the level of corruption[9] in countries, in which Türkiye ranks 91st among 180 (Transparency International, 2019). Therefore, the impact of corruption on CDS premiums and economic and financial variables is inevitable.

Hatemi-J asymmetric causality test findings in Table 5 demonstrate a causal relationship between political risk and CDS premium, arising mainly from adverse shocks. In other words, one can state that the adverse shocks in the political risk variable are the Granger causes of the positive shocks in CDS premiums. Here, the negative shock in political risk is described as a fall in the rate above, increasing the political risk level. In conclusion, a positive correlation exists between the political risk rate and CDS premium.

[9] *Tanzi (1998) describes corruption as inconvenient/illegitimate practices undertaken to secure advantages for individuals and their close circles through establishing close connections.*

Table: 5
Hatemi-J Asymmetric Causality Test Findings

		Test Sta.	Critical Values				Causality
			P	%1	%5	%10	
ER → CDS	+→+	1.591	8	9.500	4.109	2.517	X
	-→-	0.120	8	6.664	3.813	2.621	X
	-→+	0.079	8	9.978	4.204	2.466	X
	+→-	0.586	8	10.520	4.603	2.504	X
FR → CDS	+→+	0.546	8	8.314	4.055	2.693	X
	-→-	0.331	8	7.043	3.894	2.728	X
	-→+	0.662	8	7.776	3.901	2.679	X
	+→-	0.259	8	9.027	3.872	2.594	X
PR → CDS	+→+	1.522	8	8.137	3.893	2.685	X
	-→-	0.393	8	6.937	3.822	2.673	X
	-→+	3.794*	8	7.742	3.874	2.614	✓
	+→-	2.149	8	8.307	4.109	2.704	X

*Note: *, **, *** represent the 10%, 5% and 1% significance levels, respectively. ✓, Available; X, Not Available.*

Table: 6
Hatemi-J Asymmetric Causality Test Findings Related to the Political Risk Components

		Test Sta.	Critical Values				Causality
			P	%1	%5	%10	
GS → CDS	+→+	0.182	8	9.878	4.218	2.525	X
	-→-	3.334*	8	6.986	3.741	2.681	✓
	-→+	3.197*	8	8.508	3.853	2.536	✓
	+→-	0.515	8	9.384	4.157	2.585	X
SC → CDS	+→+	0.013	8	9.897	4.149	2.489	X
	-→-	0.469	8	7.112	3.810	2.585	X
	-→+	0.225	8	11.244	4.574	2.546	X
	+→-	0.335	8	11.112	4.676	2.447	X
IP → CDS	+→+	0.171	8	9.122	4.111	2.567	X
	-→-	0.093	8	6.773	3.902	2.641	X
	-→+	2.472	8	8.273	3.976	2.661	X
	+→-	1.756	8	8.370	4.039	2.640	X
IC → CDS	+→+	0.189	8	8.424	3.951	2.491	X
	-→-	0.960	8	7.026	3.717	2.628	X
	-→+	0.253	8	9.446	3.979	2.397	X
	+→-	0.640	8	10.053	4.119	2.501	X
EC → CDS	+→+	0.326	8	8.115	3.891	2.595	X
	-→-	1.554	8	6.840	3.858	2.691	X
	-→+	2.213	8	7.891	3.794	2.581	X
	+→-	1.321	8	8.109	3.911	2.579	X
COR → CDS	+→+	0.330	8	9.143	4.085	2.549	X
	-→-	0.001	8	7.158	3.913	2.569	X
	-→+	0.734	8	10.929	4.364	2.535	X
	+→-	12.088***	8	11.377	4.402	2.533	✓
MP → CDS	+→+	0.017	8	10.191	4.166	2.546	X
	-→-	0.203	8	6.880	3.703	2.702	X
	-→+	0.029	8	8.843	3.960	2.407	X
	+→-	0.506	8	9.589	4.276	2.530	X
RT → CDS	+→+	2.758*	8	10.920	4.404	2.707	✓
	-→-	0.081	8	6.556	3.680	2.520	X
	-→+	0.013	8	10.675	4.462	2.560	X
	+→-	0.030	8	10.928	4.632	2.578	X
LO → CDS	+→+	0.274	8	10.785	4.352	2.547	X
	-→-	0.147	8	0.015	0.001	0.000	X
	-→+	0.088	8	0.024	0.001	0.000	X
	+→-	0.025	8	0.000	0.000	0.000	X
ET → CDS	+→+	0.198	8	11.132	4.303	2.446	X
	-→-	0.319	8	7.038	3.956	2.636	X
	-→+	0.009	8	10.635	4.355	2.464	X
	+→-	0.233	8	10.842	4.489	2.438	X

DA → CDS	+→+	0.939	8	10.371	4.422	2.490	X
	-→-	0.723	8	6.752	3.828	2.572	X
	-→+	0.027	8	10.968	4.545	2.592	X
	+→-	0.011	8	10.318	4.502	2.563	X

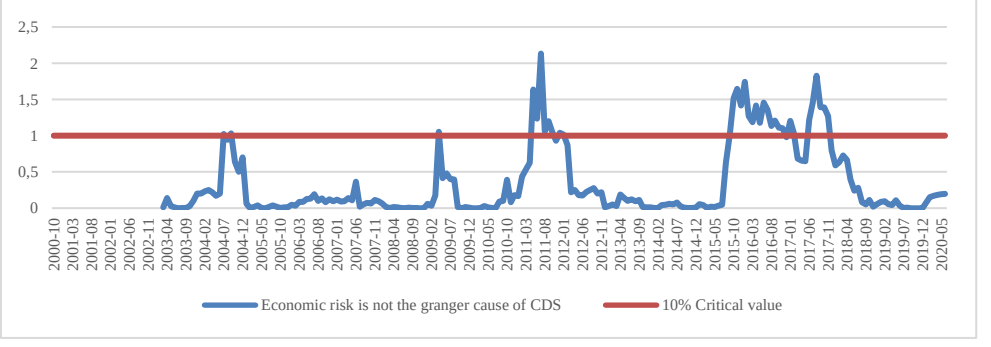
*Note: *, **, *** represent the 10%, 5% and 1% significance levels, respectively. ✓, Available; X, Not Available.*

The findings of the Hatemi-J asymmetric causality test presented in Table 6 exhibit that the adverse shocks in the Government Stability variable are the Granger causes of both the positive and negative shocks in CDS premium. Moreover, positive shocks in the corruption variable are the Granger causes of the adverse shocks in the CDS premium, whereas the positive shocks in religious tensions are the Granger causes of the positive shocks in the CDS premium. In summary, one can propose that CDS premium can be influenced by the allegations or events relating to government stability, corruption and religious tensions.

Results obtained in the Bootstrap TY causality test cover the whole period studied, yet the testing of the perpetuity of these findings is also of critical importance. Therefore, an additional time-varying causality test is applied.

Applying the time-varying causality test aims to identify the relationship of CDS premium with the economic, financial and political variables changing over time. Blue lines in the below graphs demonstrate the periodically calculated test statistical values related to the hypotheses, whereas the orange line represents the critical value of the tests.

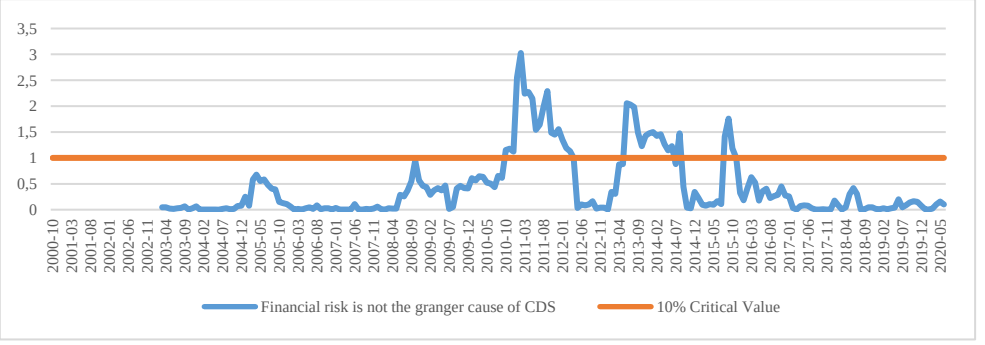
Graph: 1
The Causal Relationship Between Economic Risk and CDS Premium



Findings presented in Graph 1 show that the causal relationship between economic risk and CDS premium is prevalent for the periods 2002:02-2004:09, 2006:11-2012:01 and 2013:04-2017:11. It is also observed that the sub-components constituting economic risk, namely GDP per capita (increase in 2002-2004, increase in 2006-2008, decrease in 2009, increase in 2010-2012 and decrease in 2013-2017), growth (decrease in 2002-2003, increase in 2004, decrease in 2005-2009, increase in 2010-2011, decrease in 2012, increase in 2013, decrease in 2014, increase in 2015, decrease in 2016, increase in 2017), inflation (decrease

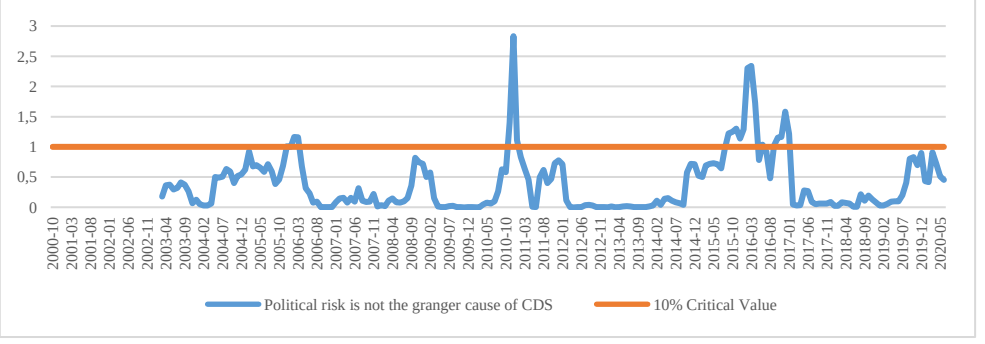
in 2002-2005, increase in 2006, decrease in 2007, increase in 2008, decrease in 2009-2010, increase in 2011, decrease in 2012, increase in 2013-2015, decrease in 2016 and increase in 2017), budget balance (decrease in 2002-2006, increase in 2007-2009, decrease in 2010-2011, increase in 2012, decrease in 2013, increase in 2014, decrease in 2015, increase in 2016-2017) and current account balance (increase in 2002-2006, decrease in 2007-2009, increase in 2010-2011, decrease in 2012, increase in 2013, decrease in 2014-2016 and increase in 2017) follow a volatile pattern in the periods studied, having repercussions on the CDS premium.

Graph: 2
The Causal Relationship Between Financial Risk and CDS Premium



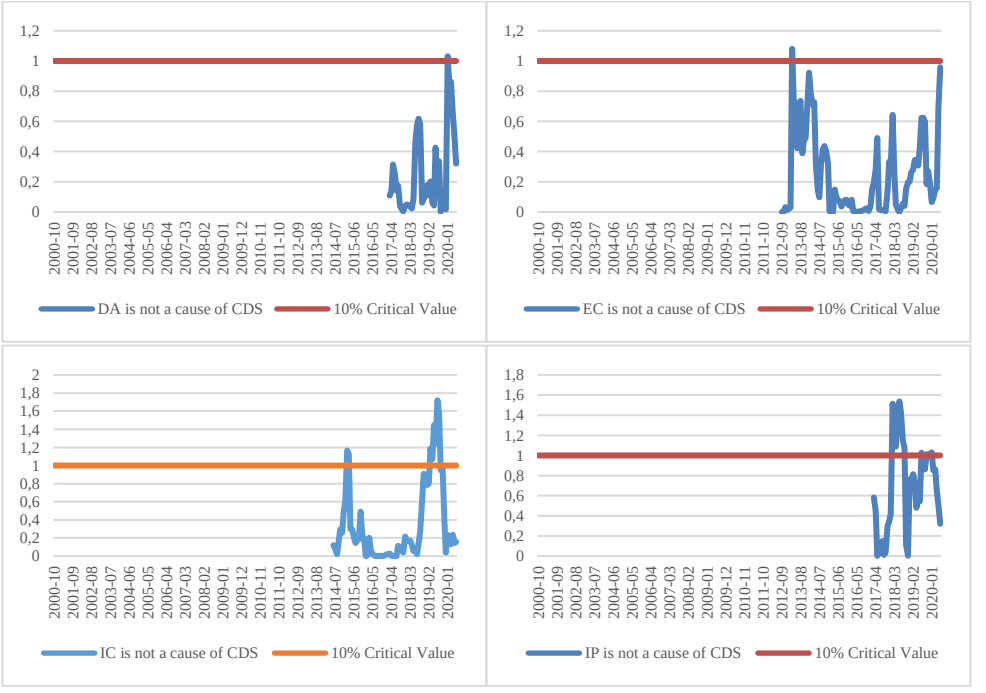
The findings in Graph 2 demonstrate that the causality between financial risk and CDS premium in Türkiye was prevalent between 2008:05 and 2015:10, a period also marked by the global financial crisis.

Graph: 3
The Causal Relationship Between Political Risk and CDS Premium



Findings graphed in the above figure show that causality between political risk and CDS premium in Türkiye exists during the periods 2003:07-2006:03, 2008:06-2011:01 and 2013:04-2017:01, in which various political events were experienced. These events are assessed vis-a-vis the sub-components of political risk in the following sections.

Graph: 4
The Causal Relationship Between the Political Risk Components and CDS Premium



The findings of the time varying causality test graphed above show that the causal relationship between democratic accountability, which is the degree of how sensitive a government is to its respective citizens, and CDS premium is prevalent between 2017:08-2020:01; between external conflict, comprising of war, cross-border conflict and external pressures, and CDS premium is prevalent between 2010:10-2013:03; between internal conflict, comprising of threat of civil war/coup d'état, terrorism/political violence and civil unrest, and CDS premium is prevalent in the periods 2012:09-2015:03 and 2016:10-2019:08 and between investment environment and CDS premium is prevalent between 2015:09-2020:01. The hypothesis that a causal relationship exists between CDS premium and other sub-components pertaining to the political risk (government stability, socio-economic conditions, corruption, the impact of military on politics, religious tensions, law and order, ethnic tensions and the quality of bureaucracy) is rejected.

When these outcomes are taken into account, one can pinpoint a myriad of political events happening during the periods where it is found that causality exists, especially between internal and external conflicts and the aforementioned explained variable in question. For instance, Mavi Marmara Attack, the shootdown of Türkiye's F-4 Phantom plane by the Syrian Army, the attack on the Turkish Consulate in Thessaloniki, Greece, internal conflicts in Egypt, Tunisia, Saudi Arabia, Yemen and Oman, demonstrations in Iran and civil war in Libya and Syria could be listed some of the examples about the period 2010:10-2013:03 where a causal relationship is found to exist between external conflict and CDS premium. The periods 2012:09-2015:03 and 2016:10-2019:08 where causality is determined between internal conflict and CDS premium can be marked by Gezi Park Protests, 15 July Coup d'État Attempt, Oda TV Trial, various terrorist attacks (attack on Kayseri Police Headquarters (1 dead), Hakkari attack (8 dead), bombed-attack in Gaziantep (10 dead, 66 wounded), Cilvegözü attack (13 dead, 26 wounded), Hatay-Reyhanlı attack (52 dead, 146 wounded), İstanbul-Sultanahmet attack (1 policeman dead), Şanlıurfa-Suruç attack (34 dead, 104 wounded), attack on Sultanahmet Square (11 dead, 15 wounded), Ankara car bombing attack (28 dead, 61 wounded), attack in Ankara Kızılay (37 dead, 125 wounded), Istanbul Ataturk Airport attack (42 dead, 238 wounded), Vodafone Arena Stadium attack (46 dead, 166 wounded), attack against the bus carrying military personnel in Kayseri (15 dead, 56 wounded), the assassination of public prosecutor Mehmet Selim Kiraz, Reina bomb-attack, etc.), the assassination of Andrei Karlov, the Russian Ambassador to Ankara, Netherlands-Türkiye diplomatic crisis, Pastor Brunson crisis and the COVID-19 pandemic.

6. Concluding Remarks

CDS premia are crucial in assessing countries' credit risks, especially after the 2008 global financial crisis that failed international credit agencies to thoroughly analyse the economic position of sovereign nations. It is widely accepted that because they directly reflect the risk perceptions and are quick to react to economic developments, CDS premia prove more beneficial in evaluating country risks than the calculations of credit rating agencies.

This study aims to identify the determinants of CDS premium and provide a shining light to investors and policymakers for optimal decision-making by carefully analysing the relationship between economic, financial and political risks and the abovementioned phenomenon. This assessment investigates the relationship between Türkiye's economic, financial and political risk variables and CDS premium between the periods 2000:10-2020:06 via first the Bootstrap TY causality analysis and then the time-varying causality test.

The Bootstrap TY causality analysis findings demonstrate that while no relationship is prevalent between economic and financial risks and CDS premium, this is hardly the case regarding the interdependency between political risk and the latter variable. In addition, a causal link between corruption and CDS premium is identified. The test also shows that

causality from political risk to CDS persists due to adverse shocks and changes in government stability, corruption and religious tension all impact CDS premium.

The results of the time-varying causality analysis show that the causal relationship between economic risk and CDS premium is Türkiye is prevalent in the periods 2002:02-2004:09, 2006:11-2012:01 and 2013:04-2017:11; between financial risk and CDS premium is prevalent in 2008:05-2015:10 and between political risk and CDS premium is prevalent in the periods 2003:07-2006:03, 2008:06-2011:01 and 2013:04-2017:01. Moreover, a causal association is discovered for democratic accountability and CDS premium for 2017:08-2020:01, external conflict and CDS premium for 2010:10-2013:03, internal conflict and CDS premium for 2012:09-2015:03 and 2016:10 and 2019:08 and investment environment and the aforementioned dependent variable for 2015:09-2020:01.

When the analysis results are analysed in general, it is seen that political risk affects the CDS premium according to the results of the Bootstrap TY causality test. According to the time-varying causality analysis, risks (economic, financial and political risk) are important determinants of the CDS premium. In other words, CDSs are significantly affected by economic and political shocks. Therefore, one of the most critical policies to implement in this area is to eliminate economic and political uncertainty as much as possible. Policymakers should provide market actors with a predictable economic policy. Moreover, the factors that pose political risks should be identified and solutions implemented quickly. Thus, an environment of confidence in the market will positively affect domestic and foreign investors' propensity to invest. The CDS market and the entire economic and financial structure will sigh relief thanks to solution-oriented improvements.

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