Do CDS Spreads and Inflation Move Together?
The Experience of the Fragile Five Countries and the BRICS-T

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Abstract

International investors wish to measure the sovereign risk premiums of the countries they want to invest in. Credit Default Swap Spread (CDS), which also shows the credit risks, is one of the important proxies that measure the country risk. Increased CDS spreads increase the cost of borrowing of countries and therefore the factors affecting the CDS spreads should be determined correctly. From this point of view, this study investigates the factors that have impacts on CDS spread ratios of BRICS-T and Fragile Five countries. According to panel regression results, exchange rate, inflation rate, unemployment rate and VIX positively affect CDS spreads. However, Industry Production Index, GDP growth and S&P 500 Index level negatively affect CDS spreads. These results are accurate both for BRICS-T and Fragile Five countries. We also find that Industry production index, GDP growth rate and unemployment rate are the significant determinants of inflation for both BRICS-T countries and Fragile Five countries.

Keywords: CDS; inflation; fragile five countries; BRICS-T countries.

JEL classification: F34; P24; H63.

1. INTRODUCTION

The rapid transformation experienced in the field of finance in the 21st century has caused some crises, but it also led to use of new financial instruments. Free movement of goods and capital within the economic system has made financial markets a huge global market. Mutual interaction among financial markets has created a link between the market risk and the credit risk on a country and company basis (Tang and Yan, 2010). In financial markets, market participants who want to directly make foreign direct investments or portfolio investments will need generally accepted criteria regarding the risk of the market they will invest in (Dinç *et al.*, 2018). This necessity requires a number of indicators to be used for measuring the country risk premium.

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Developed by JP Morgan Chase in 1995, CDS has been used as an important risk premium function in emerging markets over time (Danaci *et al.*, 2017). This is because the changes in risk premiums provide investors important information about credibility of a country. Increasing CDS spreads reduces the credit worthiness of a country and increases its borrowing costs (Varlik and Varlik, 2017). Therefore, correct determination of the dynamics of the CDS spreads, which are the focus of our study, and the factors affecting the CDS spreads, is very important for financial stability of countries (Kilci, 2017a). In this respect, CDSs are frequently used in empirical studies as a pure credit risk indicator, replacing traditional financial instruments such as stock and bond returns (Fender *et al.*, 2012; Castellano and D'Ecclesia, 2013; A. T. Wang *et al.*, 2013; Belke and Gokus, 2014; Da Silva *et al.*, 2015).

CDS is defined as an insurance process conducted by a creditor to secure his receivable by paying a third party a certain insurance premium (CDS spread) in order to avoid the nonrepayment risk of a debt. The party that purchases a CDS contract pays premiums to the party that sells the CDS contract at certain periods until the maturity date. The party that sells the CDS contract guarantees to cover the losses of the creditor if the debt is not repaid. Therefore, the creditor protects himself by transferring the non-repayment risk of the debtor to the third party through CDS transaction (P. Wang and Moore, 2012; Pires *et al.*, 2015; Oh and Patton, 2018). CDS spreads are among the indicators of credit and bankruptcy risk of eurobonds (Fettahoglu, 2019). It is also used for speculation, country risk hedging, relative value trading and arbitrage purposes, as with other financial derivative products (Kim *et al.*, 2017; Fontana and Scheicher, 2016).

Sujithan and Avouyi-Dovi (2013) examine the behaviour of the risk premiums of the BRICS countries in their study with the help of the Markov Chain model. They show that the risk premiums of the BRICS countries are among the important dynamics of the financial market factors in the Eurozone. Stolbov (2014) examines causal links between the CDS spreads of the BRICS countries and the European CDS spreads. de Boyrie and Pavlova (2016) rather utilize variables specific to the capital markets to test the interdependence of the CDS spreads of the BRICS countries and MIST countries. Differently, our study tries to identify the factors that affect the CDS spreads and inflation rates of the 7 countries that constitute the Fragile Five countries and BRICS-T (Indonesia, Brazil, India, South Africa, Russia, and Turkey) which have similar economic indicators. This can be shown as a difference of our study from the literature. These two group of countries are emerging countries and to investigate whether the same variables affect the risk and inflation of these countries might be interesting. With this idea we try to make a contribution to the literature.

In addition, macroeconomic variables are also used as well as the variables specific to the capital markets in the analyses. With using these two group of variables in our analyses, we both take into account financial indicators and macroeconomic indicators which is done very rarely in the literature. This is another contribution of this study to the literature. From these variables, the increases in the actual and expected inflation rates and the increase in unemployment rates will damage the financial stability in the country. Similarly, depreciation of the national currency against the dollar, which is a convertible currency, will increase the liabilities of the private and public sectors in foreign currency. In such circumstances, CDS spreads are expected to rise. On the other hand, the decline in the industrial production index and GDP growth rate will cause CDS spreads to increase, indicating deterioration of the macro indicators. The increase of the VIX Index, which was firstly introduced by the CBOE (Chicago Board of Trade) in 1993 and moves in the opposite direction of the S&P 500 Index also increases the level of fear in the

markets while decreasing the investor's appetite for risk. Country CDS spreads will be negatively affected by this situation and tend to increase. The focus of our study is the hypothesis that there are significant interactions between these explanatory variables and CDS spreads and inflation. Finally, we use same variables as determinants of both CDS spread and inflation. Since the unfavourable results in credit risk and inflation can show the deterioration of macroeconomic indicators, we think that same variables can have similar impacts on these 2 variables. To our knowledge, this is the first paper that use this idea.

The rest of the paper is organised as follows. Section 2 provides the literature review about the papers studied the determinants of CDS spread. In data and methodology Section, we present information about the variables used in the regressions and the model that is used. Section 4 shows the empirical results and in Section 5 we discuss our conclusions.

2. LITERATURE REVIEW

When the literature consisting of the studies that examine the factors affecting CDS spreads or causal relations between the CDS spreads and macroeconomic and financial factors is reviewed, it is seen that numerous variables have been included in the analysis. Indices such as S&P 500 Index, VIX, and iTraxx have also become subjects of the studies in addition to macroeconomic factors such as GDP growth rate, unemployment rate, real effective exchange rate, inflation, industrial production index and current account deficit.

It is seen that the studies examining the relation between the CDS spreads and macroeconomic and financial indicators are concentrated on the Eurozone. Although the studies typically use 5-year and 10-year CDS spreads, different risk indicators have also been used to explain CDS spreads in some studies. In one of those studies, Fontana and Scheicher (2010) examine the relation between the corporate CDS spreads (iTraxx) of 10 Eurozone countries (Austria, Belgium, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal and Spain), and their risk-free rate, risk appetite, external debt and bid-ask spread by using regression analysis. They point out that the decrease in the risk appetite of investors led to an increase in the CDS spreads and there is a positive relation between the country's external debt and CDS spreads. In another study conducted in a similar region, Oliveira et al. (2012) reached similar findings. Their studies identify the factors affecting the country's risk premium using the data set of the government bonds issued in 8 Eurozone countries (Austria, Belgium, France, Germany, Italy, Netherlands, Portugal and Spain) for the period between January 2000 and December 2010. The study, in which the CDS spreads represent the country risk, emphasizes that the factors such as budget deficit and country's external debt are effective on CDS spreads in two periods before and after August 2007. Moreover, financial stress and country-specific macroeconomic factors gained importance in determining CDS spreads in the period of financial crisis. These findings show that the deterioration of the macroeconomic indicators of a country leads to an increase of its CDS spreads. A study of Yuan and Pongsiri (2015), which supports these findings, analyses the impact of fiscal austerity, growth prospects and other macroeconomic indicators on pricing of a country's CDS spreads. They create an unbalanced panel using data from 207 observations for 36 countries including Eurozone countries. They find that fiscal austerity practices positively affect CDS spreads in general by increasing the expectations for strengthening of the financial situation. They also find that the public debt-to-GDP ratio and the expected growth for the future play an important role in determination of the CDS spreads. In their studies examining 13 Eastern European countries (Bulgaria, Czech

Republic, Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, Slovakia, Turkey and Ukraine), Kocsis and Monostori (2016) investigate the relation between the national CDS spreads and the basic macroeconomic and financial indicators for the period from December 2008 to December 2014. They suggest that the macroeconomic variables at the country level are much more effective than global factors in explaining the CDS spreads. They categorize macroeconomic and financial indicators as GDP growth rate, external position, financial situation, banking sector vulnerability and institutional-political strength. The studies involving emerging countries and using similar variables also suggest that the macroeconomic factors have an impact on the CDS spreads. In such a study, Ho (2016) examines the short and long term relations between the CDS spreads and macroeconomic variables including the current account, external debt and international reserves of 8 emerging countries (Brazil, Malaysia, South-Korea, Thailand, Turkey, South Africa, Indonesia and Mexico) for the period of 2008:Q4-2013:Q2. As a result of their analysis performed by the Pooled Mean Group cointegration approach, they determine that all three macroeconomic variables are quite significant in explaining the long-term CDS spreads.

Some studies examining the factors affecting the CDS spreads use the macroeconomic and financial indicators involved in our study. The said studies also have shown that the deterioration in the selected macroeconomic and financial indicators typically increases the country risk and thus, CDS spreads. In addition, in one of the studies conducted for the Eurozone, Brandorf and Holmberg (2010) examine the relation between the CDS spreads and macroeconomic indicators such as GDP growth rate, sovereign gross debt, inflation rate and unemployment in 5 countries (Portugal, Ireland, Italy, Greece, Spain) , which are in economic crisis, for the period of 2004:Q1-2009:Q3. Furthermore, the findings obtained are compared with Germany (benchmark). According to the findings obtained, they suggest that the most effective variables in explaining the CDS spreads are unemployment rate and sovereign gross debt. They also find that CDS spreads decrease as much as the GDP growth rate, but inflation is a less significant variable compared to the said variables. Another study covering these 5 Eurozone countries also reach similar findings. Aizenman et al. (2013) investigate the factors affecting the CDS spreads of especially 5 countries (Greece, Ireland, Italy, Portugal, and Spain) in the Southwestern Eurozone for prediction of the credit risk pricing of sixty countries for the period of 2005-2010. The results of the analysis indicate that the CDS spreads are significantly affected by the trade openness, external debt, inflation and TED premium that refers to the difference between the treasury bill and the quarterly LIBOR in US dollars, or the difference between the interest rate of the US short-term government debt and the interbank rate. Despite these findings, a study conducted by Blommestein et al. (2016) for the same 5 Eurozone countries reached different findings. Their results suggest that domestic economic and financial indicators have a limited impact on the CDS spreads in other countries than Italy, but changes in the CDS spreads have a significant impact on domestic economic and financial indicators.

The studies which consider non-Eurozone countries concluded that macroeconomic and financial indicators typically affect the CDS spreads. Remolona et al. (2008) examine the relation between the monthly CDS spreads of 24 emerging countries for the period of 2002-2006 and the factors that are thought to have an impact on the country risk by regression analysis. As a result of that analysis, they conclude that the inflation rate and VIX Index have impact on the country risk and risk premium. Likewise, Eyssell et al. (2013) try to determine the effects of factors such as the China's debt-to-GDP ratio, real interest rate, VIX and stock returns on their CDS spreads for the period of January 2001-December 2010. In particular,

they conclude that the Chinese stock market index, real interest rate, S&P 500 Index option volatilities, default premiums, and dummy variable of financial crisis have explanatory power to explain the CDS spread levels and changes. Longstaff *et al.* (2011) analyse the country credit risks using the CDS data of 26 developed or emerging countries including the countries that constitute the sampling of our study such as Brazil, Russia, China, South Africa, and Turkey for the period from October 2000 to January 2010. The results of the study suggest that the national CDS spreads are more closely related to the US stock market and high-yield markets, as well as to the volatility risk premium expressed by the VIX Index, rather than local economic indicators.

The studies conducted for Turkey, which is included in the sampling of our study, seem to have reached different findings. The study of Bursa and Tatlidil (2015) includes the Dow Jones index, LIBOR interest rate, BIST 100 Index, exchange rate, the VIX Index, budget balance and export/import ratio as the independent variables, and the CDS spreads and Eurobond prices of Turkey as the dependent variables for the period between September 2012 and September 2014. They use linear canonic correlation analysis and multivariate regression analysis methods in their analyses. They find a negative relation between the CDS spreads and BIST 100 Index, and a positive relation between the LIBOR interest rate and exchange rate variables. They could not reach a statistically significant finding for the VIX Index. In two separate studies conducted for Turkey, which give different results compared to the studies conducted for Eurozone countries and emerging economies, Kilci (2017b, 2017a) analyse the relation between the CDS spreads and the economic and financial risk factors for the period of 2010-2016. Their analysis include variables such as inflation, unemployment rate, GDP growth rate, real effective exchange rate and current account deficit as macroeconomic indicators, and variables such as BIST 30 index, rate of increase in non-performing loans in banking sector, capital adequacy ratio as financial indicators. As a result of the Engle-Granger and Johansen Cointegration tests, he concludes that the relation between the 5-year CDS spreads of Turkey and the macroeconomic indicators such as GDP growth rate, inflation, unemployment rate, current account deficit are weak and the explanatory power of the variables are not explicit.

3. DATA AND METHODOLOGY

This paper examines the determinants of CDS and inflation variables for BRICS-T and Fragile Five countries. These two groups of countries are shown in Figure no. 1. BRICS-T countries include Brazil, India, South Africa, Turkey and China. Moreover, Fragile Five countries include Indonesia besides India, South Africa, Turkey and China.

We examine the determinants of CDS and inflation for BRICS-T and Fragile Five countries between the period 2013: Q4 and 2019: Q3. We end up with 432 country-year observations for BRICS-T dataset and 360 country-year observations for Fragile Five dataset. The related data is collected from Bloomberg database. Monthly data is used for CDS and exchange rate variables. Arithmetic averages of these variables are used. Yearly data is used for the rest of the variables. Definition of the dependent and independent variables used in this study are shown in Table no. 1.
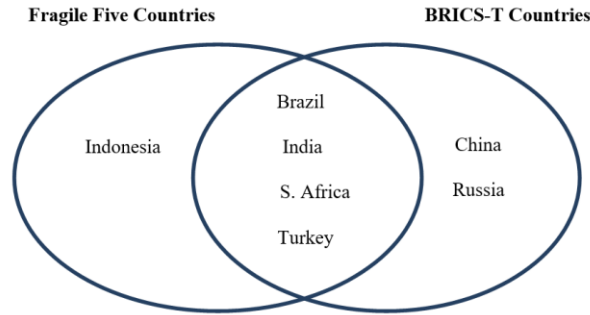
Source: authors' compilation
Figure no. 1 – BRICS-T and Fragile Five Countries

Table no. 1 - Definition of the variables

Variables	Definition
CDS (CDS)	5 Years Credit Default Swap Spreads
Inflation (%) (INF)	Annual rate of change in consumer price index
Exchange Rate (EXC)	USDTRY, USDBRL, USDCNY, USDRUB, USDZAR, USDINR, USDIDR
Industrial Production Index (IPI)	Percentage Change of Industrial Production Index Over the Same Month of the Previous Year
Unemployment Rate (%) (UE)	The Seasonally Adjusted Employed Variable
GDP Growth (%) (GDP)	Gross Domestic Product (purchaser's price) Change Ratio
VIX Index (VIX)	CBOE Volatility Index
S&P 500 Index (SP)	Standard & Poor's 500 Index

Source: authors' compilation

The models used in this study are as follows:

$$CDS_{c,t} = a_0 + a_1 EXC_{c,t} + a_2 INF_{c,t} + a_3 IPI_{c,t} + a_4 UE_{c,t} + a_5 GDP_{c,t} + a_6 VIX_{y,t} + a_7 SP_{y,t} + \varepsilon \quad (1)$$

$$INF_{c,t} = a_0 + a_1 EXC_{c,t} + a_2 IPI_{c,t} + a_3 UE_{c,t} + a_4 GDP_{c,t} + a_5 VIX_{y,t} + a_6 SP_{y,t} + \varepsilon \quad (2)$$

In the first model, the dependent variable is CDS spread of a country in a year. In the second model, the dependent variable is inflation rate of a country in a year. These models are tested for BRICS-T and Fragile Five countries, separately. Thus, we end up with 4 regressions. Panel regressions are used in order to test the hypothesis in this study. To decide between random effects and fixed effects regressions, we use Hausman tests firstly. Since we reject the null of Hausman tests for 3 regressions we use fixed effect panel regressions in these models and we use random effect panel regression only for 1 model (we explain the details in empirical results section).

4. EMPIRICAL RESULTS

In Table no. 2, we show the summary statistics of CDS spread variable for each country during the sample period. As it shown in Table no. 2, China has the lowest mean value of CDS spread. Therefore, China has the lowest risk among BRICS-T countries. India follows China in terms of low credit risk. Thus, India has the lowest credit risk among Fragile Five countries and it is in the second order among BRICS-T countries. Indonesia is in the second order among Fragile Five countries in terms of its lower credit risk level. South Africa, Russia, Brazil have higher credit risks with their higher level of CDS spreads. Moreover, Turkey has the highest CDS spread level both among the Fragile Five countries and BRICS-T countries. Thus, Turkey has the highest credit risks among our sample countries.

Table no. 2 - Summary statistics of CDS variable

Variable	Mean	Std. Dev.	Min	Max
Brazil	233.9328	88.38519	127.72	488.14
China	81.62972	24.55871	41.62	139.27
S. Africa	212.6118	46.12476	146.89	358.76
India	135.3278	58.63622	64.23	304.3
Russia	217.03	101.7362	83.27	566.26
Turkey	261.3485	81.73749	163.17	487.31
Indonesia	151.7057	46.6329	78.59	262.25

Source: Authors' Compilation and Bloomberg Database

In Table no. 3, we present the descriptive statistics of the variables we used in this study. Descriptive statistics of the variables for BRICS-T countries are shown in Panel A and for Fragile Five countries in Panel B. According Table no. 3, average BRICS-T country in the sample has CDS spread of 190.31 and this value is 198.99 for Fragile Five countries. Exchange rate in BRICS-T countries has a mean value of 24.93. However, average exchange rate for Fragile Five countries is 2677. This higher value is because of the higher exchange rate values of Indonesia which is among Fragile Five countries. Average inflation rate is 5 for both of the country group. Average IPI index value is two times higher for BRICS-T countries. Unemployment rate has a mean value around 10 and GDP growth has a mean value of 3 for the two groups.

Table no. 3 - Descriptive statistics of dependent and independent variables

Panel A –		BRICS-T Countries				
Variable	N	mean	sd	p25	p50	p75
CDS	432	190.31	94.61	122.79	178.34	240.76
EXC	432	24.93	26.75	3.83	8.52	60.1
INF	432	5.02	4.39	1.85	4.39	6.81
IPI	432	2.06	5.35	-0.9	1.3	5.9
UE	432	10.90	7.50	5.2	8.6	12.1
GDP	432	3.33	3.76	0.5	3	6.8
VIX	432	15.04	3.42	12.9	14.23	16.45
SP	432	2314.66	369.76	2026.99	2162.75	2701.16

Panel B -		**Fragile Five Countries**				
Variable	**N**	**mean**	**sd**	**p25**	**p50**	**p75**
CDS	360	198.99	81.97761	149.275	186.135	240.07
EXC	360	2677.35	5335.017	3.6	13.36	67.975
INF	360	5.146028	4.162715	2.805	4.5	6.98
IPI	360	1.328	5.887984	-1.725	0.945	4
UE	360	12.36939	7.407355	7.95	9.6	12.8
GDP	360	3.492139	3.607287	0.965	4.83	5.8
VIX	360	15.04389	3.416402	12.9	14.23	16.445
SP	360	2314.662	369.843	2026.995	2162.745	2701.16

Source: Authors' Compilation and Bloomberg Database
Note:* p<0.1, ** p<0.05, *** p<0.01

Furthermore, we analyse the Pearson correlation coefficients for the variables we use in the analyses (Unreported Results). We analyse the correlation among the variables for Fragile Five countries and BRICS-T countries. According to Pearson correlation matrices, there is not any multicollinearity issue among the variables used in this study. The results show that inflation, unemployment, and VIX variables have positive and significant relations with CDS variable. These 3 variables increase CDS spreads for both BRICS-T countries and Fragile Five countries. When we analyse the correlation between inflation and its independent variables, we find that IPI and GDP positively and significantly correlated with inflation variable in Fragile Five countries. However, inflation does not have any significant correlation with independent variables for BRICS-T countries.

Table no. 4 - Unit root tests

Panel A	**Constant**			
	Levin, Lin & Chu		**ADF-Fisher**	
	BRICS-T	**FRAGILE 5**	**BRICS-T**	**FRAGILE 5**
CDS	-17.273***	-14.777***	301.858***	281.269***
EXC	-18.229***	-17.055***	380.602***	315.874***
INF	-14.527***	-12.310***	337.192***	281.041***
IPI	-10.101***	-8.345***	327.985***	233.888***
UE	-14.022***	-12.758***	238.817***	205.912***
GDP	-13.129***	-10.820***	334.686***	283.689***
VIX	-11.532 ***	-10.528***	426.981***	355.818***
SP	-16.970***	-15.492***	209.669***	174.724***
Panel B	**With Trend**			
	Levin, Lin & Chu		**ADF-Fisher**	
	BRICS-T	**FRAGILE 5**	**BRICS-T**	**FRAGILE 5**
CDS	-17.390***	-14.834***	263.082***	246.834***
EXC	-18.268***	-17.129***	330.567***	274.546***
INF	-14.428***	-12.101***	305.001***	255.571***
IPI	-10.178***	-8.408***	296.616***	215.369***
UE	-14.087***	-12.922***	203.947***	177.116***
GDP	-13.081***	-10.793***	298.029***	254.709***
VIX	-11.175***	-10.201***	369.476***	307.897***
SP	-17.108***	-15.617***	174.383***	145.319***

Source: Authors' Compilation
Note:* p<0.1, ** p<0.05, *** p<0.01

As a next step, we test the stationarity of the series with Levin, Lin&Chu and ADF-Fisher Unit Root Tests. These tests are made both for BRICS-T countries and Fragile Five countries. Table no. 4 shows the results of these tests. Panel A of Table no. 4 shows the unit root results if the series are constant. Panel B of Table no. 4 reports the unit root results if the series have a trend. According to Table no. 4, all the variables are stationary whether they have constant or they have trend.

Column 1 and 2 of Table no. 5 shows the panel regression results of model 1 and model 2 for BRICS-T countries. In column 1, we investigate the determinants of CDS variable. We use fixed effect panel regression for this regression as a result of Hausman test. According to panel regression results, a positive relation between exchange rate and CDS spread is found. As the local currency looses value against USD dollar, dollar debts of private and public sectors increase. Thus, CDS spreads of those countries increase with the increased country risks. Furthermore, as inflation rate and unemployment rate increase, the financial stability in a country decreases. This causes increased risk of the country and therefore increased CDS spreads. Decreases in industry production index and growth rate of GDP increase country risks and therefore CDS spreads. As VIX increases, the risks in financial markets increase therefore CDS spreads increase. Since S&P 500 Index level has negative relation with VIX, a negative relation between VIX and CDS premium should occur. And our regression results prove this relation.

In column 2 of Table no. 5, we demonstrate the factors affect inflation rate in BRICS-T countries. According to random effect panel regression results, as unemployment rate increases inflation increases. Increased unemployment level deteriorates the economics condition and therefore inflation of a country. However, industry production index, GDP growth rate and S&P 500 Index level negatively affect inflation rate. Thus, these three variables affect CDS and inflation in the same direction in BRICS-T countries.

Table no. 5 - Determinants of CDS and inflation for BRICS-T and Fragile Five Countries

	CDS (BRICS-T)	INF (BRICS-T)	CDS (Fragile 5)	INF (Fragile 5)
EXC	2.025***	0.005	0.021***	-0.001***
	[0.000]	[0.846]	[0.001]	[0.000]
INF	12.216***		11.203***	
	[0.000]		[0.000]	
IPI	-1.270**	-0.064**	-0.928*	-0.073***
	[0.018]	[0.038]	[0.051]	[0.002]
UE	11.516***	0.410***	11.990***	0.306***
	[0.000]	[0.000]	[0.000]	[0.002]
GDP	-7.541***	-0.357***	-8.462***	-0.194*****
	[0.000]	[0.000]	[0.000]	[0.001]
VIX	2.542***	0.023	3.520***	0.015
	[0.000]	[0.527]	[0.000]	[0.674]
SP	-0.082***	-0.001***	-0.081***	0
	[0.000]	[0.002]	[0.000]	[0.961]
Constant	132.698***	4.111	103.555***	5.073***
	[0.000]	[0.166]	[0.001]	[0.001]
R-squared	0.645		0.581	0.161
N	432	432	360	360

Source: Authors' Compilation
Note: * p<0.1, ** p<0.05, *** p<0.01

Column 3 and 4 of Table no. 5 show the determinants of CDS spread and inflation in Fragile Five countries. As a result of Hausman test, fixed effect panel regressions are used for both of the models. The factors affecting CDS are shown in column 3 of Table no. 5. Exchange rate, inflation rate, unemployment rate, and VIX Index positively affect CDS spread. Moreover, IPI, GDP and S&P 500 Index negatively affect CDS spread. The signs of the coefficients of these variables same as in the CDS determinants in BRICS-T countries. However, when we examine the determinants of inflation rate in column 4 of Table no. 5, we find a different result. While exchange rate does not affect inflation in BRICS-T countries, it negatively affects inflation in Fragile Five countries. The different results for these two group of countries in case of inflation might be as a result of the sensitivity levels of the countries against the exchange rate of the US Dollar. China and Russia are the countries which are not listed in Fragile Five countries but they appear in BRICS-T countries. These two countries have more steady economies and they have less sensitivity against the US Dollar compared to the others in Fragile Five group. So, they might create this difference between these two groups of countries. When we examine the standard deviations of the EXC variables of these countries in Table no. 2, we find that standard deviations are higher for Fragile Five countries. This might show that volatilities of these countries are higher. Therefore, they have more sensitivity against the US dollar compared to BRICS-T countries. Moreover, we find 3 more significant variables in inflation regression. While unemployment rate positively affects inflation, IPI and GDP negatively affect inflation.

GDP growth rate, exchange rate, IPI, unemployment rate, VIX Index, S&P 500 Index level and inflation are found as determinants of CDS spread for both of the country groups. We find a negative relation between CDS spread and GDP growth rate. Brandorf and Holmberg (2010) explain this negative relation with the fact that a decrease in growth rate of GDP results in decreased ability to cover sovereign debt. Therefore, this increases CDS spread in a country. Since the increase in unemployment rate increases government expenditure, a positive relation between unemployment rate and CDS spread is found in line with Brandorf and Holmberg (2010). Similar to Aizenman et al. (2013), we find that higher level of inflation results in higher level of CDS spreads. Increased inflation ratio deteriorates the financial stability of a country and therefore risk of that country increases. We report a positive relation between volatility and CDS spread which is also proved by Eyssell et al. (2013) and Pan and Singleton (2008). In line with Bursa Bursa and Tatlidil (2015), we find a positive relation between exchange rate and CDS spread. The decreased value of local currency against the US Dollar makes the local country riskier and therefore CDS spread of that country increases.

According to the panel regression results, industry production index, unemployment rate and GDP growth rate affect inflation rate both in BRICS-T countries and Fragile Five countries. While IPI and GDP growth negatively affect inflation rate, unemployment rate positively affects inflation rate. Increased IPI and GDP growth makes the countries economically stronger and therefore they decrease the inflation ratio. On the other hand, increased unemployment rate results in increased inflation.

5. CONCLUSIONS

CDS spread levels are important for the foreign investors while they decide about investing in a country. Higher CDS spread level is a proxy for high risk of a country. A creditor discourages default and decrease the trade level (Rose, 2005). Thus, the investor

hesitates to invest in a high CDS country. "It is believed that credit default swaps provide more efficient allocation and pricing of credit risk than other credit-related instruments" (Chan-Lau and Kim, 2004, p. 3). From this point of view CDS spread of the countries has become an important topic in finance literature. Determination of the factors affecting CDS spread becomes the main aim of this study.

We investigate the determinants of CDS spreads in BRICS-T and Fragile Five countries firstly. In addition, we investigate the determinants of inflation for BRICS-T and Fragile Five countries. We use the same independent variables as we use in CDS spread regression. In this study, we hypothese that there are significant interactions between these explanatory variables and CDS spreads and inflation. We find consistent results with our hypothesis. Especially the weakness of higher inflation, unemployment rate and local currency against US dollar in emerging countries are accepted as among the main macroeconomic problems. This situation affects CDS risk premiums negatively. Moreover, lower industry production index level and lower growth rates increase the CDS risk premiums. Since the deterioration in these two variables is a proxy for weak macroeconomic condition in a country, the decrease in IPI and growth rate increase the risks of the countries. The increase in VIX Index and the decrease in S&P 500 Index increase the investors' fear in the market and decrease their appetite for risk. Therefore those changes in VIX Index and S&P Index deteriorate structure of CDS premiums globally. Similar results are found for both country groups in this study. In sum, in order to control the CDS premiums and inflation rates of the sample countries, fiscal and structural precautions should be taken in enhancing unemployment rate, exchange rate, IPI and GDP growth rate. The correlation of these variables with one another should be considered while evaluating these variables. Because an action that is done to enhance one variable might result in deterioration in another variable. Therefore, the central banks and ministry of treasury and finance of these countries take actions co-ordinately.

The limitation of this study is that the CDS might be examined as corporate CDS and sovereign CDS separately. Since some of the features of the different CDS types are different, the determinants of them might be different as well. Because of the lack of data availability these comparison could not be included in the paper.

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