Credit Ratings versus Credit Default Swaps

‘There are two superpowers in the world today in my opinion. There's the United States and there's Moody's Bond Rating Service. The United States can destroy you by dropping bombs, and Moody's can destroy you by downgrading your bonds. And believe me, it's not clear sometimes who's more powerful’’
(Thomas Friedman; February 13, 1996)

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ABSTRACT

This paper examines two indicators that reflect the risk of countries' not meeting their debt obligations: Credit Ratings and Credit Default Swaps (CDS). First, the CDS is introduced briefly, then the functions of CDS are explained. After we do a literature review of the factors affecting countries' Sovereign CDSs, we will do our regression to determine the factors affecting Turkey's CDS score. Second, we will overview the credit rating agencies and Sovereign Credit Ratings. In the last part, we will discuss the advantages and disadvantages of Sovereign Credit Default Swap and Credit Ratings as a reflection of the sovereign credit risk. We will conclude the paper with the Sovereign CDS reactions to events in Turkey and the global market.

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1. INTRODUCTION

Financial risk management has become more important since the market has experienced significant failures of big financial institutions such as Lehman Brothers in 2008 or Barings in 1995 because of the mismanagement of risk. Credit risk is one of the most important risks within financial risks, and it can be defined basically as the possibility of a loss arising from the debt obligor's failure to meet its obligation. When the debt obligor is the government, the credit risk is the sovereign credit risk. It is a risk that the nation's government will default on its sovereign debt by not meeting its interest or principal payments.[1]

The assessment of the credit risk of the debtor party is supplied by the credit rating agencies (CRA). However, the assessments made by the credit rating agencies regarding countries in the pre-crisis (2008) period and the sharp downgrades of Euro area countries' ratings after the crisis brought along criticisms regarding the reliability of the credit rating agencies. Therefore, the arising of sovereign CDS as a credit risk indicator accelerated. Sovereign CDS is a derivative product that the CDS seller provides protection to buyers from losses that may be incurred on sovereign debt resulting from a credit event in exchange for a premium (in basis points per annum as a percentage of the notional amount).[2]

Today, sovereign credit ratings and sovereign CDSs are still valid, and both are used as a measurement of credit risk.

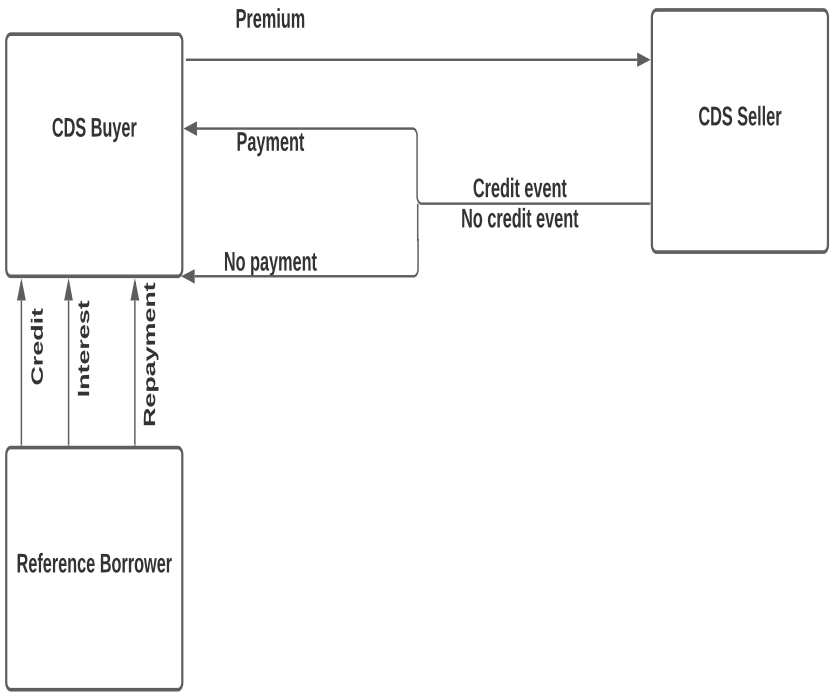
[1] Sovereign Credit Risk Definition
[2] Sovereign Credit Default Swap Definition

2. CREDIT DEFAULT SWAPS (CDS)

2.1) The Overview of CDS

Credit Default Swaps (CDS) is a financial instrument that gives the holder insurance intended to protect the CDS buyer in default or credit events. The CDS buyer agrees to make periodic payments to the seller until the maturity date of the CDS or until a credit event occurs. The amount of periodic payment (premium) as a percentage of the principal amount is called CDS spread (Hull, 2008).

In a CDS contract, the buyer of CDS pays the premium to the seller. However, the CDS seller is obliged to pay the notional amount of the underlying asset to the buyer if the default or the credit event happens. The CDSs are bought and sold in the over-the-counter market. The cost of credit risk determines the premium of CDS. The higher the credit risk, the higher the buyer's premium to pay to the CDS seller.



Companies and countries can be subject to CDS agreements. The underlying asset of the country's CDSs is government bonds issued by the government. Country CDSs spread can be utilized as indicators of the credibility of the country (Hull,2008). "Usually, each negative (and positive) piece of information about the financial situation of a given country is reflected in the CDS spread." (Kliber, 2011).

When JP Morgan launched CDS in 1994, the purpose was that the party who faces credit risk could transfer the risk to the third party. Besides the hedging purpose, the value of the CDS market getting larger and larger than the value of the reference obligation shows that the speculation purpose constitutes a significant proportion of CDSs' functions. However, the most important function of CDS is that CDS is the most influential indicator of country credit risk. Until the global crisis in 2008, this mission was undertaken by the credit rating agencies. The fact that the credit ratings are insufficient to reflect the 2008 crisis reduced the trust and increased the demand for a more reliable indicator of the performance of countries and companies in financial markets. Therefore, the superiority of CDSs over other credit risk measures comes from that CDS premiums signal the changes in the market instantly and show the most up-to-date status of the market since the premiums are adjusted daily; therefore, every information is reflected in the CDS premiums very quickly (Hull, 2008)

Today, especially sovereign CDSs are used to reflect the risks arising from economic, financial, political, and social factors.

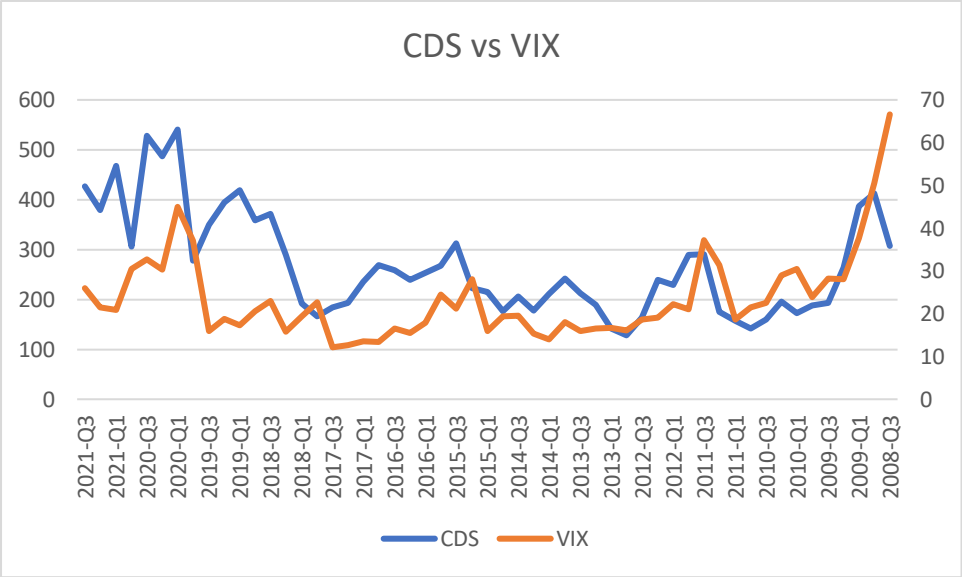
2.2) The determinants of sovereign CDS

The determinants of sovereign CDS can be listed as follows: current account balance, inflation, central bank reserves, debt, growth, interest rates, exchange rates, political stability, stock market index, volatility index.

After the crisis in 2008, the studies investigating the relationship between CDS premiums and country credit risk increased because of the decreasing trust in credit rating agencies.

As a literature review, Remolona et al. found that, in their study in 2008, the inflation rate and the VIX (Volatility Index) index and JP Morgan's RTI (Risk Tolerance Index) constitute a meaningful relationship between country risk and CDS risk premium. So, we examined the relationship between the VIX index and CDS premiums in the example of Turkey to show the direction of the relationship. As seen in Graph 1, CDS premiums are highly directly correlated with the Volatility Index.

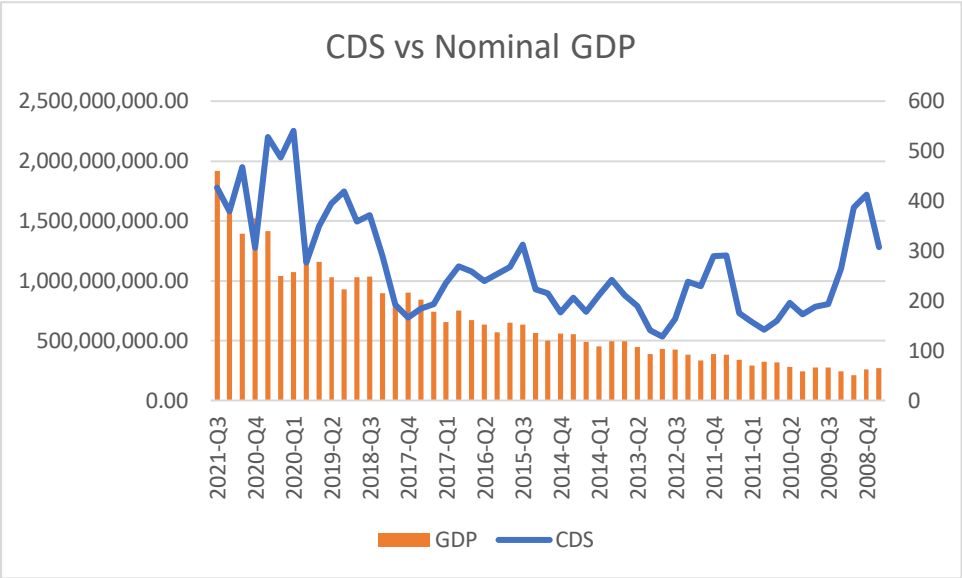
Graph 1



Source: Investing.com and CBRT

Brandhorf and Holmberg, in their study in 2010, investigated Italy, Greece, Ireland, Portugal, and Spain CDSs between 2004 and 2009. They found that change in GDP, unemployment, and inflation rate reflects a change in CDS premiums. At that point, we examined how much a change in GDP is significant for CDS change. However, as seen in Graph 1, we pointed out that a serious and highly direct correlation between the nominal GDP of Turkey and the CDS points does not exist at the specific time period.

Graph 2



Source: Investing.com and CBRT

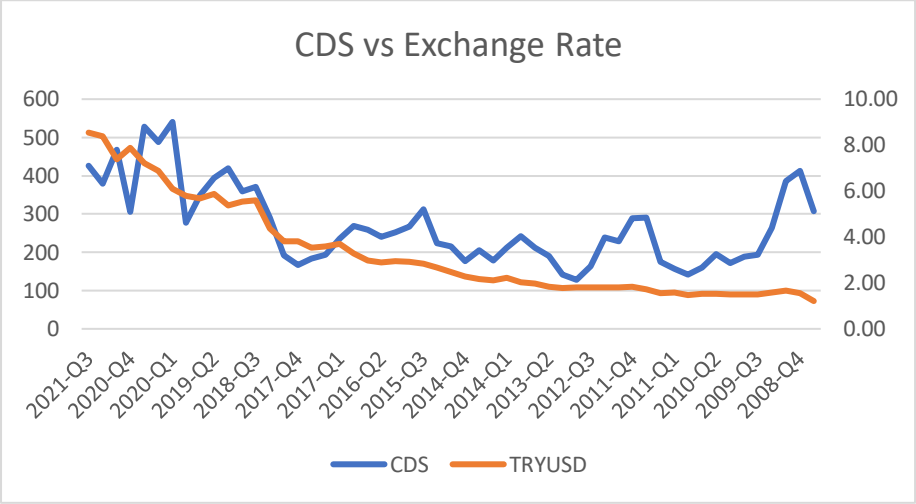
Another study, conducted by Sand in 2012, 5-year CDS premiums of Eurozone countries concluded that current account deficit, risk-free interest rate, real exchange rate, and risk appetite affects CDS premiums negatively; however, debt/GDP ratio and inflation rate affect positively.

While some researchers focus on global economic factors to analyze CDS determinants, others attribute the change in CDS to country-specific factors such as inflation rate, stock market index, and interest rates.

We considered some major and minor variables as the determinants and effects leading to the change in CDS in Turkey as an example.

For example, Akkaya (2017) found that the USD/TL exchange rate, Eurobonds, BIST30 (stock market index), and gold prices are correlated with CDS premiums. As seen in Graph 3, we can show the direct relationship between CDS and the exchange rate. When exchange rate depreciates, then CDS spreads are getting larger and larger.

Graph 3

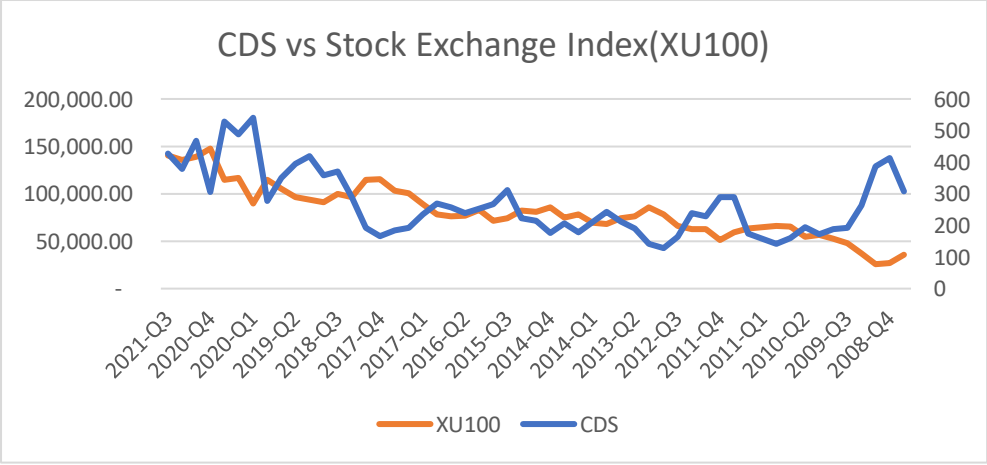


Source: Investing.com and CBRT

Further research held by Akyol and Baltacı (2019) highlighted that interest rates, inflation, current account balance, stock market index, and foreign portfolio investments affect CDS premiums.

At that point, we examined relationships of current account, interest rate, stock market index with CDS premiums from 2008 to today. As seen in graph 4, there is a high correlation between the stock exchange market index and CDS premiums. However, it is hard to mention that a decrease in the stock market index leads to CDS premiums. As CDS represents the country risk or ability to take investment risk, a fall in CDS affects the stock exchange market value because of the change of riskiness of the country in terms of investment quality.

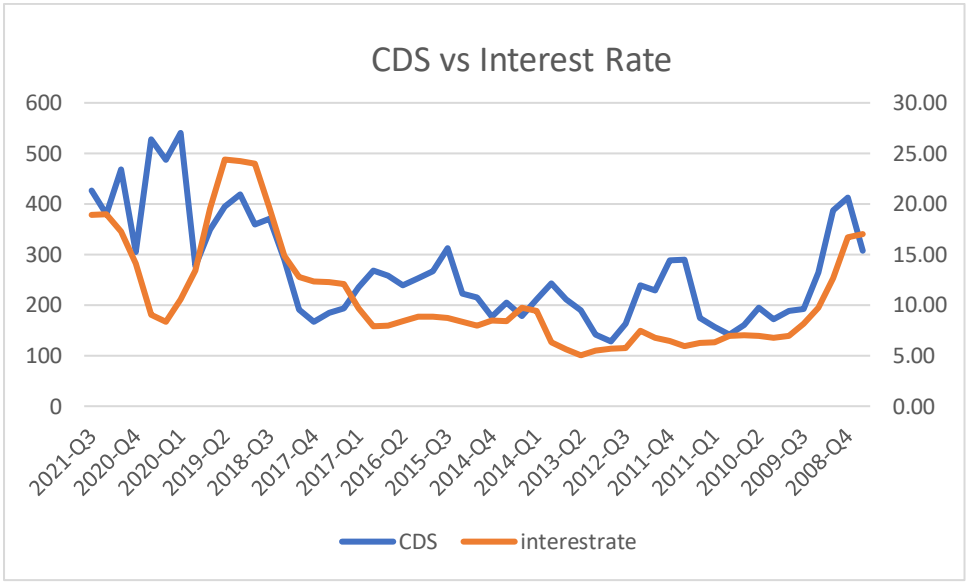
Graph 4



Source: Investing.com and CBRT

On the other hand, as seen in graphs 5 and 6, the interest rate and current account change directly go with the CDS change. In the example of Turkey, we know that it was the tough times for the Turkish economy in terms of riskiness, the confidence of investability, and the exchange rate crisis at the selected period interval. At this time, the interest rate that changed to repress the depreciation of the exchange rate also affected the riskiness perception. Therefore, CDS reacted and represented these changes and perceptions.

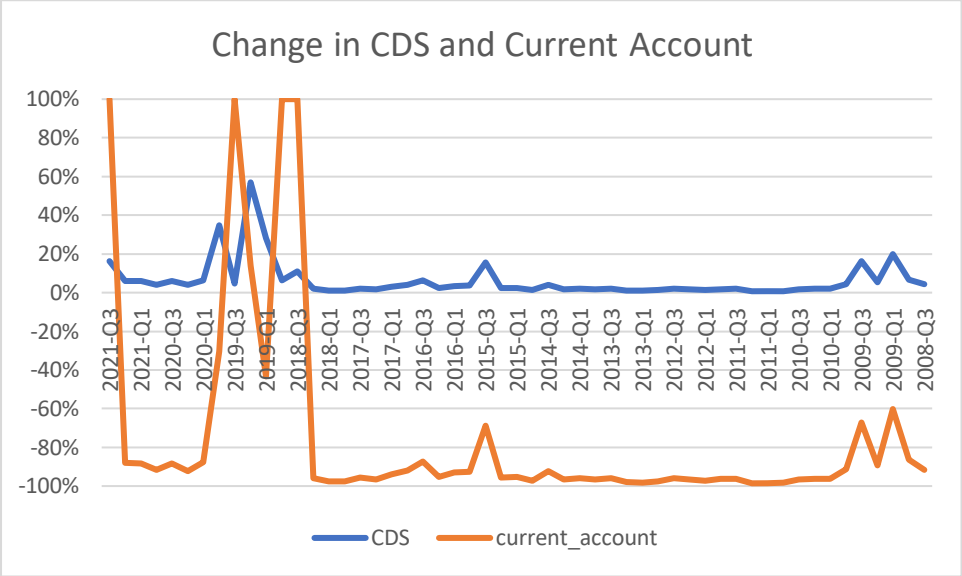
Graph 5



Source: Investing.com and CBRT

These reactions are also the same with the current account balance, as seen in Graph 6. We can conclude that changes in CDS and current account balance are highly correlated at the specific time interval.

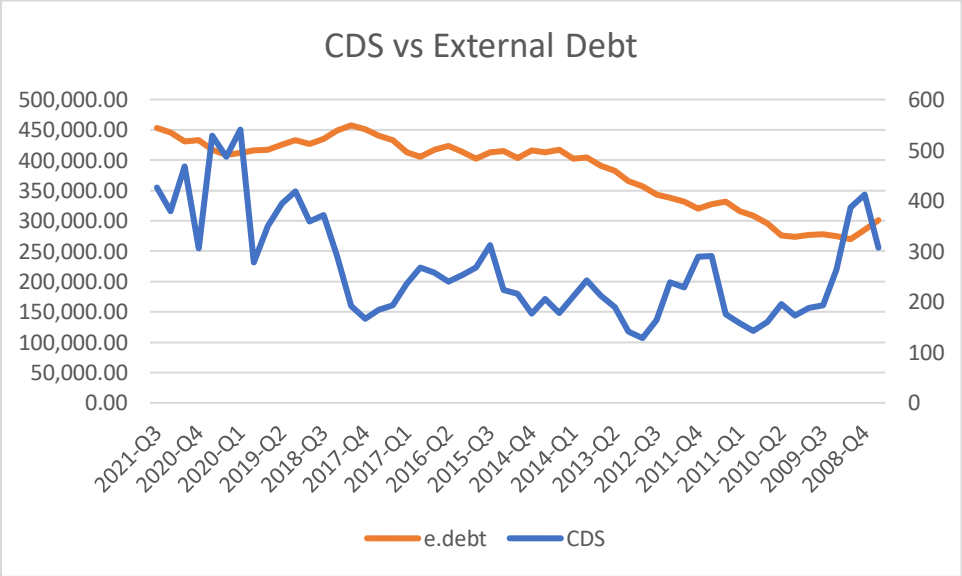
Graph 6



Source: Investing.com and CBRT

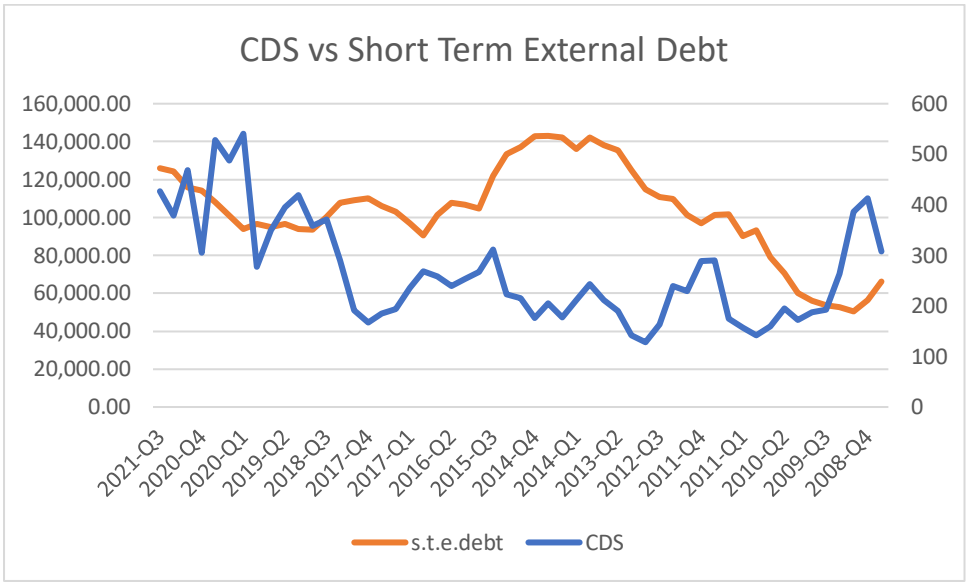
On the other hand, we examined the external debt and short-term external debt of Turkey as seen in Graph 7 and Graph 8. We can mention that there are correlations in the case of the relationship between CDS and External debt and the relationship between CDS and short-term external debt too. However, change in CDS with short-term external debt is more significant and indirectly correlated.

Graph 7



Source: Investing.com and CBRT

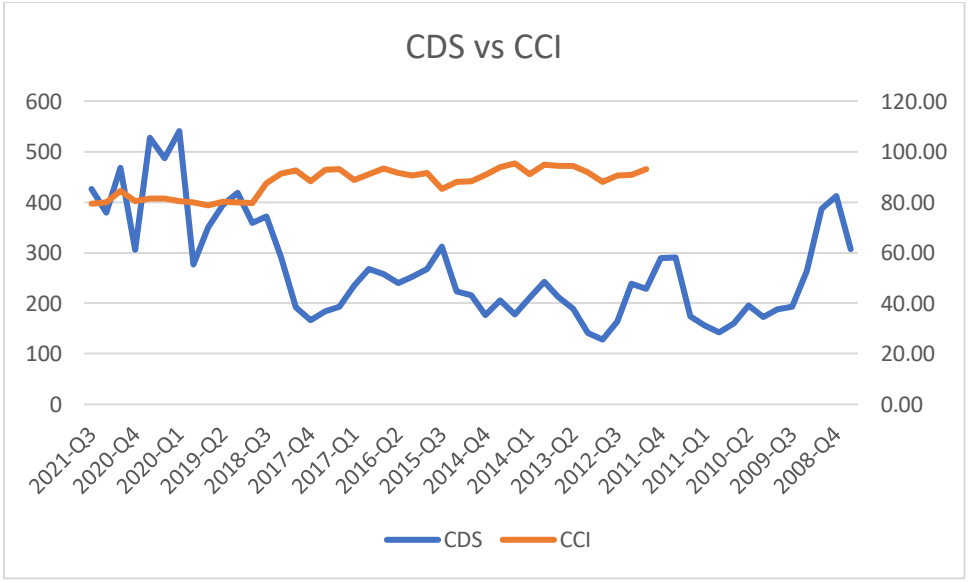
Graph 8



Source: Investing.com and CBRT

In addition, when we examined the relationship between CCI and CDS, we did not find a serious correlation. CCI represents the reasons for short-term changes regarding the effects of CCI on CDS. As seen in graph 9, CCI can remain stable when CDS fluctuates, like at the interval period in 2018-Q4 and 2020-Q4.

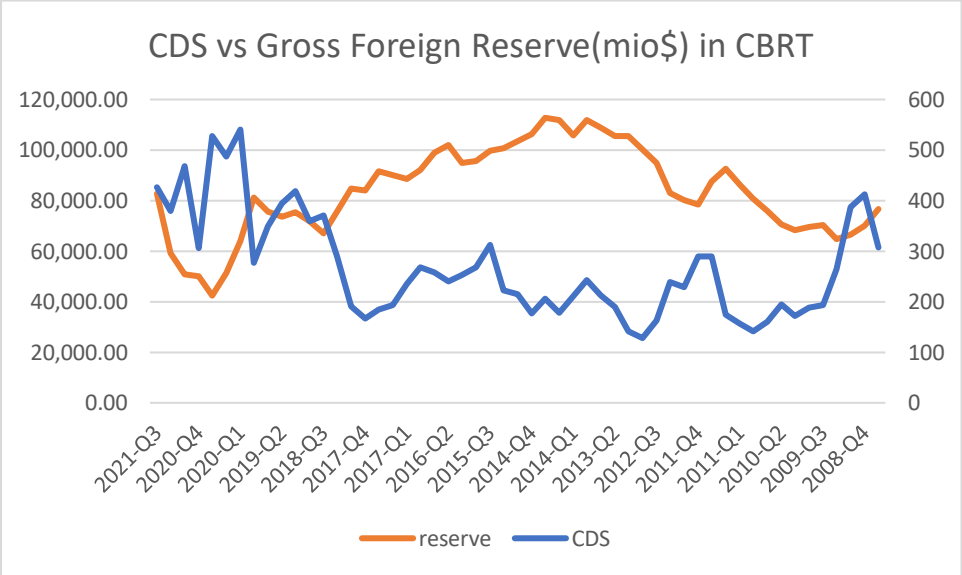
Graph 9



Source: Investing.com and CBRT

Finally, we examined the relationship between the gross foreign reserves held by CBRT and CDS spread. As seen in Graph 10, we can see the indirect correlation between the gross foreign reserves held by CBRT and CDS spread because we know that in the period of exchange rate crisis and BoP crisis, CBRT uses its foreign reserves to provide both liquidities and suppress the depreciation of exchange rate. At this period, the riskiness of investment and seriousness of balance of payments increase. Therefore, we can conclude up the increasing CDS premiums during the crisis periods mentioned above.

Graph 10



Source: Investing.com and CBRT

2.3) Regression

2.3.1) Introduction

Above, under the title Determinants of CDS premium, the relationship between determinants and CDS premium was given. We will select some of these determinants and examine them on the example of Turkey to understand and show the causality of the relationship and significance of their coefficients. We did not examine all these ten determinants mentioned above because there is multicollinearity between the components, and most of the components give

meaningless results. Multicollinearity was revealed, and the main reason why we did not examine all of these determinants mentioned above. For this reason, we have reviewed the following: exchange rate, current account deficit, reserve hold by Central Bank of Turkey Republic, benchmark interest rate, stock exchange market, external debt, and short-term external debt. We made this work by using simple linear regression with using OLS estimators. The main purpose of this was to determine whether the correlations shown above were also causally significant. If we can show the causality relationships in meaningful ways, policies can be produced according to these relationships. In this study, we wanted to show the significance levels of determinants that already exist again. However, the most striking challenge we faced in this study was multicollinearity between determinants. This situation distorted the regression and misleadingly affected the significance levels and direction of the determinants. Therefore, we based our study on the assumption that there is no multicollinearity between determinants and our observable variables are independently and identically distributed (i.i.d.).

2.3.2) Data and Variable Description

2.3.2.1) Data Source

We picked up the data from popular websites providing a wide range of data like Central Bank and investing.com. Our sample includes 53 different observations. These observations represent quarterly data.

2.3.2.2) Description of Variable

CDS: CDS is a financial instrument through which an investor can exchange their credit risk in the case that the borrower is going to default**.**

TRYUSD: This variable refers to the exchange rate between the dollar and the Turkish lira. It is expected to be directly correlated with CDS premiums and positively affect CDS premiums.

current_account: This variable refers to the current account deficit. It is expected to be indirectly correlated with CDS premiums and negatively affect CDS premiums. In that model, we divided the current account deficit and surplus by one thousand at the end to examine how many coefficients of the current account react.

reserve: This variable refers to the gross reserve held by CB. It is expected to be indirectly correlated with CDS premiums and negatively affect CDS premiums.

interestrate: this variable refers to the benchmark policy interest rate. It is expected to be indirectly correlated with CDS premiums and negatively affect CDS premiums.

XU100: This variable refers to the stock exchange market's overall value. It also refers the

BIST100 value which added the top hundred Turkish companies which have IPO's. It is expected to be indirectly correlated with CDS premiums and negatively affect or to be negatively affected by CDS premiums.

e.debt: This variable refers to the external debt. It is expected to be directly correlated with CDS premiums and positively affect CDS premiums.

s.t.e.debt: This variable refers to the short-term external debt. It is expected to be directly correlated with CDS premiums and positively affect CDS premiums.

2.3.2.3) Data Summary

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
CDS	53	268.861	104.398	128.110	189.620	312.000	540.560
current_account	53	-8,379.453	6,257.896	-22,681	-12,500	-5,057	7,192
TRYUSD	53	3.346	2.096	1.210	1.786	4.375	8.543
Reserve	53	83,648.940	17,522.490	42,420	70,616	99,009	112,773
e.debt	53	381,019.200	58,946.390	269,865	331,551	424,086	457,492
s.t.e.debt	53	103,118.300	24,841.070	50,424	93,740	115,899	143,013
Interestrate	53	10.781	5.217	5.030	6.963	12.750	24.393
GDP	53	673,573,649.000	399,747,232.000	212,877,604.000	384,630,842.000	899,066,192.000	1,915,467,414.000
XU100	53	81,484.820	27,706.180	25,764.800	64,434.500	96,520.100	147,670.000

2.3.3) Methodology

We conducted our study with a multivariate regression model by using the Ordinary Least Square (OLS) method, which minimizes the residuals u_i.

$$\boldsymbol{CDS_i = \beta_0 + \beta_1.TRYUSD + \beta_2.current_{account} + \beta_3.reserve + \beta_4.interestrate + \beta_5.XU100 + \beta_6.e.debt + \beta_7.s.t.e.debt + u_i}$$

However, as we want to obtain more plausible results, we need to have some assumptions in order to use or reach consistent and unbiased OLS estimators.

Firstly, we have an assumption that the population model is linear in its parameters determined above. Secondly, we assumed that the expected value of residuals is zero. Thirdly, we assumed that it is also zero for the expected value of u_i given X. This third assumption is also related to the second assumption. This assumption determines whether our estimates are biased or not. In addition, we assumed that our variables are independently and identically distributed (i.i.d). Finally, we assumed that our unbiased estimator is also consistent in the case that our sample size goes to a large sample size which is greater than thirty, by using Central Limit Theorem (CLT).

$$\hat{u}_i = y_i - \hat{y}_i \,, \tag{1}$$

$$\widehat{\sum_{i=1} \hat{u}_i} = 0 \,, \tag{2}$$

$$\mathrm{E[u|x]} = 0 \,, \tag{3}$$

$$E[u_i u_j] = 0 \;\; when \; i \neq j \,, \tag{4}$$

$$E[u_i u_j] = \sigma^2 \; when \; i = j$$

Then, we can assume now that our OLS estimates are unbiased and consistent.

2.3.4) Results

Table 1

Dependent variable:							
	CDS						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
TRYUSD	35.809***	31.694***	22.962***	21.402***	105.242***	92.737***	84.277***
	(4.846)	(5.277)	(5.485)	(6.206)	(9.627)	(9.996)	(10.313)
current_account		0.003*	0.003*	0.002	-0.003**	-0.002*	-0.001
		(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
reserve			-0.002***	-0.002***	0.001	-0.001	-0.002**
			(0.001)	(0.001)	(0.0005)	(0.001)	(0.001)
interestrate				1.515	-0.405	-1.936	-1.323
				(2.747)	(1.646)	(1.626)	(1.584)
XU100					-0.005***	-0.006***	-0.006***
					(0.001)	(0.001)	(0.001)
e.debt						0.001***	0.001***
						(0.0003)	(0.0002)
s.t.e.debt							0.001**
							(0.0005)
Constant	149.046***	189.229***	386.686***	367.590***	288.718***	252.623***	302.060***
	(19.083)	(29.275)	(65.125)	(74.172)	(44.869)	(43.717)	(47.439)
Observations	53	53	53	53	53	53	53
R^2	0.517	0.546	0.630	0.632	0.873	0.892	0.902
Adjusted R^2	0.508	0.528	0.607	0.601	0.859	0.878	0.887
Residual Std. Error	73.258 (df = 51)	71.740 (df = 50)	65.461 (df = 49)	65.931 (df = 48)	39.185 (df = 47)	36.532 (df = 46)	35.049 (df = 45)
F Statistic	54.604*** (df = 1; 51)	30.059*** (df = 2; 50)	27.752*** (df = 3; 49)	20.595*** (df = 4; 48)	64.420*** (df = 5; 47)	63.111*** (df = 6; 46)	59.480*** (df = 7; 45)
Note:	*p<0.1; **p<0.05; ***p<0.01						

We conducted our regression model with a very restricted range of variables because we tried to understand whether coefficients of our variables are significantly different from zero or not

and how much the variables referring to our determinant dataset affect the CDS premiums in terms of basis points in our restricted and boarded variable dataset.

At first glance, the exchange rate coefficient is significantly from zero. One unit change in the USDTRY variable increases our dependent variable (CDS) by 84.3 basis points. Then, the coefficient of the current account is not significantly from zero. If the current account deficit increases 1000$, it leads to an increase in the CDS by 0.001 basis points. Then, the coefficient of gross reserve held by CB is significantly from zero within the 95 percent confidence interval. The decrease in the amount of reserves leads to the increase in CDS premiums. Then, the coefficient of interest rate is not also significantly different from zero. A decrease in the policy interest rate causes the CDS to increase. Then, the coefficient of stock exchange market value (XU100) is significantly from zero. A fall in the XU100 results in a rise in the CDS points. Then, the coefficient of external debt is also significant within the 99 percent confidence interval, although the coefficient of short-term external debt is significant within the 95 percent confidence interval. However, an increment in the short-term external debt and external debt causes the rise in CDS spread.

As we examined the periods when the CDS premiums increased, we also observed that the exchange rate would depreciate, and the amount of gross reserves would decrease. At the same time, we know that there is a high correlation between gross reserves and net reserves held by CBR. However, there might be the reason behind the insignificancy of coefficient of that interest rate and current account deficit that Turkish economy policy strictly switched from orthodox approach to heterodox approach. Therefore, the increase in CDS did not allow the interest rate to be increased during the past 4 years, specifically before the Naci Ağbal was appointed to the Central Bank Governor and after the removal of Naci Ağbal from his appointment. Therefore, data in this period was differentiated from its previous approach while considering the CDS, interest rate, and reserve relationships.

3. CREDIT RATINGS

3.1) The Overview of Credit Rating Announcements and Credit Rating Agencies (CRA)

Credit rating agencies are international companies that measure the credit risk status of institutions or countries within the strict criteria and attribute them to alphabetic symbols.

Country credit ratings constitute significant importance for both borrowers, such as countries in need of capital and investors. The mechanism of credit ratings continues to gain importance due to increasing globalization and cross-boundary transactions in the global financial system. This mechanism of credit ratings is essential in the decision-making process of financial players. In global markets, investors need information about the borrower because they face the risk of not collecting back the principal and interest amount from the borrower. From another perspective, the borrower needs to prove its reliability to the lender to be recognized and get money from the lender. In the case of insufficient information, the credit demanders and credit suppliers cannot match, and the economy will not work efficiently. Therefore, the need for an objective measurement that eliminates the information asymmetry and announces this to the markets is solved by credit rating agencies and credit default swaps at some level. Thanks to the credit rating agencies, countries with a high investment grade can easily get credits from global markets at a lower cost while investors manage their investments in a safer way by knowing potential risks.

The credit ratings have functioned in many ways, such as asset pricing, risk management, and portfolio management (Galil and Soffer, 2011)

There are three major credible credit rating agencies in the global financial market: Standard & Poor's (S&P), Moody's, and Fitch companies. These companies have been announcing the credit ratings of companies since the 1920s; however, they started to evaluate the countries' economies after the 1970s (Demir and Eminer, 2014). They announce the credit ratings on

corporations, sovereigns, mutual funds, insurance companies, and managed funds (Krahnen and Weber, 2001).

The credit rating is divided into two subgroups as “investment grade” and “non-investment grade” (also known as speculative level or junk level). The credit rating expression of S&P and Fitch are almost the same. They use AAA, AA, A, and BBB for investment-grade and BB, B, CCC, CC, C, and D for speculative credit risk, from most credible to least. (See table 2) While S&P and Fitch Moody’s uses numbers, Moody’s uses numbers such as Aaa, Aa1, Aa2) (See table 2)

Table 2

TE	S&P	MOODY'S	FITCH	DBRS	DESCRIPTION
100	AAA	Aaa	AAA	AAA	Prime
95	AA+	Aa1	AA+	AA (high)	
90	AA	Aa2	AA	AA	High grade
85	AA-	Aa3	AA-	AA (low)	
80	A+	A1	A+	A (high)	
75	A	A2	A	A	Upper medium grade
70	A-	A3	A-	A (low)	
65	BBB+	Baa1	BBB+	BBB (high)	
60	BBB	Baa2	BBB	BBB	Lower medium grade
55	BBB-	Baa3	BBB-	BBB (low)	
50	BB+	Ba1	BB+	BB (high)	Non-investment grade
45	BB	Ba2	BB	BB	speculative
40	BB-	Ba3	BB-	BB (low)	
35	B+	B1	B+	B (high)	
30	B	B2	B	B	Highly speculative
25	B-	B3	B-	B (low)	
20	CCC+	Caa1	CCC	CCC (high)	Substantial risks
15	CCC	Caa2		CCC	Extremely speculative
10	CCC-	Caa3		CCC (low)	In default with little
	CC	Ca		CC	prospect for recovery
5	C	C		C	
0	D	/	DDD		In default
		/	DD	D	
			D		

When the rating of the reference entity moves to the higher rating category, the grading should be upgraded accordingly, vice versa. Therefore, besides the credit agencies' mission of eliminating the information asymmetry about the debt obligators, there is another mission, which is to monitor the debt obligator. The downgrading of the debt obligator can be a signal of increasing credit risk. However, CRAs have been criticized for being late to downgrade the sovereign credit risk in the 2008 Financial Crisis. Then, they have been accused of exaggerating the crisis, deepening the crisis, and causing the European debt crisis. These developments made the CRAs' reliability questionable, and CDS gained importance as an indicator of the sovereign credit risk.

3.2) Sovereign Credit Ratings

A sovereign credit rating is a measure of a country's creditworthiness and the willingness of the government to meet its financial obligation both in full and on time. Although the sovereign has the capacity to pay, it may not be willing to pay if the social and political costs are relatively high (IMF, 2010). To capture the "unwillingness to pay" factor, the agencies consider political and cultural factors such as institutional strength, political stability, democracy, individual rights, governance, and transparency. However, the rating methodology of CRAs is not publicly accessible; they utilize both public and private information.

According to the IMF's Global Financial Stability Report (2010), each rating agency prioritizes some factors. (See table 3) Moody's gives importance to the ability to pay, whereas Fitch and S&P focus more on willingness to pay. Logically, Moody's attributes more weight on debt level, which is consistent with its strategy, than the other two agencies. S&P takes into account more political risks and monetary policy. (IMF, 2010)

Table 3

Credit Rating Agencies	*Key Factors Every Credit Rating Agency Prioritize*
Moody's	Economic strength; institutional strength; financial strength of the government; susceptibility to event risk
Fitch	Macroeconomic policies; performance; and prospects; structural features of the company; public finances; external finances
Standard & Poor's	Political risk; economic structure; economic growth prospects; fiscal flexibility; general government debt burden; offshore and contingent liabilities; monetary flexibility; external liquidity; external debt burden

Sources: IMF, Global Financial Stability Report Sovereigns, Funding, and Systematic Liquidity, 2010

4. DISCUSSION

4.1) Sovereign Credit Ratings and Sovereign Credit Default Swaps: Advantages and Disadvantages

The Sovereign CDS spreads are more volatile than sovereign credit ratings. The fact that Sovereign CDS spreads are more volatile can be attributed to being traded daily and for speculative purposes. Whereas credit ratings are announced periodically, CDSs are traded constantly. Therefore, credit ratings can be determined early or lately than they should. As opposed to credit ratings, CDS premiums show instant reactions according to supply and demand in the CDS market. (Eğilmez, 2016). Furthermore, a change in risk perception in the market is reflected more rapidly in CDS spreads than credit ratings. A permanent increase in a country's CDS can be resulted from that its credit rating may be downgraded. However, a credit rating downgrade can be a weaker signal of CDS premium increase (Çevik, 2011).

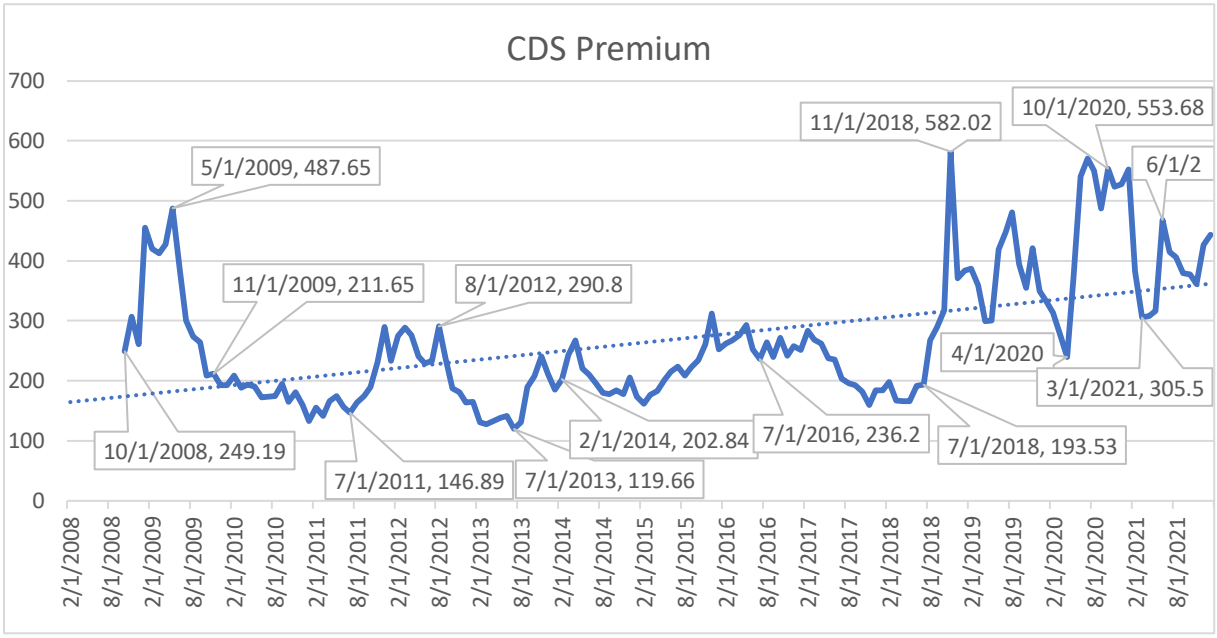
There is a lack of supervision in the CDS market. The fact that CDSs can be subject to speculative transactions such as short selling has been criticized for increasing the uncertainty in the market. The idea that the crisis has been exacerbated by CDSs holders hiking up the

prices in the CDS market brought along the ban of naked Sovereign CDSs. European Union ban on naked short selling was announced in March and was enacted in December 2012. According to the regulation, the EEA Sovereign CDSs can be bought if the buyer holds the issuer's debt or if they have exposures that are meaningfully correlated with the Sovereign debt at the time of execution (IMF, 2010). Another criticism is that there is no size limit that the CDS market can reach since CDSs are not asset-backed. The lack of control and the speculative trading of CDSs with high leverage ratios can increase the volatility of the risk perception in the market. Therefore, there may be deviations from actual risk levels in CDSs spreads, and this cannot be explained by the economic fundamentals (Çevik, 2011). Hence, supervisory and regulatory authorities in the CDS market are a must.

4.2) What events did CDS react to?

CDS premiums in Turkey, as well as around the world, have given serious reactions to important political and economic events. Because CDS premiums represent the risk of defaulting the country, CDS premiums have increased in places where the risk has increased, CDS premiums have decreased in places where the risk has decreased. These fluctuations are directly related to global and domestically inclined political and economic events. On the other hand, changing the appearance of credit ratings by credit rating agencies is also effective in changing CDS premiums. Here we will examine the events in which CDS in Turkey is most affected. These events can be considered as the global economic crisis of 2008 and 2011 and the Covid 19 Pandemic. On the other hand, December 17-25, Gezi Park Events, July 15 Coup Attempt, Naci Ağbal's removal are among the important economic and political events in Turkey.

Graph 12



Source: Investing.com and CBRT

2008 CDS premiums in Turkey increased with the US mortgage crisis. Considering that the crisis is global, and that banks and states are facing liquidity shortages, it was a fact that the effects of this crisis reached Turkey. Thanks to the fiscal and monetary policies adopted, there was a relief in terms of default risk worldwide by the end of 2009, and CDS premiums in Turkey also fell back to 200 basis points. The same situation was repeated with the 2011 Euro crisis. If we compare the 2011 Euro crisis with the US crisis in 2008, the 2011 Euro crisis was less severe in terms of change in CDS premiums. CDS premiums in Turkey during the 2011 Euro crisis, when the BOP crisis arose, increased from 150 basis points to 300 basis points.

CDS premiums, which fell with the decrease in the severity of the 2011 Euro Crisis, have increased again due to the Events of December 17-25, the Events of Gezi Park, and the 15 July Coup Attempt. These events were domestic political happenings. Especially considering that CDS premiums were determined in foreign markets, CDS was able to react very quickly to major political and economic developments.

In addition to all this, Turkey's largest increase in CDS occurred in disputes between Turkey and US in 2018. The process that started with the priest Brunson incident continued with the exchange rate crisis in Turkey, and CDS premiums in Turkey went from about 200 basis points to about 550 basis points in a very short period of time. If we look at the change graph of CDS premiums between 2008 and 2021, the drastic increase occurred during this period. With the interest rate policy measures taken against this event, there has been a certain amount of decrease in CDS premiums.

When the first Covid-19 case appeared in Turkey, CDS premiums were on the rise again. The Covid-19 pandemic, which affects the whole world, has also increased the already existing riskiness of Turkey.

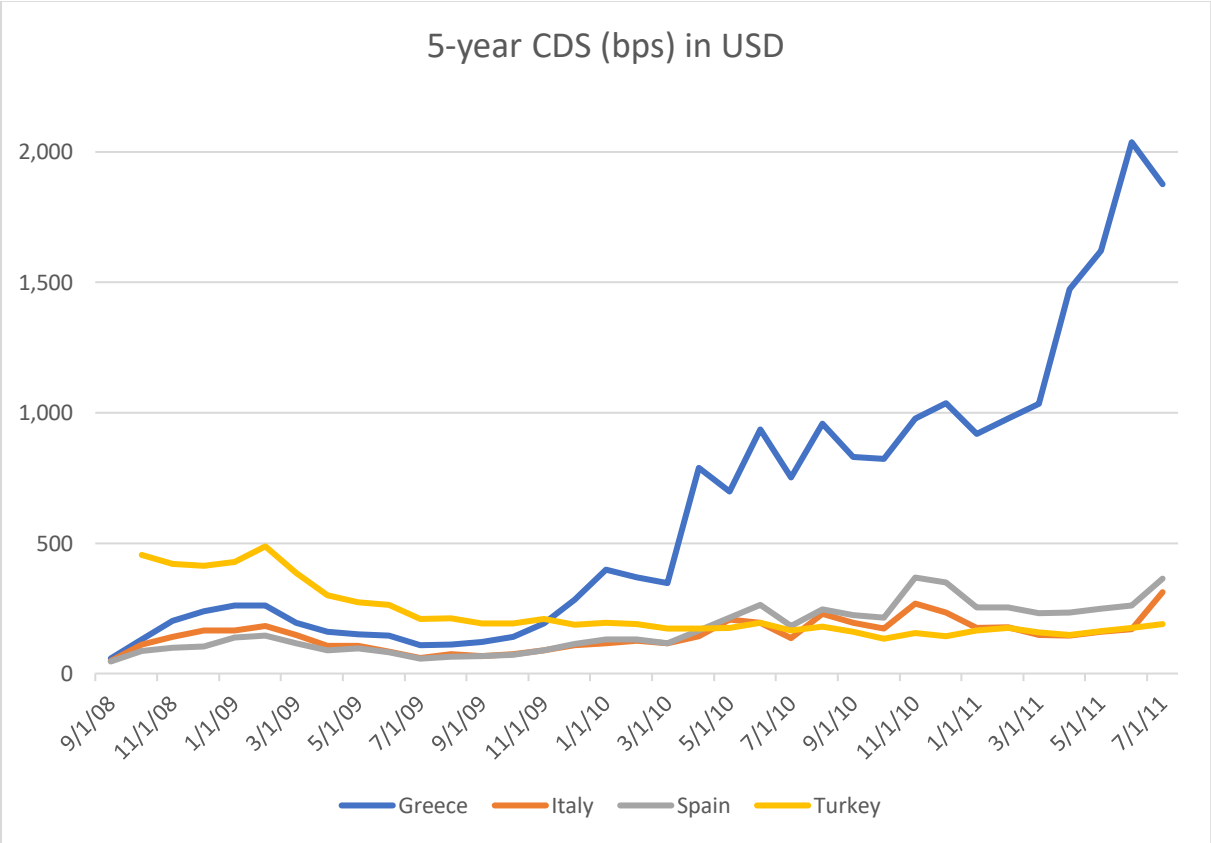
On the other hand, the experimentation of heterodox economic policies further increased the riskiness during these periods. In response, the exchange rate and CDS premiums fell with the appointment of Naci Agbalin, who again used orthodox policies as a Central Bank Governor. However, the markets reacted very sharply to Naci Agbal's removal again after 3 months, and CDS and the exchange rate rose again. This latest incident has especially shown how quickly CDS premiums can react to domestic events.

4.3) What happened after the 2008 Financial Crisis: Credit Ratings versus CDS

After the 2008 Financial Crisis, credit rating agencies downgraded Greece, Ireland, Portugal, and Iceland ratings sharply. For example, Ireland’s rating was downgraded from AAA to BBB+. Since these downgrades happened after the risk was realized, the validity of these assessments has been questioned. On the other hand, CDS spreads of Greece and Ireland have reached their highest level ever. The rise in CDS spreads of Italy, and Spain followed that. Turkey had a relatively more robust

economic performance and lower CDS spread at that period despite its relatively lower credit rating "BB+" (Fitch) and "BB" (S&P).

Graph 13



Source: Investing

Credit ratings and Sovereign CDSs are expected to move together; for example, when credit rating was downgraded, the rise in Sovereign CDS should be expected; however, in the post-crisis period, there were discrepancies regarding some sovereigns. The sovereigns whose credit ratings were lowered rapidly to the range of "BBB+" and "BBB-" had increasing CDS rapidly as expected. However, CDS premiums of developing countries in the same "BBB+" and "BBB-" range such as Brazil and Mexico, are quite low compared to European countries. Developing countries whose credit ratings were in the range of "BB+" and "B" had CDS spreads close to each other. However, many countries in this group, including Turkey, had CDS spreads lower than Spain, Italy, and Belgium, which had relatively higher credit ratings (See Table 4)

Table 4

CDS spreads and Credit Ratings in September, 2011

Country	S&P	Fitch	CDS spread
Sweden	AAA	AAA	66
Norway	AAA	AAA	52
Singapore	AAA	AAA	80
Finland	AAA	AAA	82
Holland	AAA	AAA	103
Germany	AAA	AAA	95
England	AAA	AAA	83
Denmark	AAA	AAA	135
France	AAA	AAA	158
ABD	AA+	AAA	50
Belgium	AA+	AA+	261
Spain	AA	AA+	381
Japan	AA-	AA-	133
Italy	A	AA-	468
South Korea	A	A+	180
Poland	A-	A-	275
Ireland	BBB+	BBB+	803
South Africa	BBB+	BBB+	208
Russia	BBB	BBB	276
Portugal	BBB-	BBB-	1175
Mexico	BBB	BBB	156
Brazil	BBB-	BBB	174
Indonesia	BB+	BB+	265
Turkey	BB	BB+	290
Ukraine	B+	B	796
Greece	CC	CCC	5300

As examined above, the assumption that countries with high credit ratings have low CDS spreads loses its validity. Some European countries heavily affected by the global crisis had hard times to handle with its public debt, and this did not reflect their credit ratings at the same rate as did in their CDS spreads (Çevik, 2011). Therefore, it can be said that the relationship between sovereign credit ratings and sovereign CDS premiums weakened in the post-crisis period. Credit rating agencies may not change their credit ratings according to fluctuations in CDS premiums because credit rating agencies take into consideration more long-term structural

indicators as well as short-term risk indicators. For example, S&P has rapidly downgraded Greece's credit rating due to the debt crisis. On the other hand, England's credit rating remained unchanged in 2009 despite its increasing CDS premium (Çevik, 2011).

5. CONCLUSION

In this paper, we examined what CDS is, what it is affected by, how credit rating agencies and ratings work, how CDS responds to events that affect CDS in the world and in Turkey. CDS is a financial instrument that is determined by the area in the markets and the selling party. The factors affecting the change in CDS premiums are reserve, real and nominal growth, current account balance, exchange rate, short-term and long-term external debt, interest rate, and stock exchange market index. CDSs are also affected by other factors like government budget deficit, CCI (consumer confidence index, VIX (volatility index), and factors directly related to the banking sector. In addition, CDS is also affected by the main and serious political and economic incidents like the 2008 US crisis, 2011 Euro crisis, and some domestic political events. We examined these effects in the example of Turkey and concluded that CDS reacts quickly to the external and internal factors in the foreign markets and riskiness of country or company or lender in terms of defaulting are represented by CDS, and CDS premiums and credit ratings also affect the riskiness or decisions on investment or lending. Although there is decreasing trust in credit rating agencies, the use of credit ratings in capital adequacy calculations since Basel II and Basel III increased its importance again. They are both valid and used for assessing the credit risk of sovereigns.

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