Gönderim Tarihi: 24.02.2017 Kabul Tarihi: 13.12.2017

A COMPARATIVE ANALYSIS OF SOVEREIGN CREDIT RATING METHODS AND CREDIT DEFAULT SWAPS[1]

Burak PİRDAL[*]

ÜLKE KREDİ DERECELENDİRME YÖNTEMLERİ VE KREDİ TEMERRÜD SWAPLARININ KARŞILAŞTIRMALI BİR ANALİZİ

Öz

Ülkelerin kredi notlarının ölçülmesi ve değerlendirilmesi özellikle son yarım yüzyılda oldukça önem kazanmış ve bu değerlendirmeler ülkelerin makroekonomik performansları için önemli faktörler haline gelmişlerdir. Bu bağlamda, ülkelerin kredibilitelerinin ölçülmesinde başvurulabilecek metodlardan ikisi kredi derecelendirme kuruluşlarının değerlendirmeleri ve kredi temerrüd swaplarıdır. Her ikisi de tamamen farklı methodolojilere sahip olan bu yöntemler ülkelerin kredi notlarını yansıtır. Bu çalışmada bu iki yöntemin karşılaştırmalı analizi yapılarak, benzer ve farklı yönleri ortaya konulmuştur. Ayrıca bu iki yöntemle elde edilen sonuçların tutarlılığı da analiz edilmiştir ve ülke kredi derecelndirme yöntemlerine ilişkin politika önerilerinde bulunulmuştur.

Anahtar Kelimeler: Kredi Temerrüt Swapı, Kredi Derecelendirme, Kredi Derecelendirme Yöntemleri.

Abstract

The measurement and evaluation of credit notes of the country especially in the last half century has become quite important and these assessments have become a vital factor for the macroeconomic performance of the countries. In this context, two of the methods that can be applied to measure the credibility of the countries are rating by credit rating agencies and credit default swaps. Both of these methods which have different methodology reflect the credit ratings of countries. In this study a comparative analysis of these two methods is performed and similarities and differences between them has been demonstrated. Also the consistency of the results obtained by these two methods are analyzed and a policy implication is proposed on the methods of sovereign credit rating.

Keywords: Credit Default Swap, Credit Rating, Credit Rating Methods.

---

[1] Also has been presented in 32. International Public Finance Conference/Turkey – IPFCtr to be held in Antalya, Turkey on May 10-14, 2017.

[*] Research assisstant, Ankara Yıldırım Beyazıt University, Faculty of Political Sciences, Public Finance Department, e-mail: bpirdal@ybu.edu.tr.

1. Introduction

The concept credit rating simply traces back to mid-19. Century and since the international investors need more reliable indicators, it is gaining much more importance in today's globalized world. Thanks to golabilizing and deepening financial markets, an investor from a remote, small country can easily give a loan to any entity in any place around the world. However, it is impossible for the creditors to have a perfect knowledge of the borrower's entity. But, in order to have sustainable and reliable financial markets, the capabilities of the borrowers to meet their obligations should be known as perfectly as possible by the creditors. This necessity created an independent market and corporations that operate in this area, which are called Credit Rating Agencies.[2]

CRAs not only assess the credithworthiness of the private companies but also of the debt demanding any other entities like public institutions or governments. In the financial system, different entities can demand CRAs to give them a credit note and they receive loans according to this rating. They make payment to CRAs for the credit rating. Today, credit rating can determine the credibility of a country, accordingly how much interest it will pay and how much credit it can take. Countries with low credit rating receive relatively less loans at a higher rate of interest. Therefore, it is vital for any country to have a high credit note which wants to utilize international funds in favor of its economy (Balıkçıoğlu 2013).

Another way of assessing credithworthiness of the entities is Credit Default Swaps.[3] A credit default swap (CDS) is a financial swap agreement that the provider of the CDS will compensate the buyer -who is usually the creditor of the reference loan- in the event of any loan default . This means that the seller of the CDS insures the buyer against loan defaultings. The buyer of the CDS makes a payment to the seller and, receives a payoff if the loan defaults. It was invented by Blythe Masters in 1994. CDSs have existed since 1994. In the event of any default the buyer of the CDS receives compensation which is usually the face value of the loan, and the seller of the CDS takes possession of the defaulted loan. In this paper we analyse both methods, revealing similarities and differences among them, try to determine if they are in consistent with each-other or not and propose a policy implication for both methods.

[2] Hereinafter referred to as CRA
[3] Hereinafter referred to as CDS

2. Sovereign Credit Risk Measurement Methods

There are many credit rating acencies. Though each one uses a different credit rating metholodolgy we can have a general framework of a credit rating period. In this study we are going to shed light on the sovereign rating assessment other than company or individual rating.

2.1. What is a Credit Rating?

A credit rating is a formal, independent opinion of a borrower's ability to fulfill its debt obligations. It indicates an entity's ability to pay its financial obligations. This is also referred to as *"creditworthiness"*. According to John Moody, who is the founder of Moody's, a credit rating indicated creditworthiness of a government by assessing two main aspects: *"capability to pay and willingness to pay"* (Bheenick 2005).

The rating institution typically is referred to as a credit rating agency and the entity whose creditworthiness is assessed is called as an issuer or as an obligor. Though not always, majority of credit ratings are publicly disclosed and are used by investors in their investment appraisal process. An issuer to be rated can be an individual, corporation, or a government.

In principle, the fundamental role of a CRA is to serve as an information intermediary between creditors and borrowers by providing the market with information regarding entities. It collects and spreads information about entities and this information is used by other actors who make decisions about their relationship to give credit (Bartels 2015).

At the end of a detailed assessment, credit ratings usually appear in the form of alphabetical letter grades -such as, 'AAA' and 'BBB'-, and generally reflect a relative ranking of credit risk of the rated obligors. An issuer with a higher credit rating is assessed to be more credible than an oblligor with a lower credit rating. A CRA simply seeks to predict how an obligor may behave in the future by analysing its previous business management, financial and operating experience and collateral performance. Because of the subjective nature of credit ratings there is no standard method to measure the accuracy of credit ratings. Rates are given based on a CRA's analytical models, assumptions, and expectations and many other quantitive and qualitative models. Therefore, we can say that a credit rating reflects a CRA's subjective judgment of an obligor's credithworthiness. Even obligors to be rated 'AAA' can default.

By offering an alternative point of view to investors', credit ratings can be helpful tools, when making investment decisions. It may enable them to assess the risks related to the area they are planning to invest in. But it

should be noted that a credit rating only assess credit risk and does not reflect other types of specific risks such as liquidity risk, interest rate or market risk, or prepayment risk which can also affect the value and so does not determine the prices of financial tools. Therefore, a credit rating should not be considered as an investment advice or a recommendation to buy, sell, or hold any financial security.[4]

2.2. The Role of Credit Rating in the Global Economy

CRAs assess the relative credit risk of specific entities such as corporations and governments. As we mentioned before, in this paper we analyses the credit rating of countries which is also called sovereign credit rating. By serving relevant informations about creditworthiness of the entities, CRAs reduce information costs, increase the number of potential borrowers, promote liquid markets, thus also promote economic growth, enhance the quality of investments, reduce the asymmetric information problems, and make it more possible for developing countries to get international funds.

CRAs help good entities to get better interest rates. Entities with higher grade credit ratings are able to borrow money at lower interest rates. Accordingly, these organizations are responsible about managing their money and paying off their debt appropriately. Therefore, they will be able to expand their business at a faster rate and this also stimulates the economy's expansion as well. CRAs warn investors of risky entities as well. Investors want to know the level of risk associated with an entity and this makes CRAs are very crucial players as many investors wish to be forewarned of particularly risky investments. They also provide a fair risk-return ratio. Not all investors invest in risky markets; however, they want to know that they are going to be rewarded if they take a high level of risk. For this reason, CRAs will inform them of the risk levels of the investment and ensure that they are properly compensated for the level of risk they take on. On the other hand, CRAs promote the improvement of the institutions. A poor credit rating can be a wake-up call for institutions for instance. These institutions tend to deny their credit problems, and need to be alerted of any potential problems from an analyst before they make the necessary changes.

[4] https://www.sec.gov/investor/alerts/ib_creditratings.pdf, Access Date: 21.03.2016

2.3. General Assessment of Sovereign Credit Rating

In general terms, a sovereign rating refers to the assessment of the future capacity of a central government to fulfill its financial obligations. So it reflects the default probability of a central government on its sovereign debt. Sovereign risk assessment has the larger proportion among general credit rating assessment types.

"CRAs owe their existence to the information asymmetry between borrowers and lenders" (Dimitriou 2016: 5). Asymmetric information simply means unequal information between parties in a deal or transaction. In a relationship to give credit a borrower is expected to have more information about its creditworthiness than the lender. Hence, creditors need the assessment of the borrowers' creditworthinesses from an unbiased party. (Dimitriou 2016: 5).

In 21th century, the sovereign rating first strongly came into the spotlight during the oil and debt crises in 1970s (Balıkçıoğlu 2013: 51). After the defaults of especially the several developing countries this issue began to intensely examined among the credit rating agencies and economists. In credit rating assessment process, there are economical, political and social factors. Economical factors are mainly based on economical indicators of the country. According to Cantor and Packer (1996: 39), the fundamental indicators of the sovereign risk measurement process are: GDP per capita, annual GDP growth rate, inflation, fiscal balance, external debt burden, economic development level, and the country's default record. There are also political facors consist of political structures and institutions ideological structure, ethos, power centers, bureaucracy, regional economic and defense alliances, relations with the superpowers, relations with neighbors (Chang 2005: 25-26). Political risk mainly consists of three key elements: country risk, sovereign risk and microeconomis risk.

In assessing the country risk there are three main elements: the countries budget deficit ratio to GDP, efficiency of public expenditures, and financial, natural and human recources of the country. Definition of sovereign risk is broader than the country risk and it usually refers to structural socio-economical and political changes which may result in a default. This type of risk is high for African and Middle-Eastern countries, for instance. In this approach, CRAs proposes that political risk is not equal for all the sectors. Some sectors or even some firms may be less affected by the existing political and economic unbalances. To assess this kind of risk a sector based assessment is required. On the other hand, economical risk refers to the mixture of exchange rate risk and transfer risk. In

international finance sector investments, foreign exchange risk can be formulized as indicated below:

1+G(1)=(1+G(s))(1+G(X))

Herein G(1), G(s) and G(X) stand respectively for international return, international return of securities in a foreign country and exchange rate return. In this kind of assessment, it is tried to be assessed a country's default risk by assessing all the factors mentioned above (Çalışkan 2002; Ulusoy 2012).

On the other hand, according to S&P, the 5 main factors that determine to a country's credit rating are: (Gülmez et al. 2017: 5)

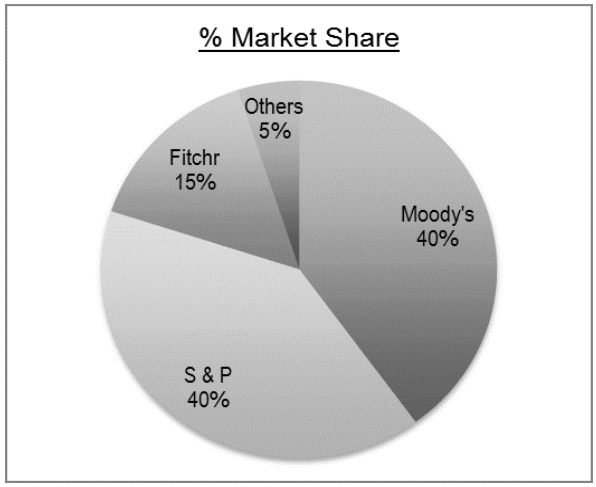
- *"Institutional effectiveness and political risks, reflected in the political lead.*
- *Economical structure and growth prospects, reflected in the economic score.*
- *External liquidity and international investment position, reflected in the external score.*
- *Financial performance and flexibility and government debt burden, reflected in the financial score*
- *Monetary flexibility, reflected in the monetary score."*

Lastly, there are some "*social factors"* to be considered by CRAs such as income distribution, relationships between social and religious groups, demographical structure, education level of the society and so forth. CRAs simply determine the sovereign risk of a country by assessing these factors and thus determining the political and economical risks (Balıkçıoğlu 2013).

2.4. The Major Credit Rating Agencies and Their Indicators

Credit ratings are predominantly provided by three main independent rating agencies, namely; Standard & Poor's (S&P), Moody's Investor Services (Moody's), and Fitch IBCA (Fitch), although there are others. As can be seen in the below chart, 95 percent of the credit rating market is occupied by these companies. Therefore, in this study we particularly examine the methods of rating of these three leading companies.

Figure-1: Market share of major CRAs



Source: http://www.economywatch.com/features/A-New-Credit-Rating-Agency-for-BRICS.02-13-15.html, acsess:19.03.2016

2.4.1. Standard & Poor's (S&P)

Standard & Poor's Financial Services LLC (S&P) is an American financial services company. The company traces its history back to 1860. In this year Henry Varnum Poor published a book named History of Railroads and Canals in the United States and this book compiled comprehensive information about the financial and operational state of U.S. railroad companies. In 1868, Henry Varnum Poor established H.V. and H.W. Poor Co. with his son, Henry William Poor. In 1906, Luther Lee Blake founded the Standard Statistics Bureau, with the view to providing financial information on non-railroad companies. In 1941, Poor's Publishing and Standard Statistics merged to become Standard & Poor's Corp. In 1966, the company was acquired by the McGraw-Hill Companies, extending McGraw-Hill into the field of financial information services.[5]

According to S&P while countries with rating AAA to BBB are defied as investible, governments with a credit note form BB to D are defined as speculative.

[5] https://www.standardandpoors.com, Access Date:19.03.2016

2.4.2. Moody's Investor Services (Moody's)

Moody's is the second largest CRA just after the S&P in the world. In 1900, John Moody published his first market assessment, called Moody's Manual of Industrial and Miscellaneous Securities, and established John Moody & Company. The publication provided detailed statistics relating to stocks and bonds of financial institutions, government agencies, manufacturing, mining, utilities, and food companies. By 1903, Moody's Manual was a nationally recognized publication.[6] According to Moody's countries with credit note AAA-Baa are investible but others with the note Ba –WR are speculative.

2.4.3. Fitch Ratings

Together with Moody's and Standard & Poor's, Fitch Ratings Inc. is one of the three Nationally[7] Recognized Statistical Rating Organizations (NRSRO) which are also commonly known as the *"Big Three"*. The firm was founded by John Knowles Fitch on December 24, 1914 in New York City as the Fitch Publishing Company. It merged with London-based IBCA Limited in December 1997. In 2000 Fitch acquired both Chicago-based Duff & Phelps Credit Rating Co. (April) and Thomson Financial BankWatch (December). Fitch Ratings is the smallest of the *"Big Three"* NRSROs, covering a more limited share of the market than S&P and Moody's, though it has grown with acquisitions.[8]

2.5. Determining the Sovereign Credit Risk

While scoring a country's sovereign credit risk, CRAs utilise the weighted average scores determined on a quantitative analysis on each indicator separately. The Credit Rating Assessment Committee then, considers the particular advantages/disadvantages of the nation that are not be reflected in the model, and compare it by different nations to get the final result. Generally, the result is divided between 09, wherein 0 represents the highest risk, 9 represents the lowest and with respect to this final result the country is ranked. Most of the CRA's sovereign credit rating is classified as ten rating scales, from AAA to D. Apart from the ratings "AAA," "B", "C," each rating scale can be modified by the addition of a plus or a minus, expressed as a (+) (-), indicating a higher or lower rating scale than its current rating.

[6] https://www.moodys.com/Pages/atc001.aspx, Access Date :19.03.2016
[7] USA
[8] https://www.fitchratings.com, Access Date:20.03.2016

As we mentioned before each CRA's credit rating metohodology is different. However, while Moodys's credit rating scales indicators have some subtle differnces from the others, S&P's and Fitch's credit rating scales are quite similar, almost the same in appearance. Although the credit rating agencies adopt different rating scales, there is an equivalence across the scales which facilitates comparison such that for example a Baa1 rating from Moody's is equivalent to a BBB+ rating from S&P and BBB+ from Fitch or while the highest credit rating scale is Aaa for the Moddy's, S&P and Fitch indicates this level of credibility with AAA.The full rating scales are shown in Table 1 below.

Table 1: Rating Scales of Different CRA's

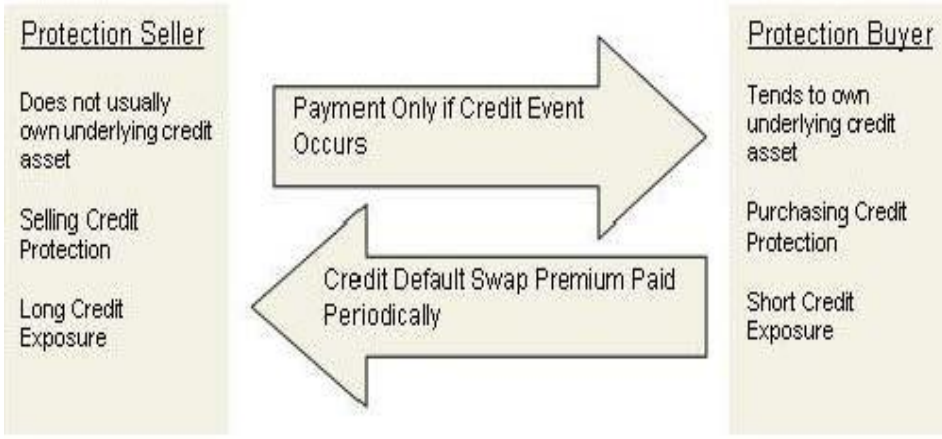
Moody's	**S&P**	**Fitch**	**Rating Description**
Aaa	AAA	AAA	Prime
Aa1	AA+	AA+	High grade
Aa2	AA	AA	
Aa3	AA−	AA−	
A1	A+	A+	Upper medium grade
A2	A	A	
A3	A−	A−	
Baa1	BBB+	BBB+	Lower medium grade
Baa2	BBB	BBB	
Baa3	BBB−	BBB−	
Ba1	BB+	BB+	Non-investment grade
Ba2	BB	BB	speculative
Ba3	BB−	BB−	
B1	B+	B+	Highly speculative
B2	B	B	
B3	B−	B−	
Caa1	CCC+	CCC+	Substantial risks
Caa2	CCC	CCC	
Caa3	CCC−	CCC−	
Ca	CC	CC	Extremely speculative
	C	C	Default imminent
C	RD	DDD	In default

Source: Prepared by benefiting from Gülmez et al., (2017), www.standardandpoors.com, www.moodys.com and www.fitchratings.com.

3. Credit Default Swaps

A credit default swap (CDS) is a financial swap agreement that the provider of the CDS will compensate the buyer in the event of a loan default. More precisely, one counterparty called protection buyer pays a premium to the other party –called protection seller-, which in return has to pay to protection buyer a certain payment if a default causes losses to protection buyer. There is usually a brokerage (a responsible institution) between buyer and seller. A simple CDS transaction is indicated in the diagram below:

Figure 2: CDS Sales



Source: http://financialplanningbodyofknowledge.com/wiki/Credit_default_swaps, Access date: 18.12.2017

There is no standardization of a CDS contract. This is to say that the counterparties are free to choose the rules of the swap and design it in a way appropriate to their exact needs (Anhropelos 2010: 2). On a CDS contract, parties have to agree upon the elements the reference entity, reference asset, the maturity of the swap, the credit events, the premium payments (or the protection fee) and the default payment. Definition of these elements are following:

Reference entity: On which the default is referred to.
The reference asset: An asset, a loan, a bond or even a basket of those, on which the protection is bought.
The maturity of the swap: The period over which the protection will be in effect.
Credit events: These are the events that whose realization means default of the reference entity such as bankruptcy of the reference entity, failure to

meet the obligations. Examples of these events that can be included in the contract.
Premium payments (or protection fee): These are the payments that the protection buyer pays to the protection seller for this protection.
Default payment: This is the payment the protection seller is obligated to provide to the protection buyer if the default occurs before the maturity of the swap.

The amount of this payment often depends on which of the credit events occur and this dependence should be clear in the contract. It is common in the CDS market that the premium payments to be given as a percentage of the value of the reference asset. This percentage is called credit spread. If no default occurs until maturity, then the protection seller has no obligation. Note that the maturity of the swap does not need to match the life of the reference asset and in the most of the CDSs it is shorter (Anhropelos 2010). However, premium payments of swap agreements are generally between 25-50M dollars. Duration of the agreements are usually between 3 and 10 years but, 5-year-agreements are more typical (Longstaff et al. 2003: 5).

There are different methods and applications about how pricing the CDSs, but in the core of this pricing process there is the level of risk of the reference entity.

Two of the main uses of the CDS are given below (Anhropelos 2010):

1-Financial institutions use CDSs to diversify their credit risks. They aim to share their risks among the members of the market. Protected risk is closely related with the reference entity's credit note. Premium payments depend on this. For example, this payment is high for a reference entity with a relatively low credit rate.

2-Companies use the CDSs in order to reduce their risk on reference assets without having to sell these assets. It is correct that the owner of a reference asset can avoid its credit risk by simply selling the asset to another company.

As credit default swap spreads go up, risk of that country increases as well. Higher spreads are associated with higher rate of risk thus, relatively higher premium payments. While countries Pakistan, Egypt, Ukraine and Venezuela are among highly risky countries, Sweden, US and Germany has the lowest spreads and that means have the lowes risk.[9]

[9] http://www.businessinsider.com/the-riskiest-sovereign-bonds-ranked-2015-8, Access Date: 03.12.2017

4. Comparison of CDS Spreads and Credit Rating

Although having different methods, both CDS and CRAs' ratings are used for assessing the credit risks. CDS premiums are determined by real counterparts in a market. It is a kind of credit premium that be sold and bought in a real market. But credit rating analysis is based on the wievs and assessmenst of the experts. Therefore, credit rating analyses are usually told to be more subjective. Terms of CDS agreements are affected not only by the reference entity's capability but also by the economical conditions in which the reference entity operates. In this sense, it is not only a kind of credit rating of a reference entity, but also a risk assessment of the country in which the reference entity operates. Both give you an opinion and information on an entitiy's ability to repay its debts. As the default risk of the entity goes up, CDS spreads increases and their credibilities declines.

There are following some differences between CDS and CRA methodology:

- Increases and decreases in CDS spreads occurs continuously in the market, in this sense these fluctuations indicate the buyers' and sellers' instant opinions of the credworthiness of the entity. But credit rating of an entity is revised by the experts when the credit rating agency deems it is necessary and thus the conclusion is reflected in the market with a delay. Also, while CDS spreads provides the market with a continuous data, credit rating gives discrete data.
- On the other hand, CDS premiums indicates the economical agents' opinions, other hand, credit rating demonstrates the assessments of the experts.
- Another point is CDS spreads can change on a daily basis but credit rating is not expected to change in a very short term. It generally revised for relatively long periods of time like 6 months or 1 year.
- Moreover, a CDS Premium can reflect subtle differences in the credibility of an entity but credit rating is not able to reflect this kind of very small differences. Therefore, we can say that CDS premiums are more sensitive than the credit rating. And, a CDS usually reflects a 5-year-agreement on the guaranty payment of a bond, but credit rating indicates the credibility of an entity for shorter or longer periods than 5 year.[10]

[10] http://www.guvensayilgan.com/wp-content/uploads/2014/09/Kredi-Temerr%C3%BCt-Swaplar%C4%B1-ve-Kredi-Dereceleri.pdf, Access Date :15.03.2016

5. Are CDS Spreads Consistant with Sovereign Credit Rating?

As we mentioned above, a CDS not only reflects the credibility of a specific entity, but also the economic conditions of the country in which the entity operates, thus the creditworthiness of the country as well. There are CDS spreads of the selected countries and their credit retings in the year 2014 indicaed below:[11]

Table 2: Comparison of Credit Notes and CDS Premiums

COUNTRIES	5 -YEAR CDS SPREADS	5-YEAR DEFAULT RİSK (%)	CREDIT NOTE BY S&P	CREDIT NOTE BY MOODY'S
Venezuela	1289,90	58,9	B-	Caa1
Ukraine	902,06	45,1	B+	Caa1
Pakistan	775,10	42,8	B-	Caa1
S. Cyprus	386,08	29,0	B-	Caa3
Egypt	448,80	27,2	B-	Caa1
Greece	453,10	26,7	B-	Caa3
Lebanon	385,21	24,6	B-	B1
Hungary	231,48	15,5	BB	Ba1
Portugal	182,83	15,4	BB	Ba3
Indonesia	172,97	14,8	BB+	Baa3
India	215,90	14,6	BBB-	Baa3
Turkey	214,22	14,4	BBB	Baa3
Russia	214,77	14,3	BBB+	Baa1
South Africa	190,32	12,9	A-	Baa1
Kazakhistan	180,71	12,3	BBB+	Baa2
Estonia	49,20	3,5	AA-	A1
Netherlands	32,46	2,9	AA+	Aaa
Swiss	29,80	2,7	AAA	Aaa
Denmark	23,84	2,1	AAA	Aaa
Britain	23,79	2,1	AAA	Aa1
Finland	23,17	2,1	AAA	Aaa
Germany	22,51	2,0	AAA	Aaa
USA	17,52	1,5	AA+	Aaa
Swedish	16,18	1,5	AAA	Aaa
Norway	13,52	1,2	AAA	Aaa

Source: http://www.guvensayilgan.com/wp-content/uploads/2014/09/Kredi-Temerr %C3%BCt-Swaplar%C4%B1-ve-Kredi-Dereceleri.pdf, Access Date: 23.03.2016

[11] Since I can only get tha data of the year 2014, in this study the data of this year are used.

As indicated above, although sovereign credit notes and CDS spreads are usually consistant, there may be rare adverse situations. Because CDS is more sensitive than the Credit Rating. For example, Kazakhistan's CDS spread is 180.000 as of 19.09.2014. That means protect buyer should pay %1.8 of the debt to but a protection. And South Africa's CDS spread is 190.000 at the same time, and that means protect buyer should pay %1.9 of the debt to but a protection. But, South Africa's Credit Rating note at the same period is higher than the Kazakhistan's. The same case is valid for Venezuella and South Cyprus for instance. While Venezuella's CDS spread is well above the South Cyprus, they have the same credit note.

6. Criticizm of Both Method and Policy Proposal for Sovereign Credit Rating

Entering the credit rating sector is costly, credit risk measurement is a business that requires serious professionalism, and the industry is largely responsible. The oligopolistic structure formed by this situation makes it difficult for rating institutions, which are newly established and have not long history in the sector, to acquire the necessary prestige and increase their influence and to become professional enough. Therefore, a few CRAs dominate the sector. This structure of this oligopoly sector consists of three international rating agencies. These are Moody's, Standard & Poor's (S&P) and Fitch Ratings, which are also called the *"big three"*. These three companies, make the majority of credit rating on a global scale and have the largest share of the sector. They are also the most respected and influential institutions around the world. Therefore, the *"big three"* operate not only at the local level but also at a global level maintaining oligopoly on a global scale. These three major institutions, which the global financial markets have necessarily use and are dependent on, are beginning to be debated and questioned by many authorities and investors because of the inconsistencies and unsteadiness of their ratings over the last 10 years.

Although competition and concers over reputation should incevtive the CRAs to make accurate and unbiased ratings, the rumors about that these *"big three"* serve a range of political and political ends, rather than merely serving as a market facilitator and regulator, have attracted attention to these institutions and raised questions about how this power is being used in their hands.(Fuchs & Gehring 2015: 2) The collapse of AAA rated financial products drew attentions to the unbiasedness and impartiality of CRAs (Tang 2016: 7). Other example is unexpected bankruptcy of Lehman Brothers in 2008 financial crisis. In conclusion these kind of unsucceful implementations led to questioning of reliability of CRAs. (Gülmez et al. 2017: 27)

Germany -the largest and most stable economy in Europe- in recent years shows a high level of discomfort with these institutions since they downgraded the credit note of it. The analyzes they make, the notes they give and the situation assessment statements are still seriously affecting money and capital markets, shaking global exchange parities and stock market scores. The rating instrument and the directing of financial markets allow these organizations to indirectly influence international relations. The ratings given by rating agencies with political motives can damage governments that seek to develop by attracting foreign investment. For this reason, it is observed recently that some countries –like China- have started to work with the rating agencies they have established or with institutions outside the three major institutions.

In order to overcome the problems mentioned above, major powers in the world like European Union, China and Russia can establish their own credit rating Agencies. Establishment a global credit rating agency without any nationalism could be another solution. There is also a need for a regulatory authority to rank them. They also should be held accountable in civil lawsuits for wrong credit ratings. Moreover, regulatory authorities should control the CRAs internally. This internal audit is expected to increase the transparency.

On the other hand, when it comes to CDS spreads, they are negotiated privately and the market has no transpatency. Furthermore, there have been claims that CDSs escalated the 2008 financial crisis by fastening the bankruptcy of companies such as Lehman Brothers and AIG. During the 2008 financial crisis companies like Lehman Brothers and AIG became subject to a risk of default and this situation created a kind of systematic risk. Because this vague atmosphere affected all the companies that doing business with the aforementioned two big companies. This situation affected all the market in a short time, exercebated the crisis and affected the national economies.

There can be chains of CDS transactions due to a practice called *"netting"*. For example, entity A buy CDS from entity B with an annual payment (say it to be %3). If the reference entity does not do well and has hard times, the risk payment increases, therefore entity A sells a CDS with a Premium (say it to be %6) to the entity C and gets %3 difference. If the reference entity defaults, entity A may not have assets to meet the requirement of the contract. This situation also affects the entity C and created a kind of "domino effect". If entity B fails, entity A will default on its CDS contract to entity C. Entity A may even face a serious crisis. And entity C will experience a large loss due to the failure to receive compensation for the debt which to be held from the reference entity. This "domino effect"

maybe eliminated by establishment of a central exchange for CDS trades. Such an implementation would mean that all transactions will be made via a central counterparty guaranteed by a consortium of dealers.

7. Conclusion

In the middle of the 19th century, rating activities emerged to meet the needs of the real sector and have prepared the formation of CRAs. By early 20th century these organizations have become powerful enough to affect the world economy and financial system. Credit ratings issued by CRAs are vital for developing countries, especially for those which are wishing accelerate their economic growth development. Sovereign credit rating at investable grade, provide the country with cheaper and long-term funding opportunities to finance its investments and also has a positive impact on foreign direct investment by increasing the country's prestige in the international arena. Therefore, the credit rating of the countries has the power to influence its economy directly and indirectly. On the other hand, CDS spreads which were found in 1994 can be regarded as another credit rating metholodolgy. One can get idea about a country's credibility by assessing its CDS premiums which indicates the insurance price of countries' debts. However, there are deficicencies both of the methods. Because both methods need to be regulated in a number of ways.

To sum up, CRAs and CDS spreads are two different methods to get an opinion of an entity's creitworthiness. Both have its own methodology and there are fundamental differences between their methods. CRAs give notes to the entities by assessing their experts' analyses and opinions. On the other hand, CDS spreads are data based on transactions in the CDS market. In this paper we shed light on both methodology and conclude that although they have different structures their indicators are not always but usually parallel with each other and both methods need structural reforms.

References

Anthropelos, M. (2010). *A Short Introduction to Credit Default Swaps*, Also available at: http://web.xrh.unipi.gr/faculty/anthropelos/CR/Introto CDS.pdf, Access Date: 03.12.2017

Balıkçıoğlu, E. (2013). *Ülkelerin Finansal Açıdan Kredi Notlarını Etkileyen Faktörler Ve Kurallı Maliye Politikasının Etkisi: 2000 Sonrası DönemTürkiye'de Uygulanan Maliye Politikalarının Kredi Notları Üzerindeki Etkisinin Karşılaştırmalı Analizi.* Published Phd thesis, Ankara: Ankara University Social Sciences Institute.

Bartels, B. (2015). *Essays on Credit Rating Agencies and The Assessment of Sovereign Risk*. Published Phd Dissertation. Universitätsbibliothek Mainz, Also available at: https://publications.ub.uni-mainz.de/theses/volltexte /2015/4037/pdf/4037.pdf., Access Date: 19.12.2017

Bheenick, E. (2005). "An Analysis of the Determinants of Sovereign Ratings". *Melbourne: Global Finance Journal,* 15.

Çalışkan, Ö.V. (2002). "Kredi Derecelendirme Kuruluşları ve Risk Değerlendirme Kriterleri". *G.Ü İ.İ.B.F journal, 1,* 53-66.

Cantor, R., Packer, F., (1996). "Determinants and Impact of Sovereign Credit Ratings". *Economic Policy Review, Federal Reserve Bank of New york, November,* 37-53.

Chang, J.H., (2005). "Globalization and East Asian Economies: An Introduction". *Global Economic Review, Taylor and Francis Journals, 34(4),* 355-362.

Chen, K., Fleming, M., Jackson, J., Li, A. Sarkar, A. (2011). An Analysis of CDS Transactions: Implications for Public Reporting. *Federal Reserve Bank of New York Staff Reports,* Staff Report no. 517 Also available at: https://pdfs.semanticscholar.org/174d/a82efeca53d96350 cb144d6ea808b570a75a.pdf, Access Date: 03.12.2017

Dimitriou, C. (2016). "Sovereign Debt and Credit Rating Agencies". N. p., Also available at: https://www.google.com.tr/url?sa=t&rct=j&q=&esrc =s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwi7-bum8frX AhUEWxoKHRvMD3wQFggoMAA&url=https%3A%2F%2Fthesis.eur.nl%2Fpub%2F35330%2FDimitriou-C.-388670-.pdf&usg=AOvVaw2 hpSHOgMnQylDg0RpqvCK3, Access Date: 08.12.2017

Fuchs, A., Gehring, K. (2015). The Home Bias in Sovereign Ratings, Courant Research Centre: Poverty, Equity and Growth - Discussion Papers, No. 179

Gülmez, A., Besel, F. and Yardimcioglu, F. (2017) Does Country Credit Rating Affect Current Deficit Account: The Case of Turkey (1992-2014). *Review of Innovation and Competitiveness, vol.3(2),* 25-42

http://www.guvensayilgan.com/wp-content/uploads/2014/09/Kredi-Temerr% C3%BCt-Swaplar%C4%B1-ve-Kredi-Dereceleri.pdf , Access: 23.03.2016

http://www.economywatch.com/features/A-New-Credit-Rating-Agency-for-BRICS.02-13-15.html,

https://www.fitchratings.com/, Access Date:21.03.2016

https://www.moodys.com/Pages/atc001.aspx , Access Date: 19.03.2016

http://financialplanningbodyofknowledge.com/wiki/Credit_default_swaps , Access Date: 18.12.2017

https://www.sec.gov/investor/alerts/ib_creditratings.pdf, Access Date: 21.03.2016

https://www.standardandpoors.com/ , Access Date: 21.03.2016

Longstaff, F.A., Mithal, S. and Neis, E. (2003). "The Credit Default Swap Market: Is Credit Protection Priced Correctly?". *Presented at USC FBE Finance Seminar.*

Tang, Leo. (2016). *Three Essays on Credit Ratings*. Diss. Rutgers University-Graduate School-Newark, Also Available at: https://rucore.libraries.rutgers.edu/rutgers-lib/50567/#citation-export, Access Date: 08.12.2017

Ulusoy, A. (2012). *Devlet Borçlanması.*Trabzon: Aksakal Publications.