Interaction between Cds Premiums and Sell Transactions of Foreign Investors

Cds Primleri ve Yabancı Yatırımcıların Satım Yönlü İşlemleri Arasındaki İlişkinin İncelenmesi

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Abstract: As a result of the financial liberalization experienced within the last century, researchers have started to question the effect of foreign investor transactions on emerging economies. Capital outflows experienced in emerging economies during crises are argued to support the view of Stiglitz (2002), who perceive capital account liberalization as the most important factor leading to financial crises. This creates motivation to analyze the factors which affect foreign investor transactions. In this study, the interaction between SELL transactions of foreign investors and CDS premiums, which could be used as a proxy for sovereign credit risk, will be examined. The results of the study offers supportive evidence for a bidirectional causality relationship between variables.

Keywords: Foreign Investors, CDS Premiums, Sovereign Credit Risk, Crises, Emerging markets

JEL Classification: D53, F36, G01

Öz: Geçtiğimiz asırda yaşanan finansal liberalleşmeyle beraber araştırmacılar yabancı yatırımcı işlemlerinin gelişmekte olan ekonomilere olan etkisini sorgulamaya başlamıştır. Kriz dönemlerinde gelişmekte olan ülkelerde gözlenen sermaye çıkışları sermayenin liberalleşmesinin finansal krizlere neden olan en önemli faktör olduğunu düşünen Stiglitz (2002)'in görüşünü desteklemektedir. Durum böyle olunca yabancı yatırımcı işlemlerini etkileyen faktörleri belirlemek önem kazanmıştır. Bu çalışmada yabancı yatırımcıların satım yönlü işlemleriyle ülke kredi riskinin bir göstergesi olarak kullanılan CDS primleri arasında ilişki incelenecektir. Çalışmanın sonunda değişkenler arasında çift taraflı bir nedensellik ilişkisi tespit edilmiştir.

Anahtar Kelimeler: Yabancı Yatırımcı, CDS Primleri, Ülke Kredi Riski, Krizler, Gelişmekte olan Piyasalar

JEL Sınıflandırması: D53, F36, G01

1. Introduction

Financial liberalization has lead researchers to question the effect of foreign investors on emerging economies. Capital outflows that are experienced during crises support the view of Stiglitz (2002) who perceive capital account liberalization as the most important factor that leads to financial crises. In this study the interaction between SELL transactions of foreign investors and CDS premiums, which could be used as a proxy for sovereign credit risk, will be examined. This study is novel in nature as it is one of the rare studies which employs use of sovereign CDS premiums rather than sovereign credit ratings as risk indicator. Research topic is noteworthy to study especially for emerging economies like Turkey where foreigners' stock market participation is high. In emerging economies sovereign credit risk increases are generally followed by capital outflows. These outflows lead stock market to plunge which could also cause sovereign CDS premium to increase further. In Turkey 65% of total market

capitalization of stock market is owned by foreign investors (based on the report of stock market trends that is issued by Central Securities Depository of Turkey). With such a high share, foreign investors have a directing role on stock market which makes Turkish stock market more fragile.

Why do foreign investors participate in emerging markets? Foreign investors aim to reduce their portfolio risk through international diversification. Although it depends on risk tendency of foreign investors; (under the assumption that they are risk-averse) they are expected to prefer countries where there is no political or economic uncertainty. Legislation protecting rights of foreign investors and tax procedures are further topics to consider for foreign investors. If this is the case, foreign investors need a proxy for sovereign credit risk in making investment decisions.

Credit risk is a risk of loss due to borrower's default on a loan. In CDS contracts, protection buyer pays a periodic fee (premium) in order to get a payment by protection seller in the case of a default event (Alper, Forni and Gerard, 2012). Since this study looks from the perspective of sovereign credit risk, by "default event" a failure to pay, moratorium or restructuring is referred. Failure to pay means failure of a country in paying principle or interest of any debt instrument. In restructuring country changes principle, interest payments, currency or maturity of its debt obligations due to deterioration in financial conditions. Moratorium refers to legal delay of debt payments by an insolvent country. Market price of premium quoted in percent of notional amount is defined as CDS spread. CDS spread, which is perceived as a measure of sovereign credit risk and used in the recent literature, increases as credibility of country deteriorates. Unlike credit ratings of rating agencies that are updated infrequently CDS spreads are valued daily based on demand and supply of a specific CDS contract in the market and by this way reflects current market conditions.

Investors could buy a CDS contract without purchasing bond issued by reference entity. Such investors bets on the creditability of reference entity and expect credit quality of reference entity to deteriorate. As credit quality worsens, investors profit from the increase of value of "insurance" of debt instrument. This type of CDS is referred as "naked" CDS. The speculative use of sovereign CDSs has generated multiple arguments criticizing the sovereign CDS markets. These arguments assert that speculators in the CDS market may cause borrowing costs of countries to increase by widening CDS spreads. In spite of those criticisms Baker and Filbeck (2015) state that CDS spreads are more timely and dynamic compared to sovereign credit ratings. According to the authors, CDS spreads (albeit noisy) provide important information

about shifts in credit risk. When the failure of rating agencies in Asia crisis and in the collapse of Lehman Brothers is taken into account, CDS spreads are better proxies in measurement of credit risk. CDS premiums will be used as a proxy for sovereign credit risk during this study.

Although financial liberalization does not constitute the main topic of this study, it is essential for understanding the relationship examined under the analysis. Financial liberalization process has begun in 1980s in Turkey. After then foreign investor participation has increased year by year. When market capitalization is taken into account, foreign investor transactions constitute % 65 of Borsa Istanbul for the period January 2019-June 2019. Such a high share could be an indicator of the fragility of the Turkish stock market. If foreign investors take position based on sovereign CDS premium of Turkey, any event (whether or not it is political, financial or economic) which lead an increase in CDS of Turkey will cause foreign investors to get out of Turkish stock market. Such a capital flight may cause the crisis to become more intense.

2. Literature Review

The current existing literature has addressed the interaction between Foreign Direct Investment and sovereign credit ratings. There are only a few studies which uses sovereign CDS premiums as a proxy of sovereign credit risk. Moreover existing literature generally focuses on Foreign Direct Investment rather than portfolio investments. This study aims to fulfill the gap in the literature by addressing the interaction between CDS premiums and SELL transactions of foreign investors.

Gande and Parsley (2004) has conducted a study which examines the interaction between sovereign credit ratings and international portfolio flows by using data of 85 countries for the period 1996-2002. Findings indicate that sovereign downgrades are strongly associated with capital outflows; nonetheless sovereign rating improvements do not generate an important change in equity flows.

Biglaiser et al (2008) have asked if sovereign credit rating changes affect portfolio flows. Based on findings portfolio investors are more likely to select countries facing economic challenges due to risk premium they offer. Moreover it is concluded that credit ratings have significant positive signaling effect on countries which take large equity inflows.

According to İkizlerli and Ülkü (2010), who have studied the impact of political risk on foreigner's trading by using data of Turkey, there is a moderate effect of political risk on foreign investor transactions. Foreign investors tend to respond political risk downgrades immediately,

nonetheless they react political risk upgrades slowly. Based on that study effect of political risk changes is priced within contemporaneous month.

Körner and Trautwein (2013) have investigated the role of sovereign credit ratings in transnationalization of finance. Authors have associated higher portfolio investment flows with higher credit ratings. Another paper authored by Emara and El Said (2015) separated capital flows into two as FDI and portfolio investment. Based on empirical results sovereign ratings have a statistically significant impact on both FDI and portfolio investment capital flows.

Emara (2015) has investigated how sovereign rating changes affect different types of capital flows to emerging markets by using GMM. Based on this study sovereign ratings affect emerging markets' access to international capital markets. Empirical results indicate that impact of sovereign credit rating on foreign direct investment increases with financial crisis, nevertheless this is not the case for portfolio investments.

Cai et al (2016) investigated the relationship between sovereign credit ratings and FDI flows by using data of 31 OECD donor countries to 72 recipient countries over the period 1985-2012. Findings are summarized under three sections: Firstly sovereign credit ratings are important drivers of FDI flows. Secondly OECD/non-OECD recipient countries receives high FDI inflow when its credit rating is high/low. Finally countries have more FDI inflows when their geographic region has higher average credit rating compared to other regions.

Kanlı and Aydoğmuş (2017) investigated the effect of country risk factors on foreign direct investments. This study is essential since it uses not only sovereign credit ratings but also sovereign CDS premiums as indicator of risk. Based on this study FDI is affected negatively in developing markets as CDS premiums increase; nonetheless FDI does not change significantly in developed markets as CDS premiums increase.

A more recent study which is written by Swamy and Narayanamurthy (2018) who has attempted to find the factors that drive capital flows into BRICS economies. According to authors, who have employed data of 1995-2015, sovereign credit ratings are one of the main drivers of capital flows.

3. Methodology

In the empirical part the interaction between Sovereign CDS premiums and SELL transactions of foreign investors will be investigated econometrically. Data used includes the period of 2002Q1-2018Q3. Data of CDS is obtained from Bloomberg Data terminal, whereas data of foreign investor transactions is taken from Finnet. Logarithmic series are used for all variables. In the empirical analysis firstly traditional ADF unit root test is applied.

Table 1. Results of ADF Unit Root Test

	ADF	
	Level	**First Difference**
lncds	η_μ -3.297110** [-2.906923]	-
	η_τ - 2.916573 [-3.480463]	-5.148385** [-3.486509]
lnsell	η_μ -2.280825 [-2.906910]	-10.17391** [-2.906923]
	η_τ - 2.856399 [-3.479367]	-10.24114** [-3.480463]

** denote rejection of null hypothesis at 5%

According to Table1, lnsell variable have unit root. Nonetheless lncds variable have unit root at %5 only when trend is taken into account. In the next section Toda Yamamoto test will be applied. Toda and Yamamoto (1995) have stated that Wald hypothesis testing which is implemented by adding maximum of order of integration ($d$max) to determined lag length (k) in standardVAR model has X^2 distribution. It is advantageous since it could be used both in cointegrated series and non-cointegrated series. In application of this test firstly VAR($k + d_{max}$) model is estimated. After then the MWALD test is implemented to first k coefficients and causality is examined. In our model determined lag number is 6, whereas max order of integration (dmax) is one. Firstly VAR (7) will be predicted, after then restrictions will be put on first six coefficients. Findings are reported under Table 2.

Table 2. Toda Yamamoto Granger Non-causality test results

Null Hypothesis	Chi-square	Probability	Conclusion
LNCDS does not cause LNSELL	18.96844	0.0042	Reject Ho
LNSELL does not cause LNCDS	17.75504	0.0069	Reject Ho

According to Table 2 there is a bidirectional causality relationship between variables. Foreign investors perceive sovereign CDS premiums as an indicator of risk and make SELL decisions by following sovereign CDSs. Capital outflows which stem from CDS premium increase will cause a plunge in stock market. Stock market decline will cause sovereign CDS premium to increase further. As it is discussed above since foreign investors have %65 of Turkish stock market in terms of market capitalization, such an outflow could generate a crisis or could cause crisis to become worsen. From another perspective sales of foreign investors could also affect transactions of domestic investors which could create a panic in stock market. This could also create an increase in sovereign CDS premium.

4. Conclusion

With the financial liberalization, crises have become more visible. After that time some authors have asserted that foreign investor transactions cause emerging economies to experience financial crises. In this study the interaction between sovereign CDS premiums and SELL transactions of foreign investors is examined. Study uses data of Turkey where % 65 of stock market capitalization is owned by foreign investors and financial crises are frequently experienced. At the end of the study a bidirectional causality relationship is found between variables. This could be evaluated as: Foreign investors perceive sovereign CDS premiums as a factor indicating risk and make sales based on them. Furthermore sales of foreign investors could generate a panic in stock market and may cause sovereign CDS premium to increase further. In further studies same relationship could be investigated by taking both SELL transactions and BUY transactions of foreign investors. Moreover the interaction between transactions of domestic investors and transactions of foreign investors could be investigated. By this way existence of herding behavior between investors could be questioned.

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APPENDIX

CHECK FOR STABILITY CONDITION

Root	Modulus
0.903864	0.903864
0.880970	0.880970
-0.859587	0.859587
0.016204 - 0.855830i	0.855984
0.016204 + 0.855830i	0.855984
0.659677 - 0.520792i	0.840474
0.659677 + 0.520792i	0.840474
-0.643946 - 0.521898i	0.828881
-0.643946 + 0.521898i	0.828881
-0.062109 - 0.586552i	0.589831
-0.062109 + 0.586552i	0.589831
0.111780 - 0.556657i	0.567769
0.111780 + 0.556657i	0.567769
0.270486	0.270486

No root lies outside the unit circle.

VAR satisfies the stability condition.

CHECK FOR AUTOCORRELATION

Lags	LM-Stat	Prob
1	6.059791	0.1947
2	4.277454	0.3698
3	2.285257	0.6835
4	6.639052	0.1562
5	2.153483	0.7076
6	4.129064	0.3888
7	5.512867	0.2386
8	5.359316	0.2524
9	3.101378	0.5410
10	4.630199	0.3274
11	6.019063	0.1977
12	2.727543	0.6044

Probs from chi-square with 4 df.