

FINANCIAL CRISIS' PROPAGATION THROUGH INVESTORS¹

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Abstract

Propagation of financial crises and limit their impact is a concern of many economists. Work studies about contagion occurred primarily through information correlation or liquidity. The information channel related to price changes in one market is perceived to have implications on other market asset value, and so prices on this market should be amended accordingly. The liquidity channel implies that some market participants may need cash for various reasons, such as losses in another market, thus passing the shock between the two markets.

To demonstrate the influence of investor behavior we chose to compare the development of the capital market in Romania with the European Union represented by Euronext. Comparing the results obtained in the two periods analyzed, extended period and the one that followed the outbreak of the crisis, we can say that there was a change in the Romanian market investors' behavior

Keywords: investorbehaviour,financialcrisis,information channel, liquidity channel, capital market

JEL Classification: G01, G11, E44

1. Introduction

Recent decades has been marked by several financial crises that appeared in advanced economies or developing countries. A common feature of these crises is that a crisis that initially appears to be specific to a country seems to be rapidly transmitted worldwide.

Despite extensive research in this field, changes recorded by asset prices remain difficult to explain. First, asset prices are following a downord trend and this is not to be made public in advance.

In the empirical literature, Karolyi and Stulz (1996) and Connolly and Wang (2003) find that macroeconomic indicators and other information of public interest, does not affect the "parallel movements" of the Japanese and American stock markets. King, Sentani and Wadhani (1994) find that the observable economic

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variables explain only a small part of the "parallel movements" of international capital markets. In addition, correlations between market returns calculated by Longin and Solnik (2001), Connolly and Wang (1998) and Ang and Chen (2002) are high especially in times of crisis, suggesting that contagion could be "asymmetric", i.e. its stronger in times of crisis.

Because of lack of evidence that macroeconomic fundamentals can serve as determinants of contagion, researchers have found alternative explanations. Models have been developed according to arbitrage limits allow crises to spread through assets held by international investors. Kodres and Pritsker (2002) develop a theoretical model of financial contagion through rebalancing portfolio containing international assets. One implication of the model developed by them is that "parallel movements" of this indicators must be symmetrical in both upturns and downturns. Kyle and Xiong (2001), Calvo (1999) and Yuan (2005) argues that the effects of crisis spread between markets due to investors who are limited in terms of assets held, and that correlations between markets are higher during crisis periods. More Kyle and Xiong (2001) argue that when investors suffer a great loss because of investments held in the country in crisis, they may be forced to liquidate positions held in other countries and thereby bring stock prices to depreciate in these other countries. Moreover, Calvo (1999) and Yuan (2005) find that income effects persist even when only a small fraction of investors are limited in terms of wealth held as long as they are relatively better informed (they argue that rational uninformed investors are unable to distinguish between selling due to liquidity shocks and sales resulting from fundamental shocks). In the presence of informed investors, contagion is likely to result from uninformed investors becoming confused. Although theoretically these statements may convince us, there is little empirical evidence supporting the contagion induced by the investors.

Bae, Karolyi and Stulz (2003) analyze the common characteristics of extreme events using a multinomial logistic model.

There is literature showing a similar pattern of assets held by investors as being a mechanism of propagating shocks. Kaminsky, Lyons and Schmukler (2001) show that the crisis in Mexico, Asia and Russia triggered the withdrawals from mutual funds in other countries. Kaminsky, Lyons and Schmukler (2004) find that mutual funds are those that caused contagion in Latin America by the withdraw of money from other Latin American countries that followed the initial shock from Mexico 1994. Kaminsky and Reinhart (2000) provide evidence showing that countries with negligible representation in the portfolios of mutual funds are heavily affected by regional crises (Colombia and Venezuela during the Mexican crisis). Broner, Gelos and Reinhart (2003) find some evidence that stock markets are correlated through mutual funds assets, especially during crises.

Calvo and Mendoza (1999) argue that globalization can cause contagion through incentives such as the cost of collecting information and imitating arbitrary market portfolios. In the presence of short-selling boundaries, the yield of assembling information at a fixed cost may diminish with market increas. Moreover, if the

marginal cost of a portfolio manager in case of a decline in market return exceeds the marginal gain of achieving above market returns, there will be a variety of optimal portfolios in which all investors imitate arbitrary market portfolios and their number will increase with market widening. Numerical simulations suggest that these frictions can have significant implications over capital flows of emerging markets.

Their analysis shows that informational frictions itself can't produce contagion. The existence of contagion assumes that this friction can be combined with certain institutional and regulatory features of financial markets. For fixed information costs, the gain given by the acquisition of costly information drops as the market grows if investors face short sale constraints. For variable costs, an area of multiple optimal portfolios contagion exists only if the incentives are such that the marginal cost of loss exceeds market marginal gains. In this context, policies that otherwise may seem useful instruments to limit volatility of capital flows, may actually contribute to exacerbating the problem. Therefore the role of investors' decisions in determining contagion is very important.

LEKodres and M.Pritsker (2002) develops a model of rational expectations on prices in order to explain financial market contagion. Although the model reviews contagion occurred through multiple channels, they focus on that contagion occurred from rebalancing assets between markets. Through this channel investors transmit idiosyncratic shocks from one market to another by adjusting their portfolio exposure to common macroeconomic risks. The transmission and severity of financial contagion depends on macroeconomic common factors, risk sensitivity and the information asymmetry size of each market. This model can lead to contagion between markets without common news and macroeconomic risks.

Their work studies contagion occurred primarily through information correlation or liquidity. The information channel related to price changes in one market is perceived to have implications on other market asset value, and so prices on this market should be amended accordingly. The liquidity channel implies that some market participants may need cash for various reasons, such as losses in another market, thus passing the shock between the two markets.

The contagion general pattern presented is actually an extension of the static model with a single risky asset, developed by Grossman and Stiglitz (1980), to a model with multiple assets. The GS was first extended to a model with multiple assets by Admati (1985) and other authors. Admati (1985) considers a steady stream of investors who have different private information. Other authors have extended this model into a dynamic framework with a single risky asset and multiple risky assets. I Yuan (2005) introduces loan limits on informed investors in a static single risky asset. However LEKodres and M.Pritsker (2002) have not stepped so far away from the original GS, in order to keep it simple. The main novelty brought by them is the economic interpretation they give to GS model elements. In their model each risky asset is the index of a country's capital markets. The liquidation value of each market index is decomposed into a component that is private information held by some of the investors about the country and a residual component determined by

macroeconomic factors. This decomposition provides information about how risk factors interact with the macroeconomic structure of the economy and the extent of information's asymmetry in various countries in developing a model of market contagion.

Boyer, Kumagai and Yuan (2005) provide empirical evidence that stock market crises are spread globally through assets held by international investors. Separating the stocks of emerging markets into two categories those that are eligible for purchase by foreigners (accessible) and those that are not (inaccessible), they estimate and compare the degree to which the profitability indices of accessible and inaccessible stocks move in the same way as the index of profitability that reflects the country's capital market in general. Their results show that there is a correlation between indices' changes during periods of high volatility, especially for available shares, which suggests that crises rather propagates through assets held by international investors, than as effect of changes in fundamentals economic characteristics of the country. This study is actually a continuation of a similar work from 2002.²

Their work uses a distinctive capital markets' feature of emerging economies in order to assess whether dynamic correlations between markets is driven by international investors or by fundamental links between these markets. We must consider that in some emerging market economies, not all listed shares can be purchased by foreign investors. By differentiating between the two types of shares available to foreign investors and the unavailable, they can distinguish between contagion induced by investors and the one induced by fundamentals.

Their research is closely related to the literature on arbitrage limits (Shleifer and Vishny (1997)), which emphasizes that market frictions or investors break the link between changes in asset prices and economic fundamentals, which is contrary to asset pricing theory (APT), according to which "co-movement" in prices reflects changes in fundamentals in an economy with rational investors. To this respect, Barberis, Shleifer and Wurgler (2005) and Boyer (2004) find evidence regarding "co-movements" induced by the investors, showing that some of these movements can be attributed to asset reclassification.

2. Modeling the propagation of financial crises through investors

2.1. Description of used data

To demonstrate the influence of investor behavior we chose to compare the development of the capital market in Romania with the European Union represented by Euronext (a stock exchange which has subsidiaries in the Netherlands, Belgium, France, Portugal and England, all EU members).

² B.H.Boyer, T.Kumagai și K.Yuan (2002), „*Are Investors Responsible for Stock Market Contagion?*”

Since the Romanian economy is an open economy is likely to be influenced by changes in the external economic environment.

Moreover, this influence can make the Romanian economy to be contagied by external events that normally should not affect our country, due to the nature of trade or macro-economic policy links, because the country where the crisis is triggered can "send" directly effects to Romania. However the crisis that broke out in the United States in the fall of 2007 had powerful effects on the Romanian economy since it is fully integrated into the global economy.

However we expect that the effects of such crisis will be felt in Romania, after a period of 1-2 years. That happened to our country's real economy that experienced negative effects in early 2009. It should be noted that we commented that these effects were provided by the Member States of the European Union, and not by the United States directly. It is also true that due to trade links between the United States and most powerful countries of the European Union, the latter were directly affected by the crisis.

It is therefore interesting to see how the Romanian stock market reacted to the outbreak and then to the effects of the current crisis, which initially broke out as a pure financial crisis, but unsurprisingly turned in an even bigger economic crisis.

Bucharest Stock Exchange is a stock exchange where the trading is free, buyers and sellers may be resident or non-resident of Romania, and this makes it influenceable by external market developments, at the extent to which investors in that market are present on the Romanian market.

EURONEXT is the largest European stock exchange and in this case we used it as a market proxy representing the European Union, of which Romania is a member, and therefore has strong commercial, political and economic links.

The model used should determine whether in times of crisis, EURONEXT's market developments has been transmitted to BVB, if investors on the Romanian market were influenced by the European market.

$BET = \alpha + \beta * EUR + \varepsilon$, where:

BET – is the Romanian market volatility. We chose to calculate volatility based on the BET-C variations, so $BET = LN \left(\frac{BET-C_1}{BET-C_0} \right)$

EUR - is the European market volatility. We chose to calculate volatility based on the EURONEXT variations, so $EUR = LN \left(\frac{EURONEXT_1}{EURONEXT_0} \right)$

Normally Romanian market investors should follow the actions of investors in the European market and therefore BET should be influenced by EUR . Since there aren't large differences in time zones (1-2 hours), influences will be felt on the Romanian market probably the same day.

At this initial model, we added BET-C variation from the previous day, previous day market capitalization and trading volume of the previous day for the following reasons:

- BET-1 - BET-C variation from the previous day - in order to show that investors are influenced to some extent by previous variations of the internal market, ie that mimic the behavior of others and so are limited to familiar informations;
- Cap-1 - capitalization change from the previous day - in order to show how investors are influenced by the estimated value of assets sold on the market;
- Tranz-1 - the volume of transactions change - in order to show that investors who noticed that the previous day transaction volume was very high will mimic the behavior of those who traded or follow their own plan.

2.2. Descriptive statistics of used data

The data used are characteristic for 21.02.2007-19.02.2009, which includes the period before the outbreak of the crisis and a future one and the beginning of the economic crisis in Romania. Some data was removed from these specific data sets, on those days when on one of the market were not carried out transactions.

Tabel no.1 Descriptive statistics of the two markets' returns³

	EUR	BET
Mean	-0,00139	-0,00325
Median	-0,00063	-0,00113
Maximum	0,098643	0,109121
Minimum	-0,12352	-0,12342
Std. Dev.	0,020511	0,024413
Skewness	-0,65514	-0,58326
Kurtosis	6,894026	3,951915
Jarque-Bera	350,2657	47,03818
Observations	498	498

We can see from the above table that the two indicators returns have taken both positive and negative values. In addition values are quite close to the average value with a standard deviation of 0.02. The negative skewness for both indicators shows that we have more values to the left of the mean (ie lower values) and the kurtosis greater than 3 in both cases shows that we have a leptokurtic distribution with much more values concentrated around the average, so high probabilities of extreme values.

Checking time series' stationarity for the studied period was performed by applying the Augmented Dicky-Fuller. From an economic perspective, a series is stationary if a shock over the series is temporary (that is absorbed over time) and not permanently.

³ Own calculations

Tabel no.2 Stationarity of time series: EUR and BET⁴

Variable	With intercept	Constant, linear trend	Without
EUR	-25,89540	-25,97007	-25,78233
BET	-19,68259	-20,14196	-19,39845
Critical values			
1%	-3,600987	-4,198503	-2,622585
5%	-2,935001	-3,523623	-1,949097
10%	-2,605836	-3,192902	-1,611824

According to the table above we can see that all-time series investigated are stationary as ADF statistics show because all values obtained are higher than the tabulated critical values for a significance level of 1%, 5% and 10%, thus rejecting the null hypothesis of nonstationarity.

Table no.3 Co-integration of time series: BET and EUR⁵

Hypothesis			5%	1%
No. equations of co-integration	Eigen Value	Trace Statistics	Critical Value	Critical Value
Without	0,184125	178,4224	24,31	29,75
At least 1	0,146507	78,09998	12,53	16,31

We can see from the above table that there aren't any co-integration equations for the three time series, for a significance level of 5%, and for a level of 1% for the entire period.

Table no.4 Granger causality: BET and EUR⁶

Null hypothesis: X is not Granger caused by Y (X/Y)	Obs.	F-Statistic	Probability
BET / EUR	496	5,31250	0,00522
EUR / BET		20,2900	3,4E-09

We see from Table no.4 that there is a double causality between BET-C variation and EURONEXT variation, which means that we can apply the model.

⁴ Own calculations

⁵ Own calculations

⁶ Own calculations

2.3. Estimation of model variables for 21.02.2007-19.02.2009

Applying the regression over the studied model we obtain the following results:

Tabel no.5 The regression results⁷

Dependent Variable: BET

Method: Least Squares

Date: 09/04/12 Time: 23:33

Sample: 1 498

Included observations: 498

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.695686	0.043366	16.04235	0.0000
C	-0.002279	0.000891		-2.559154
R-squared	0.341613	Mean dependent var		
Adjusted R-squared	0.340286	S.D. dependent var		
S.E. of regression	0.019829	Akaike info criterion		
Sum squared resid	0.195025	Schwarz criterion		

We can therefore say that the equation is:

$$BET = 0,002279 + 0,695686 * EUR$$

Given the obtained R^2 we can say that the European market variation explains about 34% of the variation in the Romanian market throughout the period studied, which supports in a certain extent our statement of mimicking the behavior of investors in the European market, although it may be evidence of trade links between the two markets.

We attempt to introduce into the model the influence of Romanian market results obtained in the previous day in order to study their influence.

Tabel no.6 The regression results⁸

Dependent Variable: BET

Method: Least Squares

Date: 09/04/12 Time: 23:39

Sample(adjusted): 2 498

Included observations: 497 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.688773	0.043722	15.75335	0.0000
BET(-1)	0.046754	0.036840	1.269131	0.2050
C	-0.002139	0.000899	-2.378635	0.0178
R-squared	0.343763	Mean dependent var		
Adjusted R-squared	0.341106	S.D. dependent var		

⁷ Own calculations

⁸ Own calculations

S.E. of regression	0.019837	Akaike info criterion	-4.996565
Sum squared resid	0.194383	Schwarz criterion	-4.971161
Log likelihood	1244.646	F-statistic	129.3885
Durbin-Watson stat	2.075889	Prob(F-statistic)	0.000000

We note that the explanatory value of the model increases, although not significantly, but we can say, as in the previous case that BET-C variation and EURONEXT variation are directly proportional and since economic characteristics have not changed we may assume that shows the influence of investment behavior.

The results of this regression will be:

$$BET = -0,002139 + 0,688773 * EUR_{-1} + 0,046754 * BET_{-1}$$

We introduce into the model the influence of results obtained on the European market the previous day in order to study their influence.

Tabel no.7 The regression results⁹

Dependent Variable: BET

Method: Least Squares

Date: 09/04/12 Time: 23:47

Sample(adjusted): 2 498

Included observations: 497 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.709153	0.045447	15.60400	0.0000
BET(-1)	0.000306	0.046729	0.006549	0.9948
EUR(-1)	0.089698	0.055662	1.611465	0.1077
C	-0.002141	0.000898	-2.384320	0.0175
R-squared	0.347202	Mean dependent var		-0.003253
Adjusted R-squared	0.343229	S.D. dependent var		0.024438
S.E. of regression	0.019805	Akaike info criterion		-4.997794
Sum squared resid	0.193365	Schwarz criterion		-4.963922
Log likelihood	1245.952	F-statistic		87.40340
Durbin-Watson stat	1.985669	Prob(F-statistic)		0.000000

We note that the explanatory value of the model remains constant but we can say, as in the previous case that EURONEXT variation and BET-C variation are directly proportional, but with an increased proportionality coefficient. Note that the influence of BET₋₁ decreases rapidly.

The results of this regression will be:

⁹ Own calculations

$$BET = -0,002141 + 0,709153 * EUR_{-1} + 0,0000306 * BET_{-1} + 0,089698 * EUR_{-1}$$

Inorder to see the influence of domestic information we introduce into the model the transactions' volume and the market capitalization variance.

Tabel no.8 The regression results¹⁰

Dependent Variable: BET

Method: Least Squares

Date: 09/05/12 Time: 00:01

Sample(adjusted): 2 498

Included observations: 497 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.711476	0.045463	15.64968	0.0000
BET(-1)	0.042748	0.057123	0.748358	0.4546
EUR(-1)	0.100986	0.056402	1.790457	0.0740
CAP(-1)	-0.044666	0.034928	-1.278809	0.2016
TRANZ(-1)	-0.001265	0.001609	-0.786030	0.4322
C	-0.002101	0.000898	-2.338510	0.0198
R-squared	0.350162	Mean dependent var	-0.003253	
Adjusted R-squared	0.343545	S.D. dependent var	0.024438	
S.E. of regression	0.019800	Akaike info criterion	-4.994292	
Sum squared resid	0.192488	Schwarz criterion	-4.943484	
Log likelihood	1247.081	F-statistic	52.91464	
Durbin-Watson stat	1.983380	Prob(F-statistic)	0.000000	

We note that the explanatory value of the model remains approximately constant, and market capitalization and trading volume variation have negative influences on BET-C variation. We also discover a very small influence of the trading value and market capitalization and we conclude that the Romanian market investors are influenced by external information much more than by domestic ones.

The results of this regression will be:

$$BET = -0,002101 + 0,711476 * EUR_{-1} + 0,042748 * BET_{-1} + 0,100986 * EUR_{-1} - 0,0044666 * Cap - 0,001265 * Tranz$$

Summarizing the above regression results, we can say that during the entire period analyzed:

- BET-C variation was influenced to a very small extent by Euronext variation, which means that external markets investors behaviour have influenced the decisions

¹⁰ Own calculations

of domestic investors to an important extent, the latter relying more on basic information about the Romanian economy;

- BET-C variation is not influenced by its variations of the day before;
- BET-C variation is not influenced by trading volume and market capitalization changes of the previous day.

Since the model used did not significantly explain Romanian market variations it means that there are factors that were not included in the model, factors related to the Romanian economy. We could thus say that Romanian capital market investors behave rationally, which is, not influenced by the emotional decisions.

2.4. Estimation of model variables for 1.08.2007 – 31.08.2007

However investors tend to become irrational in times of crisis outbreak, resulting the propagation of crisis that are not necessarily related to economic fundamentals of the affected country.

In order to determine whether our claim is correct we apply the above regressions, but for the period following the crisis, 01.08.2007-31.08.2007, a short period of time that should show whether investors react emotionally or rationally whenever the crisis breaks.

Applying the regression over the simple model we obtain the following results:

Tabel no.9 The regression results¹¹

Dependent Variable: BET

Method: Least Squares

Date: 09/05/12 Time: 00:47

Sample: 1 22

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.762144	0.170116	4.480154	0.0002
C	-0.000345	0.003038	-0.113438	0.9108
R-squared	0.500896	Mean dependent var	-0.000199	
Adjusted R-squared	0.475940	S.D. dependent var	0.019683	
S.E. of regression	0.014249	Akaike info criterion	-5.577785	
Sum squared resid	0.004061	Schwarz criterion	-5.478600	
Log likelihood	63.35564	F-statistic	20.07178	
Durbin-Watson stat	1.529566	Prob(F-statistic)	0.000229	

$$BET = -0,000345 + 0,762144 * EUR_{-1}$$

¹¹ Own calculations

We note that although equation's coefficients remain approximately equal to those of the model applied for the extended period, the explanatory power of the model increases from 34% to 50%, ie almost 50%. In this case, since the explanatory power of EURONEXT over BET-C variation increases significantly, we can say that the Romanian market was contagiated, and the only channel that can transmit the contagion in so short time is the one of common investors. They preferred to withdraw investment from the Romanian market in order to try to protect the investment in the European market, making the Romanian market, with no cash left, to register dramatic declines in asset prices.

Tabel no.10 The regression results¹²

Dependent Variable: BET

Method: Least Squares

Date: 09/05/12 Time: 00:48

Sample(adjusted): 2 22

Included observations: 21 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.760950	0.176163	4.319578	0.0004
BET(-1)	0.182505	0.161496	1.130096	0.2733
C	-0.000452	0.003167	-0.142613	0.8882
R-squared	0.524057	Mean dependent var	-0.000814	
Adjusted R-squared	0.471175	S.D. dependent var	0.019951	
S.E. of regression	0.014509	Akaike info criterion	-5.496581	
Sum squared resid	0.003789	Schwarz criterion	-5.347364	
Log likelihood	60.71410	F-statistic	9.909832	
Durbin-Watson stat	1.953078	Prob(F-statistic)	0.001253	

The results of this regression will be:

$$BET = -0,000452 + 0,760950 * EUR_{-1} + 0,182505 * BET_{-1}$$

The tendency to increase the explanatory power of the model is maintained when we introduce BET with lag 1. Note that the impact increases significantly (from 0.04 for the extended period, to 0.18), that means that investors have begun to closely monitor transactions history, especially those in the previous days.

¹² Own calculations

Tabel no.11 The regression results¹³

Dependent Variable: BET

Method: Least Squares

Date: 09/05/12 Time: 00:49

Sample(adjusted): 2 22

Included observations: 21 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.751358	0.183268	4.099782	0.0007
BET(-1)	0.217889	0.239110	0.911249	0.3742
EUR(-1)	-0.053144	0.263530	-0.201661	0.8424
R-squared	0.524593	Mean dependent var	-0.000814	
Adjusted R-squared	0.471770	S.D. dependent var	0.019951	
S.E. of regression	0.014500	Akaike info criterion	-5.497709	
Sum squared resid	0.003785	Schwarz criterion	-5.348491	
Log likelihood	60.72594	Durbin-Watson stat	1.992735	

The results of this regression will be:

$$BET = -0,053144 + 0,751358 * EUR_{-1} + 0,217889 * BET_{-1} - 0,053144 * EUR_{-1}$$

Compared with the extended period we can see that the factors inserted into the model explain in a higher proportion the endogenous variable, which reinforces the fact that in the early crises Romanian market investors were much more influenced by what happened on the European market. Note that in the period following the outbreak of the crisis, the previous day variation recorded by Euronext had an inverse effect compared to the extended period when it had a proportional influence. This could be explained by the existence of common investors on the two markets who liquidated the investment on one of the markets in order to be able to strengthen their position on the second market or simply to be able to cover losses recorded on the second market.

Tabel no.12 The regression results¹⁴

Dependent Variable: BET

Method: Least Squares

Date: 09/05/12 Time: 00:46

Sample(adjusted): 2 22

Included observations: 21 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EUR	0.776326	0.188046	4.128388	0.0009
BET(-1)	2.058481	1.211018	1.699793	0.1098

¹³ Own calculations¹⁴ Own calculations

EUR(-1)	-0.014904	0.288004	-0.051750	0.9594
TRANZ(-1)	0.001786	0.007510	0.237771	0.8153
CAP(-1)	-1.755006	1.128555	-1.555091	0.1408
C	-0.001196	0.003257	-0.367293	0.7185
R-squared	0.591399	Mean dependent var	-0.000814	
Adjusted R-squared	0.455199	S.D. dependent var	0.019951	
S.E. of regression	0.014726	Akaike info criterion	-5.363426	
Sum squared resid	0.003253	Schwarz criterion	-5.064991	
Log likelihood	62.31597	F-statistic	4.342126	
Durbin-Watson stat	2.167389	Prob(F-statistic)	0.012109	

The results of this regression will be:

$$BET = -0,001196 + 0,776326 * EUR_{-1} + 2,058481 * BET_{-1} - 0,014904 * EUR_{-1} - 1,755006 * Cap + 0,001786 * Tranz$$

The post crisis period model is characterized by a greater degree of explanation of the endogenous variable, i.e. about 60%. We observe that it kept the influence of the European market, though, as in the previous model, previous day changes becomes negative. Also preceding day's trading volume, this time, has a positive influence on BET variable, although very small. This could be explained by the fact that uninformed investors will mimic to some extent the behavior of investors who traded the day before and since the vast majority of transactions were of sell, their value was higher when the BET-C value was low.

Summarizing, regression' results for the period that followed the outbreak of the crisis in the U.S. market, are:

- In the immediate period that followed the crisis' outbreak, BET-C variation was much more influenced by EURONEXT variation, meaning that either Romanian market investors have mimicked the behavior of European market investors or the two markets investors were the same and they preferred to withdraw money from the Romanian market to cover losses from the European market, making returns of the two markets to decline and leading to a national market contagion;

- Influence of BET-C and EURONEXT variation of the previous day, after crisis, remains quite low;

- Influence of trading volume and market capitalization also remains extremely low.

3. Conclusions

Comparing the results obtained in the two periods analyzed, extended period and the one that followed the outbreak of the crisis, we can say that there was a change in the Romanian market investors' behavior.

When referring to the extended period we note that external factors, and the values recorded for the Romanian market the previous day had very little influence on the profitability of the market, which means that the greatest influence is that of

economic or political factors, as Romanian economy as a whole, fiscal policy, the profitability of certain productive sectors etc.

Period that followed the outbreak of the crisis is characterised (in terms of capital market) by maxim external influence and Romanian market development of the previous day, the fundamentals that characterize the Romanian economy having a much smaller influence. During the month that followed the outbreak of crisis, Romanian economy hasn't registered negative variations, but on the contrary, the decreased capital market in Romania to an extent which drew on the European capital market shows one thing, that Romanian market was contagiated by the financial crisis. In this case, the only available channel of contagion, are investors, both those common to both markets and those only trading on Romania market who have mimicked the behavior of investors on the European market.

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