



Munich Personal RePEc Archive

Short term momentum and contrarian profits on the Bucharest Stock Exchange before and during the global crisis

Stefanescu, Razvan and Dumitriu, Ramona and Nistor, Costel

Dunarea de Jos University of Galati, Dunarea de Jos University of Galati, Dunarea de Jos University of Galati

18 September 2012

Online at <https://mpra.ub.uni-muenchen.de/42510/>
MPRA Paper No. 42510, posted 08 Nov 2012 08:19 UTC

SHORT TERM MOMENTUM AND CONTRARIAN PROFITS ON THE BUCHAREST STOCK EXCHANGE BEFORE AND DURING THE GLOBAL CRISIS

Razvan STEFANESCU¹
Ramona DUMITRIU²
Costel NISTOR³

ABSTRACT

This paper explores the opportunities of momentum and contrarian profits on the Bucharest Stock Exchange during quiet and turbulent times. In our investigation we employ daily values of the main indexes from the Bucharest Stock Exchange for two periods of time. During the first period, from January 2005 to September 2008, the Romanian capital market was relatively quiet and it experienced an ascendant trend. In the second period, from September 2008 to March 2012, the global crisis induced significant turbulences on the financial markets. We analyze the opportunities of momentum and contrarian profits based on the reactions to positive and negative shocks of the indexes returns. We find that global crises induced significant changes on the investors' behavior.

KEY WORDS: *Overreaction Hypothesis, Underreaction Hypothesis, Efficient Market Hypothesis, Investment Strategies*

JEL: G01, G02, G14

1. INTRODUCTION

The possibility to obtain profits on the capital markets by exploiting knowledge about the past evolutions of stocks is one of the main controversial subjects of the financial literature. One of the main principles of Efficient Market Hypothesis (EMH) stipulates that it is not possible to build successful investment strategies based on the past values of the financial assets (Fama (1991)). Among the arguments used to contest EMH there were theories about momentum and contrarian strategies in which the past performances played a major role. A momentum strategy is based on the investors' expectations that the present ascendant and descendent trends of stock prices will continue for a specific horizon. Such investors will buy the past winner stocks and they sell the past loser stocks (Chan *et al.*, (1996); Hong *et al.*, (1999); Jegadeesh and Titman (2001); Yu and Chen (2011)). A contrarian strategy presumes that the present trends, ascendant or descendent, could not continue for long time and they have to go to reversal. In these circumstances, an investor could take advantages by buying the past loser stocks and selling the past winner stocks (Chan (1988); Lakonishok *et al.*, (1994); Conrad *et al.*, (1997); Daniel *et al.*, (1997)).

¹ Lect. PhD, University "Dunarea de Jos" of Galati, Faculty of Economics and Business Administration

² Lect. PhD, University "Dunarea de Jos" of Galati, Faculty of Economics and Business Administration

³ Assoc. Prof. PhD, University "Dunarea de Jos" of Galati, Faculty of Economics and Business Administration

On short terms, momentum and contrarian strategies could be analyzed in the framework of the stock prices reactions to positive or negative shocks. Usually, the positive shocks are caused by unexpected and extreme good news, while the negative shocks are generated by unexpected and extreme bad news. Besides EMH, there are two main hypotheses on the stock prices reactions to shocks: Overreaction Hypothesis (OH) or Underreaction Hypothesis (UH). OH describes exaggerated initial reactions to shocks in which the investors rush to sell stocks when negative shocks occur or to buy stocks when positive shocks arrive. They correct such overreactions lately by reversal behaviors (DeBondt and Thaler (1985)). These overreactions generate opportunities for contrarian profits (Atkins and Dyl (1990); Jegadeesh and Titman (1995)). UH presents delayed initial reactions to shocks in which investors wait to see the future developments before they decide to buy or sell stocks. After they become aware about the amplitude of the shocks they correct such underreactions by reversal behaviors (Jegadeesh and Titman (1993)). Underreactions to shocks could be fructified by momentum strategies (Rouwenhorst (1998); Hong *et al.* (2000); Lee and Swaminathan (2000); Hameed and Kusnadi (2002); Chui *et al.*, 2005).

Empirical researches revealed some particularities of investors' behaviors in the context of shocks on the capital markets. There were identified significant differences between the investors from developed and from emerging markets (Harvey (1995); Schnusenberg and Madura (2001); Forner and Marhouenda (2003); Antoniou *et al.*, 2006; Dumitriu *et al.*, 2012; Elsayeda (2012)). Some papers discovered changes induced by turbulences on the financial markets (Chui *et al.*, 2000; Lasfer *et al.*, 2003; Stefanescu *et al.*, 2012). The firm size could also play a major role in the reactions to shocks (Zarowin (1990)).

In this paper we approach the opportunities of momentum and contrarian profits on the Bucharest Stock Exchange (BSE) before and during the global crisis. Beginning with 2005, the success of economic reforms and the recovery of the national economy attracted foreign capitals which generated a significant increase of the stock prices. The ascendant trend of BSE was amplified by Romania's adhesion to European Union. However, since September 2008, the effects of the global crisis caused turbulences on the Romanian financial markets. We investigate the short term momentum and contrarian profits based on the reactions to shocks.

The rest of the paper is organized as it follows: the second part describes the data and methodology employed in our investigation, the third part presents the empirical results and the fourth part concludes.

2. DATA AND METHODOLOGY

We analyze the opportunities for momentum and contrarian profits by employing daily closing values of the main indexes from the two components of BSE: BET, where there are listed all the big Romanian companies, and RASDAQ, where there are listed smaller firms. We use the main five indexes of the BET market:

- BET, that describes the price movement of the most liquid 10 companies listed on the BVB regulated market;

- BET-C, which reflects the evolution of all the big companies listed on BSE, excepting the investment funds (SIFs);
- BET-FI, that expresses the price movement of the investment funds (SIFs);
- BET-XT, which reflects the evolution of the most liquid 25 shares traded on the BSE, including SIFs;
- BET-NG, that expresses the evolution of companies which have the main business activity located in the energy sector and the related utilities.

We also use three main indexes of RASDAQ market:

- RASDAQ-C (RAQ-C), which reflects the prices evolution of all the stocks, traded on RASDAQ market;
- RAQ-I, that expresses the prices of the stocks listed on the First Category of Excellence on RASDAQ market;
- RAQ-II, which describes the prices of the stocks listed on the Second Category of Excellence on RASDAQ market.

For these indexes we employ a sample of data, provided by BSE, for the period January 2005 – May 2011, excepting for BET-XT and BET-NG which were introduced in January 2007. We split this sample into two sub-samples: before and after 15th of September 2008 (the day when it was announced the bankruptcy of Lehman Brothers).

For each index i we calculate the raw return ($r_{i,t}$) applying the formula:

$$r_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} * 100 \quad (1)$$

where $P_{i,t}$ and $P_{i,t-1}$ are the closing prices of index i on the days t and $t-1$, respectively.

For any trading day t we determine the extrapolated indexes returns based on the trend of the values from the previous n trading days (in this paper we estimate the trends with additive models of time series). We identify shocks by comparing these expected values with the effective raw returns. As a measure to reveal the significant differences we calculate, for a period of N past trading days, a value ($DIF(r_{i,t,N})$) given by the formula:

$$DIF(r_{i,t,N}) = \sqrt{\frac{\sum_{k=t-N+1}^{t-1} [r_{i,k} - EV(r_{i,n,k})]^2}{N}} \quad (2)$$

where N is the length of the period of the past values taking into consideration, $r_{i,k}$ is the raw return of index i for a day k previous to the day t and $EV(r_{i,n,k})$ is the extrapolated value of $r_{i,k}$ estimated based on the values from previous n day (it is obviously that $DIF(r_{i,t,N})$ is calculated similar to a standard deviation if we consider the extrapolated value as a mean).

We consider that a positive shock occurs in a day t^+ if the following condition is satisfied:

$$r_{i,t^+} > EV(r_{i,n,t}) + 2 * DIF(r_{i,t,N}) \quad (3)$$

where r_{i,t^+} is the return of the index i from the day t^+ and $EV(r_{i,n,t})$ is the extrapolated value of the raw return of index i in the trading day t, estimated based on the values from previous n day.

We also consider that a negative shock occurs in a day t^- if the following condition is satisfied:

$$r_{i,t^-} < EV(r_{i,n,t}) - 2 * DIF(r_{i,t,N}) \quad (4)$$

where r_{i,t^-} is the return of the index i from the day t^- .

We choose the length of the period of time by which we determine the expected values of returns as $n=36$ and the length of the period of time by which we calculate $DIF(r_{i,t,N})$ as $N=40$.

In order to separate the autonomous shocks from the positive or negative shocks we exclude the successive shocks (a successive shock is one that occurs less than 10 days after an autonomous shock).

For each autonomous shock we calculate the post-shocks abnormal returns ($AR_{i,t}$) applying the formula:

$$AR_{i,t} = r_{i,t} - EV(r_{i,n,t}) \quad (5)$$

Based on post-shocks abnormal returns we compute the Cumulative Abnormal Returns for the next 1, 2, 3, 4, 5 and 10 days as:

$$CAR_{i,t}^{\lambda} = \sum_{t=1}^{\lambda} AR_{i,t} \quad (6)$$

where $CAR_{i,t}^{\lambda}$ is the Cumulative Abnormal Returns of the index i for the next λ days that follow an autonomous shock from a day t.

We determine the Average Cumulative Abnormal Returns of the index i for the next λ days ($ACAR_{i,t}^{\lambda}$) as:

$$ACAR_{i,t}^{\lambda} = \frac{1}{\lambda} \sum_{t=1}^{\lambda} CAR_{i,t} \quad (7)$$

We test, for each autonomous shock, the significance of Average Cumulative Abnormal Returns by employing t-statistics. The results of the tests serve us to classify the after shock behaviors of returns into three categories:

- Overreactions, when a positive shock is followed by significant negative abnormal returns or when a negative shock is followed by significant positive abnormal returns;
- Underreactions, when a positive shock is followed by significant positive abnormal returns or when a negative shock is followed by significant negative abnormal returns;
- Efficient reactions, when we don't find significant positive or negative abnormal returns after an autonomous shock.

3. EMPIRICAL RESULTS

The Table 1 presents the positive and negative shocks of the Romanian capital markets before the global crisis. The small number of shocks in the case of BET NG and BET XT is explained by the fact that two indexes appeared in 2007. For the other three indexes of BET market the number of shocks and shocks amplitudes are compared to those from RASDAQ market.

Table 1
Shocks before the global crisis

Index	Positive shocks		Negative shocks	
	Number of shocks	Mean reaction	Number of shocks	Mean reaction
BET	17	3.19355 (14.1445***)	19	-3.4803 (-9.68605***)
BET C	16	2.73045 (16.4011***)	19	-2.81139 (-9.73442***)
BET F1	19	5.08148 (16.2484***)	12	-4.34178 (-7.51085***)
BET NG	6	4.28899 (7.89387***)	7	-3.93922 (-8.6743***)
BET XT	9	3.38941 (10.7173***)	7	-4.65194 (-5.97615***)
RAQ C	15	4.06553 (2.46947**)	15	-3.58999 (-2.53999**)
RAQ I	20	5.07097 (17.2318***)	13	-4.2546 (-12.2272***)
RAQ II	24	4.35131 (15.2579***)	19	-4.53159 (-9.15519***)

Notes: t-statistic appears in parentheses; ***, **, * mean significant at 0.01, 0.05, and 0.1 levels, respectively

In the Table 2 there are presented the shocks that occurred during the global crisis. The results suggest that for two indexes of RASDAQ market, RAQ I and RAQ II, the negative shocks were more consistent in comparison with other indexes.

Table 2

Shocks during the global crisis

Index	Positive shocks		Negative shocks	
	Number of shocks	Mean reaction	Number of shocks	Mean reaction
BET	24	4.7159 (8.39162***)	16	-4.70198 (-6.12657***)
BET C	21	4.14009 (7.30198***)	18	-4.49713 (-6.54035***)
BET F1	15	6.60801 (6.42653***)	17	-5.54686 (-6.86784***)
BET NG	19	5.27693 (7.34187***)	17	-3.62578 (-6.93405***)
BET XT	19	4.91063 (6.83067***)	17	-4.81911 (-7.16176***)
RAQ C	21	2.05268 (9.66552***)	19	-1.63441 (-8.34577***)
RAQ I	23	5.76727 (9.76543***)	22	-8.65336 (-5.23267***)
RAQ II	26	8.73894 (9.66653***)	29	-8.31704 (-13.3913***)

Notes: t-statistic appears in parentheses; ***, **, * mean significant at 0.01, 0.05, and 0.1 levels, respectively

The cumulative abnormal returns that followed a positive shock before the global crisis are presented in the Table 3. Four of the five indexes of BET market underreacted: BET and BET C for the second day after the shock, BET F1 for a period that includes the first three days and also for the fifth day, BET NG for the fourth day. For the last index, BET XT efficient reactions occurred. From the RASDAQ market, the first two indexes: RAQ C and RAQ I experienced efficient reactions while the third, RAQ I, overreacted.

Table 3
Cumulative Abnormal Returns following a positive shock before the global crisis

Index	AR-1	ACAR-2	ACAR-3	ACAR-4	ACAR-5	ACAR-10
BET	0.469361 (0.995522)	1.41301 (2.29383**)	0.775074 (1.31819)	0.65647 (0.858507)	0.325171 (0.344602)	0.168423 (0.0960519)
BET C	0.478918 (0.877387)	1.14112 (1.77331*)	0.850445 (1.08572)	0.580231 (0.553566)	0.546445 (0.525658)	1.40862 (0.960796)
BET F1	1.65605 (2.01844*)	1.48944 (2.06248*)	1.80092 (0.06543*)	1.40411 (1.39512)	2.14446 (1.80526*)	1.22505 (0.594146)
BET NG	2.27438 (1.79517)	3.72402 (1.94969)	2.80868 (1.66784)	3.53679 (2.22091*)	3.56518 (1.7285)	3.02278 (1.05957)
BET XT	1.06316 (1.36721)	1.26674 (1.30521)	0.54402 (0.445988)	0.47619 (0.390916)	0.0772399 (0.0464174)	1.52411 (0.570481)

RAQ	0.126431	0.00460905	-0.171299	-0.00337	-0.45023	0.785376
C	(0.452575)	(0.0144148)	(-0.4071)	(-0.0065)	(-0.619964)	(0.563272)
RAQ	0.862095	0.675927	0.671264	0.959258	1.33969	0.809663
I	(1.3843)	(0.949644)	(0.859227)	(1.23492)	(1.32333)	(0.577686)
RAQ	-1.13626	-1.49832	-1.33935	-1.23666	-1.12233	-0.673162
II	(-3.19***)	(-2.5561**)	(-2.099**)	(-1.55406)	(-1.31706)	(-0.521429)

Notes: t-statistic appears in parentheses; ***, **, * mean significant at 0.01, 0.05, and 0.1 levels, respectively

The Table 4 exhibits the cumulative abnormal returns that followed a negative shock before the global crisis. The results indicate only efficient reactions excepting the index RAQ I which experimented an underreaction five days after the shock.

Table 4

Cumulative Abnormal Returns following a negative shock before the global crisis

Index	AR-1	ACAR-2	ACAR-3	ACAR-4	ACAR-5	ACAR-10
BET	0.121124	0.786029	0.680102	0.282563	-0.09005	0.993243
	(0.297079)	(1.27393)	(0.803132)	(0.306176)	(-0.1022)	(0.63106)
BET	-0.222571	0.177105	0.0013180	-0.192765	-0.127176	0.438466
C	(-0.48547)	(0.295225)	(0.001875)	(-0.2398)	(-0.16127)	(0.31488)
BET	0.489334	0.747457	-0.188487	-1.31188	-2.28231	-1.61785
F1	(0.419542)	(0.639068)	(-0.11938)	(-0.75755)	(-1.16644)	(-0.99244)
BET	-0.163338	0.211074	-1.21473	-0.959451	-0.989561	-0.224672
NG	(-0.15477)	(0.188721)	(-0.69114)	(-0.72228)	(-0.55238)	(-0.11041)
BET	1.02307	1.00741	1.17209	0.695771	0.370819	-0.246743
XT	(1.01414)	(0.990408)	(1.00869)	(0.535622)	(0.205647)	(-0.0899)
RAQ	-0.097459	0.000401	-0.372877	-0.49144	-0.477704	-1.40908
C	(-0.6421)	(0.001134)	(-0.66312)	-0.78569	(-0.645694)	(-1.35107)
RAQ	0.00300039	-0.994105	-0.939622	-2.02661	-2.71729	-2.20763
I	(0.005680)	(-1.38093)	(-0.92405)	(-1.45943)	(-1.86623*)	(-1.12963)
RAQ	0.835444	1.10272	0.927913	1.82843	2.01488	2.4551
II	(1.1629)	(1.23045)	(0.9904)	(1.59353)	(1.46245)	(1.19925)

Notes: t-statistic appears in parentheses; ***, **, * mean significant at 0.01, 0.05, and 0.1 levels, respectively

The cumulative abnormal returns that followed a positive shock during the global crisis are presented in the Table 5. From the BET market only an index, BET F1, overreacted for a period that included the third and the fourth day after a shock. The rest of the four indexes experienced efficient reactions. All the three indexes of RASDAQ market overreacted: RAQ C for the fourth day after a shock, RAQ I for the tenth day after a shock and RAQ II for the fifth and the tenth day after a shock.

Table 5

Cumulative Abnormal Returns following a positive shock during the global crisis

Index	AR-1	ACAR-2	ACAR-3	ACAR-4	ACAR-5	ACAR-10
BET	-0.14782 (-0.18645)	-0.533491 (-0.66143)	-0.082875 (-0.1045)	-0.02838 (-0.03299)	-0.362272 (-0.2943)	-1.31286 (-0.6965)
BET C	0.440011 (0.640859)	0.0454728 (0.0765387)	0.340914 (0.520984)	-0.174141 (-0.19149)	-0.735224 (-0.507)	-2.12478 (-1.0034)
BET F1	-0.078826 (-0.09035)	-0.435869 (-0.54271)	-1.75016 (-2.002*)	-3.0021 (-2.87**)	-2.50412 (-1.3856)	-5.27871 (-1.618)
BET NG	0.594143 (0.662842)	0.184999 (0.242963)	0.250716 (0.317211)	0.114392 (0.130927)	-0.470307 (-0.4015)	-1.28113 (-0.551)
BET XT	-0.744857 (-1.02933)	-0.969523 (-1.29514)	-1.00707 (-1.34266)	-1.11909 (-1.43088)	-0.631876 (-0.5325)	-2.62664 (-1.0777)
RAQ C	-0.258449 (-0.97877)	-0.470143 (-1.25847)	-0.685515 (-1.54918)	-0.884134 (-1.8113*)	-0.472498 (-0.89664)	-0.211071 (-0.30823)
RAQ I	0.169583 (0.3632)	-0.465301 (-0.566802)	-1.06336 (-1.37177)	-2.07312 (-1.47361)	-2.56495 (-1.60387)	-6.07491 (-2.872***)
RAQ II	-0.943855 (-1.63162)	-0.981937 (-1.09954)	-1.8517 (-1.5483)	-1.61856 (-1.63392)	-1.9903 (-1.70837*)	-3.77283 (-2.894***)

Notes: t-statistic appears in parentheses; ***, **, * mean significant at 0.01, 0.05, and 0.1 levels, respectively

The Table 6 presents the cumulative abnormal returns that followed a negative shock before the global crisis. Two indexes of the BET market overreacted: BET for the fourth and fifth days after a shock and BET C only for the fourth day after a shock. Another index, BET F1, underreacted for the tenth day after a shock while the rest of two indexes, BET NG and BET XT experienced efficient reactions. Two of the RASDAQ market indexes, RAQ C and RAQ II reacted efficiently while the other index, RAQ I, overreacted for a period from the second to the fourth day after a shock.

Table 6

Cumulative Abnormal Returns following a negative shock during the global crisis

Index	AR-1	ACAR-2	ACAR-3	ACAR-4	ACAR-5	ACAR-10
BET	-0.010016 (-0.01289)	-0.437816 (-0.3280)	1.22231 (0.812214)	2.81355 (1.98627*)	2.37638 (1.86575*)	0.554978 (0.292326)
BET C	-0.16509 (-0.25192)	-0.511624 (-0.4737)	1.10401 (0.865101)	2.49634 (1.96529*)	1.67231 (1.44876)	0.387378 (0.244268)
BET F1	-0.51043 (-0.50557)	-2.49528 (-1.3583)	-3.72426 (-1.64937)	-3.74114 (-1.28899)	-2.79298 (-1.20148)	-5.23891 (-1.927*)
BET NG	0.137029 (0.268295)	-0.968339 (-0.7037)	-0.919951 (-0.62956)	0.179233 (0.115944)	-0.0728 (-0.05797)	-1.49825 (-0.98315)
BET XT	0.081869	-0.409631	0.889277	2.24026	1.99448	1.28702

XT	(0.106777)	(-0.3025)	(0.59936)	(1.58527)	(1.45807)	(0.536165)
RAQ	-1.20124	-1.38956	-1.29349	-1.18131	-1.25123	-1.05287
C	(-1.26757)	(-1.38263)	(-1.28314)	(-1.09829)	(-1.15828)	(-0.898078)
RAQ	0.494707	0.899937	1.63085	1.66414	1.03542	0.191073
I	(1.02509)	(1.76239*)	(2.29251**)	(2.36891**)	(1.14578)	(0.122034)
RAQ	-0.129876	1.04459	1.05367	1.56823	2.00314	2.84109
II	(-0.17185)	(0.938356)	(0.943913)	(1.24867)	(1.51264)	(1.68253)

Notes: t-statistic appears in parentheses; ***, **, * mean significant at 0.01, 0.05, and 0.1 levels, respectively

4. CONCLUSIONS

In this paper we investigated the short term opportunities for momentum and contrarian profits on BSE. We identified these opportunities based on the analysis of the reactions to shocks of eight main indexes of BSE. The results revealed different behaviors after shocks that could be linked to the size effect and to the recent global crisis.

Before the global crisis, most of the BET market indexes underreacted after positive shocks generating opportunities for momentum profits. Instead, for RASDAQ market a single index overreacted causing opportunities for contrarian profits, while the other two indexes reacted efficiently. In the same period of time, we found no opportunities for momentum and contrarian profits on BET market after negative shocks since all indexes reacted efficiently. We found, instead, that an index of RASDAQ market underreacted generating opportunities for momentum profits.

During the global crisis, our investigation revealed opportunities for contrarian profits after positive shocks for a single index of BET market (BET-FI) and for all three indexes of RASDAQ market. In the case of negative shocks we found opportunities of contrarian profits for two indexes from BET market and an index from RASDAQ market, while for BET-FI results indicate opportunities for momentum profits.

The different reactions from the two components of BSE could be explained by the fact that the main actors on BET market were foreign investors which, instead, don't find attractive the RASDAQ market. The global crisis induced significant changes on investors' behaviors in the presence of shocks on the markets. For some indexes the pessimism of investors led to a replacement of momentum profits opportunities with contrarian profits opportunities. In that period of time the stock prices reactions of the investment funds (reflected by the index BET-FI) were opposite to the stock prices from other industries. This investigation could be extended to the study of events that provoked shocks on BSE.

REFERENCES

- Antoniou, A., Galariotis, E.C. & Spyrou, S.I. (2006) "Short-term Contrarian Strategies in the London Stock Exchange: Are They Profitable? Which Factors Affect Them?". *Journal of Business Finance & Accounting*, 33(5&6): 839-867
- Atkins, Allen B. & Dyl, Edward (1990) "Price Reversals, Bid-Ask Spreads, and Market Efficiency". *Journal of Financial and Quantitative Analysis* 25, 535-547
- Chan, K.C. (1988) "On the contrarian investment strategy". *Journal of Business* 61, 147-163

- Chan, K. C., Narasimhan, Jegadeesh, Josef, Lakonishok (1996) "Momentum Strategies". *Journal of Finance* 51, 1681-1713
- Chui, A. C. W., Titman S., Wei, K. C. J. (2000) "Momentum, ownership structure, and financial crises: An analysis of Asian Stock Markets", *Working Paper*, University of Texas at Austin
- Chui, A. C. W., Titman S., Wei, K. C. J. (2005) "Individualism and momentum around the world", *Working Paper*, University of Texas at Austin
- Conrad, J., Gultekin, M. & Kaul, G. (1997) "Profitability of short-term contrarian strategies: Implications for market efficiency". *Journal of Business and Economic Statistics* 15: 386-397
- Daniel, Kent D., Hirshleifer, David A. & Subrahmanyam, Avandhar (February 19, 1997) "A Theory of Overconfidence, Self-Attribution, and Security Market Under- and Over-reactions". Available on-line at SSRN: <http://ssrn.com/abstract=2017> or <http://dx.doi.org/10.2139/ssrn.2017>
- Dumitriu, R., Stefanescu, R., Nistor, C. (2012) "Reactions of the Capital Markets to the Shocks before and during the Global Crisis", *Vanguard Scientific Instruments in Management*, Volume 1(5), pp. 32-49, Available on-line at SSRN: <http://ssrn.com/abstract=2035054>
- DeBontdt, W.F.M. & Thaler, R.H. (1985) "Does the Stock Market Overreact?". *Journal of Finance* 40, (July): 793-808
- Elsayed, A. I. (2012) "Do Momentum and Contrarian Profits Exist in the Egyptian Stock Market?", *International Research Journal of Finance and Economics* Issue 87
- Fama, E.F. (1991) "Efficient Capital Markets: II". *Journal of Finance*, Vol. 46, pp 1575-1617
- Forner, C. & Marhouenda, J. (2003) "Contrarian and Momentum Strategies in the Spanish Stock Market". *European Financial Management*, Vol. 9, pp. 67-88
- Hameed, A., Kusunadi, Y. (2002) "Momentum strategies: Evidence from Pacific Basin stock markets", *Journal of Financial Research*, XXV, pp. 383-397
- Harvey, C. R. (1995) "Predictable risk and return in emerging markets", *Review of Financial Studies*, 8, pp. 773-816
- Hong, H., Lim, T., Stein, J.C. (2000) "Bad news travels slowly: Size, analyst coverage, and the profitability of momentum strategies", *Journal of Finance*, 55, pp. 265-295
- Hong, H. & Stein, J.C. (1999) "A Unified Theory of Underreaction, Momentum Trading, and Overreaction in Asset Markets". *Journal of Finance*, Vol. 54, pp 2143-2184
- Jegadeesh, N., Titman, S., (1993) "Returns to Buying Winners And Selling Losers: Implications For Stock Market Efficiency". *Journal of Finance* 48(1), 65-92
- Jegadeesh, N., Titman, S. (1995) "Overreaction, Delayed Reaction, and Contrarian Profits". *Review of Financial Studies*, Vol. 8, No. 4. Available on-line at SSRN: <http://ssrn.com/abstract=7224>
- Jegadeesh, N., Titman, S. (2001) "Profitability of Momentum Strategies: An Evaluation of Alternative Explanations". *Journal of Finance*, 56, 699-720
- Lakonishok, J., Shleifer, A. & Vishny, R. (1994) "Contrarian Investment, Extrapolation, and Risk". *Journal of Finance*, 49(5): 1541-1578
- Lasfer, M. A., Melnik, A. & Thomas, D. C. (2003) "Short term reaction of stock markets in stressful circumstances". *Journal of Banking and Finance*, Vol. 27, pp. 1959-1977
- Lee, C. M. C., Swaminathan, B. (2000) "Price momentum and trading volume", *Journal of Finance*, 55, pp. 2017-2069
- Rouwenhorst, K. G. (1998) "International momentum strategies", *Journal of Finance*, 53, pp. 267-284
- Schnusenberg, O. & Madura, J. (2001) "Do U.S. stock market indexes over- or underreact?". *The Journal of Financial Research*, Vol. 24, pp. 179-204

- Stefanescu, R., Dumitriu, R., Nistor, C. (2012) “Overreaction and Underreaction on Bucharest Stock Exchange”, *Proceedings of the 18th International Conference - The Knowledge-Based Organization*, Sibiu, Volume 2, pp. 304-310. Available on-line at SSRN: <http://ssrn.com/abstract=2044459>
- Yu, Hsin-Yi & Chen, Li-Wen (May 25, 2011) “Momentum – Reversal Strategy”, SSRN Paper Series. Available on-line at SSRN: <http://ssrn.com/abstract=1663266> or <http://dx.doi.org/10.2139/ssrn.1663266>
- Zarowin, P. (1990) “Size, Seasonality and Stock Market Overreaction”. *Journal of Financial and Quantitative Analysis*, 25, pp. 113-125