Bulletin of the *Transilvania* University of Braşov
Series V: Economic Sciences • Vol. 13 (62) No. 1 – 2020
https://doi.org/10.31926/but.es.2020.13.62.1.9

INSIDERS AND SYSTEMATIC ABNORMAL RETURNS
- A Case Study on the Romanian Capital Market –

V. DRAGOTĂ[1] R. TRIFAN[2]

Abstract: *The aim of this article is to offer some insights into the Romanian investors' behaviour by examining insiders' transactions and to check for possible abnormal returns. We analyse the behaviour of institutional and individual insiders using a data sample of 158 investors for the period 2013-2017. Results show excessive abnormal returns registered by individuals, especially men, compared to companies. We identify different investment strategies performed by these investors: individuals tend to keep their assets for a shorter time in their portfolio than corporations do, the latter being more interested in long term earnings; while the extremes (maximum and minimum returns) are recorded by men, women earn a higher mean abnormal return than men.*

Key words: *investors' behaviour, insider trading, abnormal returns.*

1. Introduction

Investors' behaviour is analysed in different studies, from different perspectives, from the Efficient Market Hypothesis (Fama, 1970; Fama, 1991; Fama, 1998, etc.) to behavioural finances (Shiller, 1981; Thaler, 1999; Thaler, 2000, etc.). One of the directions of these studies is to find if different investors can reach systematic abnormal earnings, which can be a possible motivation for the choice between an active or, on the contrary, a passive portfolio management (Dragotă and Țilică, 2014).

The analysis of insiders' activity is a topic that has grown in interest lately, for both academics and practitioners. Numerous studies have concluded that assets held by insiders generate abnormal earnings. These abnormal profits contradict the existence of market efficiency, where all available information, important for asset pricing, should be immediately reflected in prices. Thus, this concept represents more of an absolute standard, given that, in practice, markets are more likely to show only a particular

[1] PhD, Professor, The Bucharest University of Economic Studies, Bucharest, Department of Finance and CEFIMO, victor.dragota@fin.ase.ro
[2] PhD Student, The Bucharest University of Economic Studies, Bucharest, Finance Doctoral School, rux.trifan@gmail.com

degree of efficiency. Most of the research conducted on this topic, concentrated primarily on US, UK or Central Europe (Jeng, Metrick & Zeckhauser, 2003; Fidrmuc et al., 2006; Betzer & Theissen, 2009; Ravina & Sapienza, 2010; etc.), has documented the possibility of obtaining abnormal earnings. However, it is possible that their conclusions may not be applicable to capital markets elsewhere. A small body of literature has focused on insiders' activity or the possible financial gains resulting from these trades in the ex-communist countries. Thus, this article can have value for both academics and investors, being the first study conducted on the Romanian capital market on this topic, as per the authors' knowledge.

Even though many researchers investigated this topic, our approach is different. While they analysed the investors' behaviour somehow indirectly (e.g., Dragotă et al., 2009; Anghel 2015), through the price behaviour (e.g. returns, volatility, contagious behaviour, etc.), we focus on investors per se, respectively on some of their features (e.g., companies vs. individuals, men vs. women, etc.) and how these features impact their specific behaviour. The Bucharest Stock Exchange provides relatively detailed information regarding the insiders' transactions. Based on this, we are able to make some specific analyses on these insiders' behaviour. Thus, the purpose of this article is to check for abnormal returns derived from Romanian insiders' trading. To do so, we analyse insiders' operations disclosed with the Bucharest Stock Exchange within a 5 years' time horizon for all listed companies (January 2013 – December 2017).

The rest of our paper is structured as follows. Section 2 contains a short analysis on the related literature. Sections 3 and 4 describe the methodology and the data sample used for performing the analysis. Section 5 focuses on the empirical results. Section 6 presents the conclusions.

2. Literature Review

Two important hypotheses, which are of great relevance to this study and contribute to the foundation of this research field, are the Efficient Market Hypothesis (Fama, 1970; Fama, 1991; Fama, 1998) and the information asymmetry theory (see Akerlof, 1970; Chae, 2005; Connelly et al., 2011; Lambert et al, 2012). Firstly, Fama stated in 1970 the impossibility of systematically beating the market, all information being freely and equally available to investors, upon which they should have a rational behaviour. However, the arising question has been represented by the degree of fulfilment of these criteria. In this respect, Akerlof (1970) noticed that different players on a market have distinct levels of information. He investigated the goods quality reduction due to the information asymmetry between sellers and buyers in the automobiles industry. Applying the same rules to the stock market and studying the insiders' versus outsiders' behaviour, we can assume that insiders have access to more information based on their position within a company and on their knowledge about their firms' forecasts and plans, information that outsiders do not immediately have access to, but within a longer time frame.

Jaffe (1974) was among the first to study insiders' trading by analysing the behaviour of the management, directors and large shareholders on the American stock market within a 7 years' time window. He found evidence to sustain the possession of special

information by this kind of investors and no important impact of the regulatory changes neither on volume, nor on profitability, the fines for these activities being of a low amount. Two years later, testing how insiders' trade affected the strong-form of the efficient market theory, Finnerty's (1976) results on the same market, but within the next four years, suggested that insiders obtained abnormal returns, especially in the short term. Seyhun (1986) examined the stock price behaviour after transactions instructed by insiders and found evidence of different types of information quality, known by all types of insiders. The ones who have access to more valuable information (such as the chairman of the board of directors) were more successful in predicting the future abnormal stocks price shifts of their own companies. He also confirmed that outsiders cannot gain abnormal returns by using information about the insiders' transactions.

Lakonishok & Lee (2001) and Iqbal & Shetty (2002) tried a different approach, focusing on outsiders and the probability of obtaining abnormal returns by mimicking the insiders' behaviour. They emphasized a negative relationship between the firm size and abnormal profits because of the information asymmetry basis in small size companies, the larger ones being more transparent. Jeng et al. (2003) analysed the position of the initiated person within the company, the firm size and the trade volume, constructing value-weighted portfolios held for a six months' time period. They found a significant positive correlation between trade volumes and the returns gained.

Klinge, Seifert & Stehle (2005) and Betzer & Theissen (2009) confirmed the results previously obtained on the US capital market, analysing the insiders' behaviour in Germany. The first ones recorded significant abnormal returns, positive in case of purchases, respectively negative in the ones of sales, around the announcement date of the transactions. Moreover, an increase in the intensity of net trading had great influence on the event signalling. However, inconsistent with other studies, there is the negative correlation between volume and the trade signal intensity. Furthermore, Betzer & Theissen (2009) recorded a significant impact on prices of the insiders' transactions that happened prior to an earnings announcement.

Evidence to sustain the possibility of gaining abnormal returns from the insiders' transactions is found as well by Eid and Rochman (2006) on the Brazilian stock market. Buying common shares and selling preferred stocks has led to significant average abnormal returns. Also, the investment profile of different types of insiders was distinct: directors tended to instruct more sales than purchases unlike controllers or board members, individuals within a company with less restrictions and governance requirements, who were more active when it came to trading than their counterparties. Antoniadis, Gkasis & Sormas (2015) analysed the Greek technology sector and investigated if the insiders' transactions announcement for a 7 years' time horizon had any effect on the stock prices. They found a positive effect of the selling transactions before the announcement date and a negative one after that, whereas the purchases did not seem to lead to either abnormal returns, or shifts in stock prices.

While most of the research in the field examined insiders' behaviour on the external capital markets, especially US and UK (Jaffe, 1974; Seyhun, 1986; Jeng, 2003; Fidrmuc et al., 2006; Ravina & Sapienza, 2010; etc.), this is the first study as per our knowledge that approaches the Romanian stock market in this manner. Although some previous studies

have focused on the manner in which investors behave and react on the local market, a direct analysis on the profits earned by certain investors is little approached. For instance, on the Romanian capital market, Dragotă and Şerbănescu (2010) studied the local investors' behaviour traits by performing a questionnaire that provided some insights into their financial education, portfolio structure, attitude towards risk and instruments used for protection against risk, predictions about future expected returns, demographic information, age and level of studies/experience etc. They reached the following conclusions: out of a total of 90% of investors below 50 years old, 19.59% were younger than 24 years, most of them having graduated economic studies; little experience in the field; the prevailing interest was speculation; no long-term investment profile; stocks were the most desirable assets tradable. A different approach is pursued by Toma (2015). He analysed three behavioural biases (overconfidence, the representativeness bias and the disposition effect) through investors' characteristics such as age, frequency of trading and end account value, in relationship with the Romanian investors' decisions. His results showed a large impact of age and frequency of trading on each bias, whereas the end account value held a small influence on the mean turnover and number of stocks.

3. Methodology

We analysed insiders' transactions with stocks listed on the Bucharest Stock Exchange. We focused on the main segment, as data for these shares can be easily available, collected and processed, so that we can accomplish the main purpose of this article, i.e. to observe if the insiders earn or do not earn abnormal returns in comparison with the other investors on the capital market.

We investigated the time period between 2013 (t_0) and 2017 (t_1). As a result, a theoretical period between (-∞, 2013) and (2017, +∞) was practically neglected[3]. It is possible that the analysed investors bought different assets in this neglected period, so the acquisition prices for these assets are not available in our data, and the calculated return could be misleading. In the same vein, if investors sell assets after t_1, returns cannot be calculated. For this reason, the returns reported for these investors can be in some cases only approximate. As an effect, we determined the realized returns considered only for the interval [t_0, t_1], and for the stocks bought and sold in the analysed period, respectively. We calculated the returns (R_i) as:

$$R_i = \frac{P_{sale,i} \times Quantity_{sold,i} - P_{acquisition,i} \times Quantity_{bought,i}}{P_{acquisition,i} \times Quantity_{bought,i}} \quad (1)$$

where $P_{sale,i}$ and $P_{acquisition,i}$ are the disclosed trade prices for stock i on the respective days.

[3] Practically, BVB was re-opened in 1995 (Dragotă and Țilică, 2014). Thus, the neglected periods were [1995, 2012] and [2017, the moment in which you are reading this article].

However, it is possible that an investor can sell assets bought in more than one trance (see Figure 1).

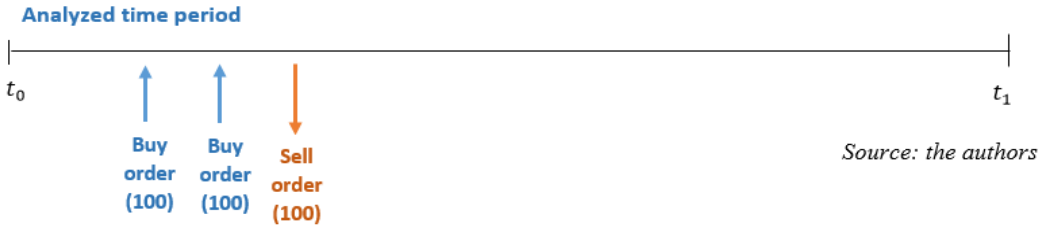

Fig. 1. *Insiders' transaction orders*

In this case, calculations were computed using the LIFO and FIFO methodology as follows, the return being determined on a cash flow basis and not on a latent portfolio basis:

$$R_{(LIFO)i,t}(\%) = \frac{Return}{Cost} = \frac{Volume\,sold \times Price}{\sum(Last\ Volumes\ \ bought \times Price)} - 1 \tag{2}$$

$$R_{(FIFO)i,t}(\%) = \frac{Return}{Cost} = \frac{Volume\,sold \times Price}{\sum(Last\ Volumes\ bought \times Price)} - 1 \tag{3}$$

where *Return* is the difference between the amount resulting from the selling transaction (*price × volume sold*) and the Cost, and *Cost* is the cost for buying the sold assets.

As an effect of this manner of calculation for returns, prices recorded at different moments are included in the cost, with an effect on the interpretation of the indicator.

The effective returns were compared with representative benchmarks. We used two common manners to estimate the normal returns which an investor could obtain on the market: the market index (Eid & Rochman, 2006; Fidrmuc et al., 2011) and the market model (Del Brio, Miguel & Perote, 2002; Minenna, 2003; Agarwal & Singh, 2006). We considered as benchmark a representative local market index - BET-XT, composed by the 25 most liquid stocks traded on the regulated market. In contrast to the other indices, BET-XT covers the time period taken into account for this article and is constructed of sufficient data so as to reflect the market behaviour.

Index returns were computed as:

$$R_t = \ln\left(\frac{P_t}{P_{t-x}}\right) \tag{4}$$

where R_t is the index return on day t; P_t and P_{t-x} are the index levels registered on days *t*, respectively *t-x*.

The return estimated through the market model is based on the relation (Dragotă et al. 2009):

$$Ri,t = \alpha i + \beta i\ Rm,t + \varepsilon i,t \quad (5)$$

where *αi* and *βi* are the intercept and slope respectively of the linear relationship between the return of stock *i* and the returns of the BET-XT; *Ri,t* is the return on stock *i* on day *t*; *Rm,t* is the return on the BET-XT index on day t; *εi,t* is the unsystematic component of firm i's return.

When comparing the registered insiders' returns with the normal returns, estimated either through index returns or the market model returns, we took into consideration the entire period within which a stock was held in their portfolios.

Finally, we computed the abnormal return (AR) as the difference between the effective insiders' returns and the normal returns as:

$$AR_{i,T} = Effective\ return_{i,T} - Normal\ return_{i,T} \quad (6)$$

where $AR_{i,T}$ is the difference between the registered insiders' returns ($Effective\ return_{i,T}$, the returns estimated through LIFO/FIFO calculations) and the normal returns ($Normal\ return_{i,T}$ the market model return/index return) on the time period T for which the stock i is held.

As a limit of our study, we did not count if the insiders also had international investments (this could affect the risk profile of investor) (Amenc and Le Sourd, 2003, p. 71) as we had no information as such.

4. Descriptive Statistics

We considered as insiders the investors defined by BVB as: "any person that holds a leadership position (such as administrative, management and control bodies) within a listed company as well as those with whom he/she has a close relationship to (spouse, children, relatives etc.) or with whom he/she acts in concert"[4]. BVB collected certain information on each transaction instructed by insiders: date of transaction, insider's name, insider's nature (private individual / company), type of asset, trade direction, transaction's price and volume[5].

For the analysed period (1st of January 2013 - 31st of December 2017), the initial sample consists of 888 insiders, divided into 679 individuals (76.46%) and 209 corporations (23.54%). From the 679 individuals, 407 (59.94%) are men, and 272 (40.06%) women (see Figure 2).

[4] https://bvb.ro/info/Rapoarte/Ghiduri/ghidul%20companiei%20listate%20EN%20web.pdf
[5] http://www.bvb.ro/FinancialInstruments/SelectedData/CurrentReports

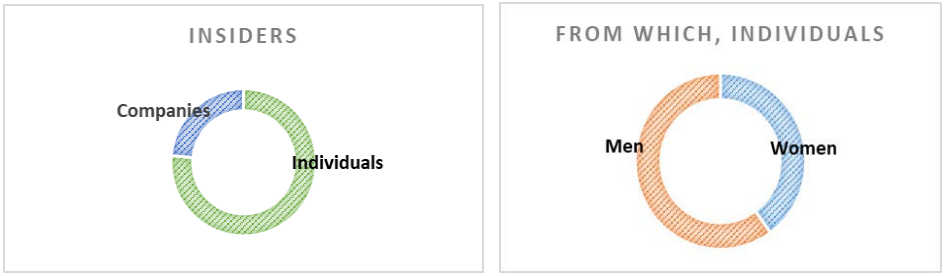

Fig. 2. *Insiders on the Romanian capital market – general statistics*

As regards to the number of transactions, the most significant part was instructed by corporations (5542 from the total number of 8717, and 63.58% respectively) (see Table 1).

Insiders' transactions: general statistics Table 1

Insiders/ Transactions	**Buy**		**Sell**		**Total**
	No. of transactions	%	No. of transactions	%	amount
Corporations	3141	56.68%	2401	43.32%	**5542**
Individuals	1734	54.61%	1441	45.39%	**3175**
Men	1248	56.12%	976	43.88%	**2224**
Women	486	51.10%	465	48.90%	**951**
Total	**4875**	**55.93%**	**3842**	**44.07%**	**8717**

From the total number of transactions done by individuals (3175), the main part was instructed by men (2224, respectively 70.05%). Women were not so actively involved in the stock market transactions.

All data recorded in the above table was computed as percentage from the total number of transactions per insider category (all insiders/corporate insiders/individual insiders). A slight difference can be seen between the amount of purchases and that of sales, showing a small tendency for a relatively static portfolio management, and for the buy-and-hold strategy, respectively. This difference is greater when looking at the corporate insiders' transactions and one explanation may be the ownership privileges. Apart from the stake in the corporate profits, following the company growth, there is also the voting right. The more substantial a holding is, the more considerable influence it wields over management. Moreover, considering the issues of control over management and the power of decision, there is a higher probability of attaining even greater profits when selling the shares after a time period, than in the case of being not significant in the pool of investors.

On the other hand, looking from the perspective of individual insiders' transactions, we can conclude that a higher percentage of the men trading as insiders prefer the same buy-and-hold strategy as the corporations, compared to women, who are somehow balanced regarding this issue.

In addition, if we look over the monthly statistics, we notice a higher amount of purchases done by the analysed insiders starting as of December and going until May, the peak being in March. Therefore, we can state that there is a tendency for insiders to

buy earlier in the year, while the higher percentages of sales are realized in the second half of the year, except for March. The big amounts in March (both from buying and selling perspectives) may be due to the fact that most Romanian companies make their financial statements public through the Ministry of Finance's website. Also, another explanation can be the disclosure of dividend declarations for the current year.

In order to check for abnormal returns, we excluded the insiders with one-way direction investments (acquisitions or sales) and the ones for whom we could not determine the return for the portfolio time horizon. Thus, the data sample has been reduced to 158 insiders, from which 104 individuals (25 women and 79 men) and 54 companies.

5. Empirical Results

The first preliminary statistics that can be revealed relate to the number of days for which a stock is held by an insider in his portfolio. This may vary from less than one day (buying and selling within the same day) to 1743 days. Table 2 shows some descriptive statistics for each category of insiders (corporations, individuals: men, women).

Table 2

No. of days for which an action is held by an insider

Statistics	**Minimum**	**Maximum**	**Mean**	**Median**
Corporations	0	1743	397.61	295
Individuals	0	1735	302.84	215.5
Men	0	1735	302.85	210
Women	4	1414	302.79	277.5

At a first glance, the record of the number of days for which a stock is held in a portfolio is owned by the companies (1743). Corporate investors tend to keep the asset for a longer time than the individuals (397.61 days compared to 302.84 days) suggesting different types of investment strategies performed. While corporations are interested in long term cash flows, the individuals seek to obtain earnings on a shorter time period, for a smaller initial amount invested. However, there is not any notable distinction between men and women, as they register the same "patience" in terms of portfolio management (an average of 303 days for holding a stock). Even so, men recorded the minimum and maximum of days for which a security is held, compared to women (the relative dominance of men compared to women in our database can be an explanation).
Another important indicator that defines the Romanian insiders' behaviour is the volume traded per transactions. Statistics are shown in Table 3:

Volume (in Ron) traded per insider Table 3

Statistics	**Minimum**	**Maximum**	**Mean**	**Median**
Corporations	0.44	171,906,854.40	1,633,667	33,689.30
Individuals	0.1115	3,843,362.75	49,281.70	6,286.40
Men	0.1115	3,843,362.75	49,422.37	6,257.50
Women	63.2	1,315,149.18	48,437.63	6,625

While amounts vary from 0.1 Ron to approximately 172,000,000 Ron, most of the trades are lower than 50,000 Ron (around 65%). The big amounts are traded mainly by companies which adopt a long term investment strategy, keeping the assets for a longer time period within their portfolios. The corporate insiders' medium transaction is 33.15 times bigger than the individuals' typical trade. This is not uncommon, as companies can access more financial resources and benefit from superior financial consultancy in comparison with their counterparties. There is not any clear distinction between genders regarding the average volume per trade. Even though men are more actively involved in trading on the capital market than women and take higher risks to obtain higher returns, women's typical transaction is slightly smaller than the men's average transaction. However, the maximum amount per transaction (3,843,363 Ron), and the minimum amount, respectively, are recorded by men.

Studying the investors' behaviour, the institutional insiders tend to register smaller returns than the individuals, who approach a shorter time period investment, as noticed before. Individuals seem to engage in more successful transactions from a cash flow point of view than the corporations, obtaining an average abnormal return of 14.66% in comparison to 7.93%. Men registered both the highest profits and the highest losses in comparison to women (the lowest minimum of -231.97% and the highest maximum of 391.40% per transaction), possibly being more willing to assume higher risks than their counterparties. However, looking at the mean abnormal returns, women tend to be more profitable, doubling the average abnormal return gained by men. Comparing to the market returns, the above statistics may lead us to believe that Romanian insiders possess general superior information about their company's perspectives and results, and use it when trading. To support this statement, Table 4 and Table 5 show the abnormal returns earned by insiders, both institutional and individuals.

Table 4

Abnormal returns earned by Romanian insiders based on FIFO calculations

Statistics	**Minimum**	**Maximum**	**Mean**	**Median**
Corporations	-71%	315.67%	7.93%	1.25%
Individuals	-231.97%	391.40%	14.66%	1.57%
Men	-231.97%	391.40%	12.44%	1.14%
Women	-91.54%	186.55%	26.36%	4.79%

Table 4 presents the levels of abnormal returns, based on FIFO calculations. Even though significant abnormal returns are obtained, we cannot conclude that all insiders instructed successful transactions that ended up in beating the market. From all the investors analysed in our study, only 53.66% (out of which 33.9% are individuals and 66.1% are institutional insiders) buy low and sell high. This does not come as a surprise, given the fact that companies can more easily benefit from more financial resources and superior financial consultancy in comparison with their counterparties. These results conclude in a form of local market efficiency which is not strong, so speculations on the market can turn into investment strategies used to obtain excessive gains.

Table 5 shows the results that take into account the LIFO calculations.

Table 5

Abnormal returns earned by Romanian insiders based on LIFO calculations

Statistics	Minimum	Maximum	Mean	Median
Corporations	-81.82%	297%	5.76%	-1.30%
Individuals	-83.68%	391.40%	9.80%	3.29%
Men	-83.68%	391.40%	7.18%	3.10%
Women	-36.95%	146.31%	23.78%	5.54%

Different abnormal returns are obtained based on the two estimation methods (LIFO and FIFO). The abnormal earnings that result from LIFO calculations are smaller than those relying on FIFO calculations. However, the same conclusions can be drawn out of this output. Individuals tend to register higher abnormal returns than institutional investors. Men register the maximum and minimum returns in comparison to women, but their mean abnormal return is 3 times lower than women's.

The positive abnormal systematic return can have different explanations. Firstly, Romanian insiders possess general superior information about their company's perspectives and results, and use it when trading. For example, if one insider buys assets, he or she sends an optimistic signal about good company perspectives. As a result, the stock price can increase. This movement determines a greater return for insiders[6]. Even if the other investors replicate their behaviour, insiders have an advantage given by speed. Secondly, it can be possible that insiders have superior abilities in valuation (or have better financial consultants), compared with other investors, and maybe they are less influenced by some subjective, behavioural effects, like panic. Thirdly, some insiders (e.g., members of the company's Board of Directors and Executive Management; employees within the company; company's largest shareholders etc.) are directly interested in the manner in which the company is perceived on the market and are directly interested in sending signals about the good perspectives of the company. As an effect, they win both from the positive perception of the company on the market and from the increase in stock prices.

6. Conclusions

In this paper, we analysed the returns earned by insiders on their stock transactions within the Romanian capital market. We checked for abnormal returns using a data set of around 8717 transactions, for the period 2013-2107. We studied the individual as well as the institutional insiders' behaviour. Our results showed different investment strategies performed by these investors. While the individuals tend to keep the stocks in their portfolios for a shorter time, companies focus on a long term perspective. There is also a difference in behaviour between men and women: at least for our database, women are less involved as insiders in trades, but even so, they tend to obtain a higher mean abnormal return than men do.

Significant abnormal returns are registered for the analysed insiders. Individuals obtained

[6] If the insider is selling his or her shares, the pessimistic signal transmitted does not affect his or her return.

higher returns compared to the institutional insiders, 14.66% in comparison with 7.93% (based on FIFO calculations) and 9,80% compared to 5.76% (based on LIFO calculations). Even though we found no notable distinction between men and women in terms of the days for holding an asset (an average of 303 days for holding a stock), women tend to exceed men's mean abnormal return more than twice or three times (depending on the standards the return is estimated – LIFO/FIFO). However, we cannot conclude that all insiders engage in profitable trades, as only 53.66% successfully beat the market.

In the future, we consider developing this study, also taking into account the dividends received by the analysed investors. Moreover, we would like to check for psychological variables that could influence these insiders' trading behaviour.

Acknowledgements

A preliminary form of this paper was presented to the International Finance and Banking Conference (FIBA) in March 2018, held at The Bucharest University of Economic Studies. We wish to thank the participants of this Conference for their useful comments. The remaining errors are ours.

References

Agarwal, M. and Singh, H., 2006. Merger Announcements and Insider Trading Activity in India: An Empirical Investigation. *Investment Management and Financial Innovations,* 3(3), pp.140-154.

Akerlof, G., 1970. The Market for "Lemons": Quality Uncertainty and the Market Mechanism. The *Quarterly Journal of Economics,* 84(3), pp.488-500.

Amenc, N. and Le Sourd, V., 2003. *Théorie du Portefeuille et Analyse de sa Performance*. 2e edition. Paris: Ed. Economica.

Anghel, D.G., 2015. Market Efficiency and Technical Analysis in Romania. *International Journal of Financial Research*, 6 (2), pp.164-177.

Antoniadis, I., Gkasis, C. and Sormas, A., 2015. Insider Trading and Stock Market Prices in the Greek Technology Sector. *Procedia Economics and Finance,* 24, pp.60-67.

Betzer, A. and Theissen, E., 2009. Insider Trading and Corporate Governance: The Case of Germany. *European Financial Management,* 15(2), pp.402-429.

Chae, J., 2005. Trading volume, information asymmetry, and timing information. *The Journal of Finance,* 60(1), pp.413-442.

Connelly, B.L., Certo, S.T., Ireland, R.D. and Reutzel, C.R., 2011. Signalling theory: A review and assessment. *Journal of management, 37*(1), pp.39-67.

Del Brio, E. B., Miguel, A. and Perote, J., 2002. An investigation of insider trading profits in the Spanish stock market. *The Quarterly Review of Economics and Finance,* 42(1), pp.73-94.

Dragotă, V. (coor.), Dragotă, M., Dămian, O.A., Stoian, A., Mitrică, E., Lăcătuş, C. M., Manaţe, D., Ţâţu, L., and Hândoreanu, C.A., 2009. *Gestiunea portofoliului de valori mobiliare*, 2nd edn. Bucureşti: Ed. Economică.

Dragotă, V. and Şerbănescu, V., 2010. Some Issues Concerning Romanian Investors' Behaviour. Results of a Survey. *Theoretical and Applied Economics,* 7(1), pp.5-16.

Dragotă, V. and Ţilică, E., 2014. Market efficiency of the Post-Communist East European stock markets. *Central European Journal of Operations Research,* 22(2), pp.307-337.

Dragotă, V., Stoian, A., Pele, D.T., Mitrică, E. & Bensafta, M. (2009). The development of the Romanian capital market: evidences on information efficiency. *Romanian Journal of Economic Forecasting*, 6, pp.147-160.

Fama, E.F., 1970. Efficient Capital Markets: A Review of Theory and Empirical Work. *The Journal of Finance,* 25, pp.383-417.

Fama, E.F., 1991. Efficient Capital Markets II. *The Journal of Finance,* 46(5), pp.1575-1617.

Fama, E.F., 1998. Market efficiency, long-term returns, and behavioural finance. *Journal of Financial Economics,* 49, pp.283-306.

Fidrmuc, J.P., Goergen, M. and Renneboog, L., 2006. Insider Trading, News Releases, and Ownership Concentration. *The Journal of Finance,* 61, pp.2931–2973.

Fidrmuc, J.P., Korczak, A. and Korczak, P., 2011. Why are abnormal returns after insider transactions larger in better investor protection countries? *SSRN Electronic Journal*, DOI: 10.2139/ssrn.1786482.

Finnerty, J.E., 1976. Insiders and market efficiency. *Journal of Finance,* 31(4), pp.1141– 1148.

Iqbal, Z. and Shetty, S., 2002. An investigation of causality between insider transactions and stock returns. *The Quarterly Review of Economics and Finance,* 42(1), pp.41-57.

Jaffe, J.F., 1974. Special Information and Insider Trading. *Journal of Business,* 47(3), pp.410-428.

Jeng, L.A., Zeckhauser, R.J. and Metrick, A., 2003. Estimating the Returns to Insider Trading: A Performance-Evaluation Perspective. *The Review of Economics and Statistics,* 85(2), pp.453-471.

Klinge, M., Seifert, U. and Stehle, R., 2005. Abnormal Returns in the Vicinity of Insider Transactions: Unbiased Estimates for Germany. *SSRN Electronic Journal*, DOI: 10.2139/ssrn.900552.

Lakonishok, J. and Lee, I., 2001. Are Insider Trades Informative? *The Review of Financial Studies,* 14(1), pp.79-111.

Lambert, R.A., Leuz, C. and Verrecchia, R.E., 2012. Information Asymmetry, Information Precision, and the Cost of Capital. *Review of Finance,* 16(1), pp.1-29.

Minenna, M., 2003. Insider trading, abnormal return and preferential information: Supervising through a probabilistic model. *Journal of Banking & Finance,* 27(1), pp.59-86.

Ravina, E. and Sapienza, P., 2010. What Do Independent Directors Know? Evidence from Their Trading. *Review of Financial Studies,* 23, pp.962-1003.

Rochman, R. and Eid Jr., W., 2006. Do Insiders Get Abnormal Returns? Event Studies on the Trades of Insiders of the Firms with Differentiated Corporate Governance of the São Paulo Stock Exchange. *SSRN Electronic Journal*, DOI: 10.2139/ssrn.1435295.

Seyhun, H.N., 1986. Insiders Profits, Costs of Trading, And Market Efficiency. *Journal of Financial Economics*, 16, pp.189-212.

Shiller, R.J., 1981. Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends? *American Economic Review,* 71(3), pp.421-436.

Thaler, R., 1999. The End of Behavioural Finance. *Financial Analysts Journal,* 55(6), pp.18-27.

Thaler, R., 2000. From Homo Economicus to Homo Sapiens. *Journal of Economic Perspectives,* 14(1), pp.133-141.

Toma, F.M., 2015. Behavioural Biases of the Investment Decisions of Romanian Investors on the Bucharest Stock Exchange. *Procedia Economics and Finance,* 32, pp.200-207.