IMPACT OF PUBLIC INFORMATION SIGNALS ON SHARE PRICES: EVIDENCE FROM LITHUANIA

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Abstract

Publicly delivered information is probably the most important mean for company to communicate its performance to the parties concerned. However, after each information signal, the change of stock market price can take contradictory and not always favorable direction. Theoretical and empirical studies of different researchers suggest that the disclosure of new information is one of the most important factors influencing the stock market prices, but there is not any unanimous answer about the direction and strength of the impact. Our research was performed on a sample of companies included in the OMX Vilnius index, over the period of 2005 to 2009 and evidenced that in some cases (information signals about the performance results, planned development, transactions carried out by executives, emissions of bank bonds, etc.), investors could take the advantage of market inefficiency and earn statistically significant abnormal return.

Keywords: governance, signaling theory, public information signals, corporate value.
JEL Classification: G34, G14, M19.

Introduction

The decision to send a public information signal is one of the most important decisions in corporate governance because publicly delivered information is probably the most important mean for company to communicate its performance to the parties concerned and probably the most important mean for parties concerned to get the knowledge about company's performance. However, being very important, a decision to send the information signal can be also two-edged sword, especially to the owners of a company: if we consider stock market price, its movement after the information signal can take contradictory and not always favorable direction.

There is a considerable amount of literature dealing with the problem of the impact of information signals on corporate value measured by the stock market price. However, the authors still do not agree on any single method that would clearly prescribe the right time for sending the information signal and would suggest the intensity of signals; still nobody can indicate the reasonable amount of information presented, nor appoint the particular information to be disclosed. Moreover, all these propositions become even more complicated due to information asymmetry, and therefore findings of different surveys are ambiguous concerning time and magnitude of the share price movement after the information signal. Therefore, although the scientific literature explorers it, the *problem* of sending the well-timed and corporate value increasing information signals is still pending.

Considering all raised questions, the *purpose* of this paper is to explore the problem of impact of public information signals on stock market price in three-part analysis. We first review current scientific literature dealing with the impact of public information signals on corporate value and measurement of that impact. Second, we investigate stock market price reaction to information signals in NASDAQ OMX Vilnius Stock Exchange. And third, we identify factors limiting the research of the impact of public information signals on stock market prices and suggest further research opportunities.

We use common scientific *research methods*: systematic and logical analysis, comparative analysis and statistical analysis.

Impact of information disclosure on stock market prices

One of the main subject-matters in finance and investment research is market efficiency, since it is closely related not only to price changes, but also to the expectations of market participants (Wang, 2001). The concept of effective market is based on the assumption that the current stock prices allow to judge properly on all known information relating to a particular investment instrument, and that changes in market prices are caused only by new information obtained by market participants. In addition, investors in this case believe that the current stock prices are fair, because they are determined by rational decisions of all investors (Shiriyaev, 1999).

One-day changes in return on investment may be considered as an evidence of efficient market (Ruppert, 2004), since, the most likely next day value of an investment instrument is the price of the previous day because of the volatile fluctuation of stock market prices. However, despite considerable scientific support to assumptions of efficient market hypothesis, this hypothesis is not confirmed in practice (Fisher, 2003). For example, the proposition of efficient market hypothesis that changes in prices can only be conditioned by the new information emerged is not realistic, since the trading in securities and fluctuation of their prices proceeds even without any new information announced. In addition, Fisher (2003) argues that unidentified clear link between the historical and future price of financial instrument is not sufficient evidence that this relationship does not exist. On the other hand, if the impact of published information can be estimated so precisely that it would enable investors to earn without any risk every time using historical data on stock market price changes, then the advantage of arbitrage can be used and the market is inefficient (Leipus & Norvaiša, 2004).

In any case, even if new information signals are not the only or crucial factor affecting stock market prices, the information in stock markets is very important because it allows investors to judge on the value of the company and its future prospects and this affects stock market prices. It can be argued that the purpose of information is twofold – to reduce the uncertainty for investors disclosing the company's performance results and its financial position and to inform about possible changes in the results (Zhang, 2006).

In opinion of Balakrishnan *et al.* (2007), the delivery of information to investors is not only important because it allows a better view of the company's value, but it also increases the transparency of the company's performance and the ability to control more effectively the actions of company managers.

MacKinley (1997) when analyzing the impact of information disclosures on stock market prices, states that the information disclosure should immediately affect stock market prices if we follow the efficient market hypothesis however often these changes do not occur straight off, but within a certain time interval. Therefore it is necessary to estimate changes in stock market prices not only immediately after the information signal but also a number of trading days thereafter. The movement of stock market price prior to an information signal allows to judge about the preliminary expectations of investors and changes of stock market price after it – about their fulfillment.

Event analysis method is used to evaluate the impact of information signals on stock market prices. According to it, each public announcement (information signal) of the company is estimated replacing the calendar-date into an event-date when the event-date $(t = 0)$ is the date of information signal. In the research, the event lag (a period of trading days before and after the event) can be chosen freely (MacKinley, 1997), but it must meet several criteria:

- to assess the importance of the event for investors and real time of impact on their decisions;
- the change of stock prices must be determined by a single major event during the chosen lag;
- an event lag should be selected according to the desired reaction of investors to be explored (short or long term).

One of the most commonly used lag is the interval of [-5, +5] days, because it includes only a limited number of news that could change stock market price of the company (Ahern, 2009; Laidroo, 2008).

In order to estimate the impact of an information signal on stock market price, the excess profits (or abnormal return on stock) are usually calculated using one of three methods (MacKinley, 1997): the average model, the market model or market corrected model. Using each of these models, the presumable 1 day return on the stock is calculated; the excess profit here is the difference between the actual 1 day return and calculated 1 day return (one that is presumable in the absence of an analyzed event).

Thus, although the researchers allow that the information signals shape attitude of investors towards the company, affect their decisions, and hence the stock market price changes (Vasiliauskaitė & Rumšaitė, 1999), however, Morck *et al.* (2000) claim that the research of the impact of information related to the activity of a specific company is limited in emerging markets because the stock market prices of individual companies often change in the same direction. Acharya (1993) draws attention to the fact that the information submitted by the company is limited and that an important part of information is lost, because not the whole company's decision-making process and not all assumptions of company's executives are disclosed. According to the author, this information may be very important for investors in some cases and it could lead to significant changes in stock market prices if it is disclosed.

Despite the fact that impact of information disclosure on the stock market price is approached in the theoretical and empirical studies, the Baltic and Lithuanian markets are lacking in such research. It could be noted the research of Estonian scientist Laidroo on public announcements of companies listed in Baltic Stock

Exchanges considering qualitative aspect of information disclosed (Laidro, 2008; Laidro, 2009; Laidro, 2011). There are also some studies on impact of particular kinds of information on stock market prices (Laidro & Grigaliūnienė, 2011; Stankevičienė & Vasiliauskaitė, 2008). However, the empirical data on the impact of information disclosure on stock market price changes is not enough. Therefore, on purpose to fill at least partially the lack of mentioned data, further in this paper the impact of information signals delivered by the companies listed in NASDAQ OMX Vilnius Stock Exchange on their stock market prices during the period of 2005-2009, will be estimated. The research is carried out in the following order: first of all we test the market efficiency, with the aim to evaluate whether the market model may be used to calculate the presumable 1 day return on the stock. Further on, we group all the information signals delivered during the period of 2005-2009, and finally we evaluate the impact of these information signals on stock market prices and estimate its statistical significance.

The estimation of presumable one day return on the stock

In order to calculate the presumable 1 day return on the stock, the market model, which is based on the CAPM methodology, was applied; the OMX Vilnius index was used for estimation. In order to calculate the impact of changes in the index value on 1 day return on the stock of each company, it was composed as many regression equations as many companies are analyzed (i.e., for all 38 companies included in OMX Vilnius index). The calculated coefficients of the linear regression equations were estimated using the coefficient of determination and it statistical significance.

The analysis of the statistical linear relationship between the changes of OMX Vilnius index value and 1 day return on the stock included in the index evidenced that the stock market prices of any analyzed companies mostly change in the same direction as the index, since the coefficient β_2 in all equations is positive. Value of the coefficient β_1 indicates the presumable change of 1 day return on the stock if the index value is unchanged, however the maximum absolute value of this coefficient was only -0.0040, and the highest positive value was 0.0015. This change is insignificant if compared with the average standard deviation of OMX Vilnius index (1.20%).

The coefficients of determination of regression equations estimating the presumable 1 day return on the stock of individual companies are from 0.0086 to 0.3546. This means that the very best of all models explains only 35.46% of the company's stock market price changes. The model of linear regression of as many as 24 companies have the coefficient of determination less than 0.1, therefore the CAPM approach for the most of companies included in OMX Vilnius index is not applicable, because this model can only explain less than 10 percent of the stock market prices' fluctuations.

The examination of the statistical significance of the coefficients of determination using Student's t-test evidenced that in all cases the t-test value was less than the critical value of 1.96 (at 5% level of statistical significance), so the models are statistically insignificant.

Considering the fact that the CAPM model is statistically inadequate for the research of changes in stock market prices of the companies included in OMX Vilnius index, the absolute return on stock instead of the difference between the real and presumable return on stock was used for further analysis.

The research of impact of information signals on the stock market prices of companies listed in the NASDAQ OMX Vilnius Stock Exchange

After the analysis of the content of news disclosed in NASDAQ OMX Vilnius Stock Exchange and seeking to estimate the impact of different information, the information signals have been grouped into the following categories:
- the announcements of company's performance results;
- the announcements of expected performance results;
- the announcements about the planned development;
- stock purchases by the executives of the company;
- stock sales by the executives of the company;
- emissions of the bank bonds or raising of long-term loans;
- cutting down of working hours in company;
- restrictions of trade in company's production;
- fine to a company;
- the announcements that the stock will be registered into the main list of the Stock Exchange;

    −   the announcements that the stock will be moved to the secondary list of the Stock Exchange;

    −   the announcements about the intention not to trade in the stock on a regulated market.

The period of 5 days before the information signal to 5 days after it, i.e., [-5, +5] is selected as the event lag, except the announcements of company's performance results, because the likely impact on investors in this case is more important than that of the other analyzed information, so the event lag here is [-10, +10] days.

The announcement of company's performance results. The analysis of the impact of the announcements about companies' performance results disclosed by the companies listed in the NASDAQ OMX Vilnius Stock Exchange (965 signals) on their stock market prices during the period of 2005-2009 (Fig. 1a) evidenced that the stock market prices increase up to one day after the announcement, and then begin to drop. As a result, the stock market prices change only +0.09% on the average during the analyzed period of 10 days prior the signal to 10 days after it, although prices rise on the average of 1.08% on the first day after the announcement.
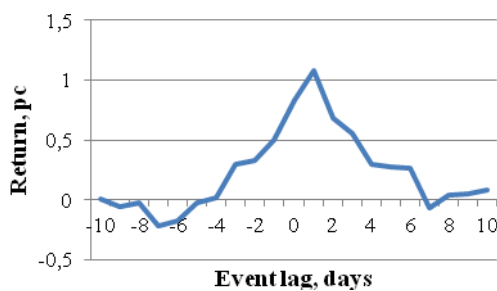

Figure 1a. The impact of the announcements of company's performance results on stock market prices
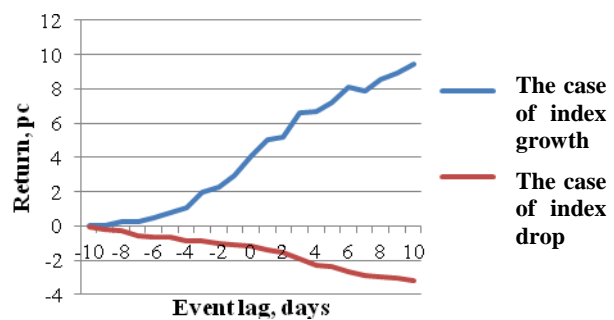

Figure 1b. The impact of the announcements of company's performance results in case of different market trends

The separating of the long-term growth and drop trends in the OMX Vilnius index showed that investors tend to react very differently in different market situations (Fig. 1b). In case of the growth of OMX Vilnius index value (452 signals) the stock market prices rise 0.72% on the average after the announcement of the results; and during the period from 10 days prior signal to 10 days after it, the stock market prices rice 9.45% on average. However, in case the value of OMX Vilnius index drops (513 signals), the stock market prices decreased 0.13% on the average, while during the analyzed period of [-10, +10] days, the reduction was 3.16%. The fact that changes in stock market prices after the announcement of the results were coincident with the predominant market trends at the date of the signal as well as during the analyzed period of [-10, +10] days, suggests that market participants usually do not change their behavior after the publication of financial statements as compared to that of prior the signal. The fact that the most of stock market prices increase in general case and the average growth rate is greater than the drop rate (0.66% and -0.41%) suggests that investors are likely to be positive about this information signal despite the fact that market trends have a greater impact on stock market prices than the announcement of the results.

The announcement of expected performance results. The analysis of the announcements made by the companies included in the OMX Vilnius index concerning the expected performance results (85 signals) evidenced that 25 companies announced the forecasted results at least once, but neither company did that on a regular basis during the analyzed period. In addition, companies announced the expected results under prevalence of negative trends (57 signals) more often than under prevalence of positive trends (28 signals).

The analysis of the impact of these announcements on stock market prices (Fig. 2) shows that investors are likely to be positive about the company's intention to share the essential information regarding the planned performance results. Although stock market prices drop 2.56% on the average during the analyzed period of 5 days prior the signal to 5 days after it, the stock market prices rise 0.69% on the event day and 0.22% the day after the signal.

The separate analysis of investor reactions to announcements of expected results evidenced that investors are likely to evaluate positively these signals during the growth trends of the OMX Vilnius index as well as during the drop trends. During the index growth the average return is 0.69% on the day of event and 0.01% on the day after it. During the drop trend, the average return was 0.39% and 0.52% respectively.
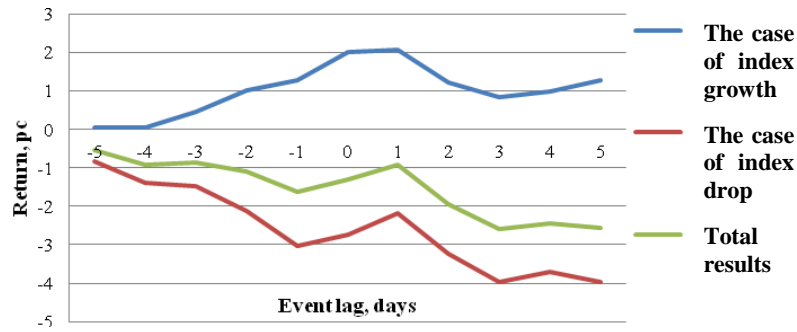
Figure 2. The impact of the announcements of expected performance results on stock market prices

It is especially important to note that unlike disclosure of the majority of information signals analyzed in this paper, the announcement of expected results is strong enough signal that changes the direction of stock market prices' movement at least for the short time during the period of the drop of OMX Vilnius index value. However, this can be conditioned by two reasons: either investors often tend to overstate the impact of announced forecasts on the stock market prices, or long-term trend in price changes is still stronger signal than that of short term buy signal after the announcement of expected results.

The announcements about the planned development. The analysis of company reports on the development (156 signals about new opportunities - new subdivisions, investment, increase in production potentials or projects of performance optimization) evidenced that the stock market prices rise 0.25% on average on the event day, and average raise during the period of 5 days prior the signal to 5 days after it was 1.44% (Fig. 3a). Thus, the investors consider the information on the development as positive however it does not cause any significant effect on stock market prices in a general case.
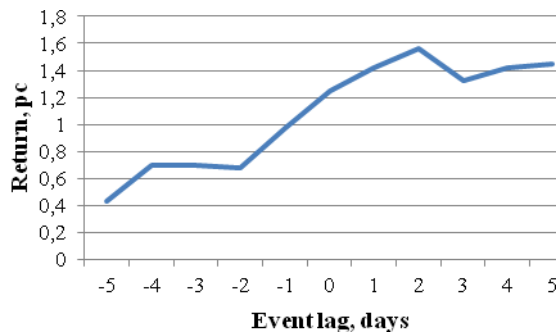

Figure 3a. The impact of the announcements about the planned development on stock market prices
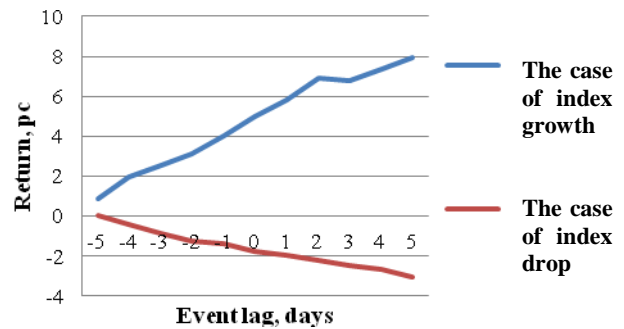

Figure 3b. The impact of the announcements about the planned development in case of different market trends

The separate analysis of growth periods (75 signals) and drop periods (81 signals) of the OMX Vilnius index value showed that the trend of price fluctuation is more important for investors than the information disclosure (Fig. 3b). And despite the fact that different reaction of investors during different directions of the market can be clearly distinguished, one cannot state that the announcements about the development determine the investors' reaction in case of negative market trends, since the prices' change remains negative. Although all the graphs (rate of return after the announcement about the development in general case and in cases of positive or negative trends in the market) have a clear directions of change, and the stock market prices change in one direction (with exception of very slight changes two days before the signal and three days after it), it is important to understand that these results are conditioned by the different stock market price changes of individual companies. Therefore, using only the average values, one can miss lots of information about the market reaction to the analyzed signals. However, the number of announcements disclosed by the companies whose stock market prices increased on the event day is relatively smaller and these companies tend to report only about the most important strategic projects, which is a stronger signal to investors because of the possibly greater positive impact on company's results as compared to the more often

received information of other companies. This suggests that investors tend to consider content of the announcement and to evaluate its importance to their investment, and they do not immediately accept this signal as positive. On the other hand, stock market prices increased only in case of 4 companies during the prevailing market drop trends. Thus it can be concluded that although positive impact on stock market prices exists in some cases, the market trend is a stronger factor not only to the overall return but to price changes of individual companies as well.

Trade deals of the executives. The decision of executives and major shareholders to buy or sell securities is a strong signal to investors about the standpoint of individuals who posses of more information about the company's state and prospects towards the possible direction of stock market price change. However, the analysis of such transactions during the period of 2005-2009 has not evidenced that the decision of these individuals to purchase the securities (271 signals) affects the stock market prices during the period of 5 days prior the signal to 5 days after it (Fig. 4a).
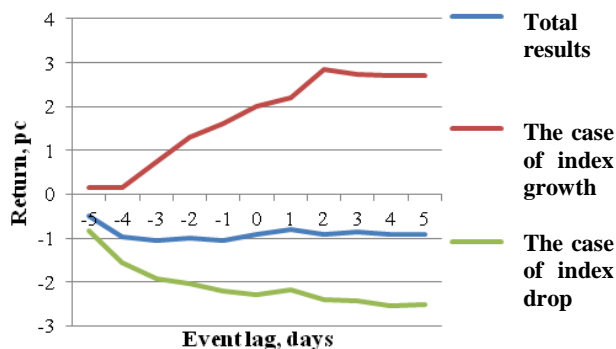

Figure 4a. The impact of the announcements about stock purchases by the executives of the company on stock market prices
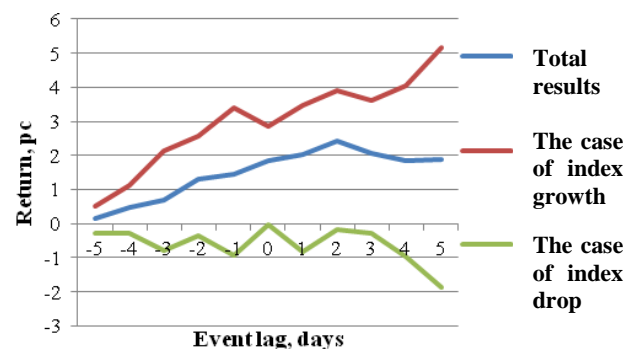
Figure 4b. The impact of the announcements about stock sales by the executives of the company on stock market prices

On the other hand, a separate evaluation of the purchase transactions concluded by the executives and other important individuals during the periods of the OMX Vilnius index value growth and drop, shows that at positive market trends, stock prices continue to grow: on average 0.34% on the event day, another 0.19% on the next day, and 2.70% during all the analysis period. At the negative market trends, stock market prices grow on average rate of 0.14% on the event day after this signal; however in all the rest trading sessions (5 days prior the signal to 5 days after it) stock market prices drop2.52% on average.

Most of the analyzed stock purchases were concluded during the period of stock market prices' drop. One of the main reasons for this fact could be that the executives are willing to buy the cheaper stock as having a better knowledge of the company's situation allow them make a better investment decision in the long term; however the presumption that this decision is made in order to demonstrate other investors that company is an attractive investment and thus increase value of the stock cannot be disposed. Regardless of that, the trends allow to conclude that the decision of executives or major shareholders to purchase the stock of the company is only a short-term signal to investors.

The analysis of the announcements about stock sales (42 signals) shows that the stock market prices rice 0.38% on average on the event day and 1.89% during the period of 5 days prior the signal to 5 days after it (Fig. 4b). During the growth trend in the market these announcements lead to an one-day stock market price drop (average 0.69%), however over all the analysis period of [-5, +5] days, stock market prices increase 5.16% on average, suggesting that the market trend is stronger than the negative reaction of investors to the decisions of executives who are possessed of internal company's' information. During the negative trend in the market this decision has no apparent effect on the stock market prices as they goe seesaw and a clear negative direction appears only on the second day after the signal.

Other announcements. In addition to such important information as the performance of companies and their plans, planned development or transactions of executives and major shareholders, other information signals have also been analyzed (Table 1).

The announcement about bonds' emissions or rising of other long-term loans was disclosed exclusively by banks. This information is important because financial institutions may lend out more and improve their financial results by attraction of an additional long-term financing. The analysis of investors'

reaction to these signals during the period of 2005-2009 showed that in the general case stock market prices in the NASDAQ OMX Vilnius Stock Exchange almost did not change on the event day (an increase of just 0.01%), and during a period of 5 days prior to the signal to 5 days after it the stock market prices rose just 0.97% on the average.

Table 1. The impact of other signals on stock market prices

Event	In total during the period of 2005-2009			The case of index growth			The case of index drop		
	Number of announcements	Average one day return, pc	Return during [-5;+5] days period, pc	Number of announcements	Average one day return, pc	Return during [-5;+5] days period, pc	Number of announcements	Average one day return, pc	Return during [-5;+5] days period, pc
Emissions of the bank bonds or raising of long-term loans	47	0,01	0,97	19	0,28	9,05	28	-0,33	-4,88
Cutting down of working hours in company	8	-0,01	-7,16	3	-5,19	-5,43	5	3,09	-12,51
Restrictions of trade in company's production	3	-0,72	-9,88	1	-1,77	-17,46	2	-0,20	-6,09
Fine to a company	5	-0,79	-3,41	-	-	-	5	-0,79	-3,41
The company's stock will be registered into the main list of the Stock Exchange	5	-0,80	0,84	3	-1,69	1,06	2	-0,66	2,65
The company's stock will be moved to the secondary list of the Stock Exchange	2	0,00	0,82	2	0,00	0,82	-	-	-
The intention not to trade in company's stock on a regulated market	1	0,00	-15,08	1	0,00	-15,08	-	-	-

During the growth trend of the OMX Vilnius index, stock market prices increase 9.05% on the average during the period of [-5, +5] days, and during the drop trend of the index value, the stock market prices decrease 4.88% at the same period. The fact that the signals that are similar in their content cause different investors' reactions during the different market trends, evidences the greater importance of the market trend as compared to this information.

The announcements about cutting down of working hours in the company are mostly associated with a lack of demand for the company's production or services. Although following this signal stock market prices change only -0.01% on average, during the positive market trends the decrease is 5.19%, and during the negative trends the increase is 3.09%. Such price changes may be related to the tendency of investors to take into account the loss of opportunities to earn income at the positive trends and opportunities to save the company's labor costs at the negative trends. However, the analysis of the period of 5 days prior the signal to 5 days after it suggests that investors' reaction regardless of the situation is negative (average value of the stock market prices decreases 5.43% in case of the OMX Vilnius index growth and decreases 12.51% in case of the index drop). This allows concluding that the optimization of labor costs is only a short-term factor.

The announcements about the restrictions of trade in company's production are always evaluated negatively, as the company loses the opportunity to earn income. During the period of 2005-2009, three such announcements were disclosed and the stock market prices decreased 0.72% on average per day (9.88% during the period of [-5, +5] days). Although it could be argued that investors tend to be more sensitive towards bad news during positive market trend (decrease of 17.46%) than during negative trend (decrease of 6.09%), the generalized conclusions cannot be drawn due to the small amount of announcements.

During the period of 2005-2009, the companies 5 times announced about the fines. While these announcements may be quite different due to different amounts of the fines and their impact on the company's performance results, it is logical to believe that the companies included in OMX Vilnius index are not inclined to disclose news of low importance. All 5 announcements were disclosed during a long-term negative trend of the index. On average, the stock market prices decrease 0.79% on the event day, and 3.41% during the period of [-5, +5] days.

Analysis of the announcements that the company's stock will be registered into the main list of the Stock Exchange and that the stock will be moved to the secondary list evidenced that in the first case, the

stock market prices following the information signal decreased 0.80% on average while in the second case it did not change. In total, during the period of [-5, +5] days, the average change in stock market prices was respectively +0.84 and +0.82%, so this information should be treated as insignificant to investors.

Although during the period of 2005-2009 only Gubernija AB announced about the intention not to trade in company's stock on a regulated market, it is presumable that investors would treat this information as negative not only in this case, but on the whole. Negative market reaction is determined by the fact that the withdrawal from the regulated market reduces the liquidity of the stock and increases transaction costs for investors. In this case, the stock market price has not changed on the event day, but during the period of [-5, +5] days, the price decreased 15.08%.

The assessment of statistical significance for the impact of information signals on the stock market prices of companies listed in NASDAQ OMX Vilnius Stock Exchange

The estimation of the statistical significance of all types of information signals using the parametric t-test evidenced that statistically significant signals at 5% level during the period of 2005-2009 in absolute value (i.e. cumulative average return – CAR) were only the announcements about the planned development (t-test value was 2.32) and at 10% level –the announcements about the restrictions of trade in company's production (t-test value was -2.15). However, it is important that investors' reactions to information signals during different long-term trends of the OMX Vilnius index were also different. For example, despite the fact that the announcements of company's performance results in general case were not statistically significant, separate analysis of the periods of index value growth and drop showed that investors have tended to evaluate positively these signals during the positive market trends and their positive CAR during the period of [-5, +5] days (6.14%) was statistically significant (t-test value was 5.68). On the other hand, the results announced during the negative market trends generated negative changes in stock market prices during the period of [-5, +5] days (the CAR was -4.14%) and this value was also statistically significant (t-test was negative and equal to -6.29).

The next type of information signals, the announcements of expected performance results were statistically insignificant regardless of the market trend. This suggests that investors' expectations are much stronger affected by the actual data than by planned performance results.

The analysis of the announcements about transactions of executives and major shareholders in companies' stock established that the impact of these signals was statistically significant only when a long-term market trends are considered. The announcements about the stock purchases are statistically significant at any of the index directions (t-test values were 3.49 and -2.53 respectively), and announcements about the stock sales are statistically significant only in case of the market growth (t-test value was 2.79).

The announcements about the bank bonds' emissions or raising of long-term loans, caused investors' reaction and were statistically significant also only when considering the long-term trend of OMX Vilnius index: during the period of 5 days prior the signal to 5 days after it, t-test was equal to 2.99 in case of positive market trend and t-test was equal to -6.34 in case of negative market trend.

In addition to CAR, it was also analyzed the cumulative average abnormal return (CAAR) which is a more objective in estimation of information signals on stock market prices because it eliminates the price trend unrelated to the disclosed announcement.

As the market model cannot be applicable to analyze market price changes for the stock included in the OMX Vilnius index during the period of 2005-2009 because of low statistical significance, the average daily change in the OMX Vilnius index value was used for the calculation of the presumable 1 day return on the stock: +0.29% during a long-term growth trend and -0.30% during a long-term drop trend.

The analysis on the statistical significance of CAAR evidenced that statistically significant results were found in only 5 cases (in brackets – t-test value):
- the announcements of company's performance results in case of index drop (3.23);
- the announcements of expected performance results in case of index growth (-3.03);
- the announcements about the planned development in case of index growth (3.36);
- the announcements about the emissions of the bank bonds in case of index drop (-3.80);
- the announcements about the restrictions of trade in company's production in case of index growth (-2.28).

Positive value of t-test following the announcements of the results shows that the reduction of investors' uncertainty concerning the company's performance is appreciated as a positive signal under

negative market trends (CAAR was +2.13%). On the other hand, investors tend to evaluate negatively a disclosure of expected performance results under positive market trends, since CAAR during the period of 5 days prior the signal to 5 days after it is negative (-2.37%). It can be assumed that the negative CAAR is the outcome of an in-adequacy to investors' expectations.

The investors assume the announcements about the planned development as the positive signal in case of OMX Vilnius index value growth as during the period of [-5, +5] days, CAAR was 3.62% (CAR in this case was 7.92%). The announcements about the emissions of the bank bonds in case of negative trends in the NASDAQ OMX Vilnius Stock Exchange conditioned a negative -4.92% CAAR, so investors this signal assume as negative.

The potential loss of income due to restrictions of trade is a negative signal to investors even if the trend OMX Vilnius index is positive as CAAR was -21.80% (this was the largest absolute value of all the analyzed events). This can be explained by the fact that the potential loss of revenue is always clearly disadvantageous to the company's performance results.

Conclusions

Theoretical and empirical studies of different researchers suggest that the disclosure of new information is one of the most important factors influencing the stock market prices, but there is not any unquestioned answer about the direction and strength of the impact.

The evaluation of the dependency of changes in stock market prices for companies included in OMX Vilnius index on the long-term market trends evidenced that the market (CAPM) model is not suitable for determination of these changes, because the trend coefficient in the equation of linear regression for stock market prices of all companies, is statistically insignificant.

The analysis of the impact of information signals on stock market prices evidenced that in some cases investors could take advantage of market inefficiencies and earn abnormal return:

- The announcement of performance results is assumed as a positive signal but the reaction depends on the long-term trend of OMX Vilnius index –the stock market prices increased 9.45% on average during positive market trend while during negative trend the decrease was 3.16%
- Investors are likely to evaluate positively the announcement of expected performance results both during the positive and negative market trends (the average return on the event day was 0.69% and 0.39% respectively);
- During the positive market trend, stock market prices grew after the announcement about the planned development and transactions in stock carried out by executives.

The analysis of the statistical significance of CAR evidenced that a statistically significant stock price changes after the information disclosure during the period of 2005-2009 were the announcements about the planned development at the level of 5%, and the announcements about the restrictions of trade in company's production at the level of 10%.

The analysis of the statistical significance of cumulative average abnormal return (CAAR) evidenced statistically significant results for the announcements of company's performance results and emissions of the bank bonds during a negative index trend and for the announcements of expected performance results and planned development during a positive index trend.

The main limiting factor in our research was the fact that stock market prices are influenced not only by the disclosed information but also by trends in the stock market, thus it is necessary to find an effective way to eliminate the influence of these trends in order to investigate properly the impact of the information signals on stock market price changes. Moreover, the information signals were analyzed only considering their type here, so further studies could take into account the qualitative content of the announcements.

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