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## **EFFECT OF REPURCHASE ANNOUNCEMENT ON THE POLISH ALTERNATIVE STOCK MARKET**

### **Abstract:**

In recent years open-market share repurchase programs have become an important payout policy not only for U.S. firms, but also European. Vast literature has examined the effect of share repurchase announcement on developed countries, especially the U.S. Relatively little research has yet been published examining the emerging markets reaction on share repurchase programs.

This study attempts to extend the knowledge with the information content of buy back announcements in Poland. The main aim of the study is to test the informational content of share repurchase announcements on the Polish alternative stock market using event study methodology. Our sample was formed by identifying share repurchase announcements reported by companies listed on the NewConnect Stock Exchange over the period 2007-2016.

Due to the results of prior studies which give support for positive market reaction on share repurchase announcements (i.a. Ikenberry, Lakonishok and Vermaelen, 1995; Grullon and Michaely, 2002; Chan, Ikenberry, Lee, Wang, 2010) we hypothesize that firms announcing share repurchases on NewConnect experience positive valuation effects.

### **Keywords:**

share repurchase, payout policy, event study, abnormal returns, NewConnect, Poland

**JEL Classification:** G35

## Introduction

In recent years open-market share repurchase programs have become an important payout policy not only for U.S. firms, but also European. Asquith and Mullins (1986) argue that decisions concerning share repurchases and dividends have long been controversial and confusion among researchers and practitioners.

In the literature there are two major reasons for repurchasing shares. The first one is connected with information signalling theory, which states that share repurchases are used by the firms to signal better prospects (i.a. Bhattacharya, 1979; Miller and Rock, 1985; Vermaelen, 1984). The second is related to the agency theory and the free cash flow hypothesis which imply that share repurchase are used as the tools of distributing cash flows to reduce the amount of free cash flow at management's disposal. Firms repurchase their shares to mitigate potential over-investment by management (Jensen, 1986).

The Warsaw Stock Exchange (WSE) conducts trading on the main market (since 1991) and on an alternative trading system - the NewConnect (NC) (since 2007). NewConnect was designed for startups and developing companies, especially from new technologies sector.

We have noticed that there is a need to conduct the research on the Polish market due to the fact that in recent years, the Warsaw Stock Exchange has become one of Europe's most dynamic IPO markets with more than 486 companies, including more than 50 foreign companies, listed on its main market, and 403 companies listed on NewConnect as at May 5, 2017. Moreover, prior research for the Polish market focused on the main market of the Warsaw Stock Exchange thus we decided to investigate the alternative trading market.

This paper pursues two goals. The main goal is to test the informational content of share repurchase announcements on the Polish alternative stock market and to analyze whether Polish share repurchase announcements have a different market impact than repurchase announcements in other countries. The second one - to find out whether share repurchase announcements released on the NewConnect have a different market impact than repurchase announcements from the Main Market of the WSE. In order to obtain our goal, we measure the abnormal share price effects. We use event study methodology based on the set of share repurchase announcements which were announced on the NewConnect Stock Exchange (NC) over the period 2007-2016.

We hypothesize that Polish firms announcing share repurchases experience, similarly as in more developed countries, positive valuation effects, therefore the main hypothesis is formulate as follow: when a firm announces share repurchase on the NewConnect, its stock price increases significantly.

This paper is organized as follows: section 1 provides a literature review, section 2 presents data description and the research methodology, results and analysis are provided in section 3 and summary is presented in section 4.

## Literature review

Motivations to repurchases shares have been extensively discussed in the recent literature. Most widely debated were following: “undervaluation signal”, “the excess cash”, “the takeover defense” and “the capital structure optimization” motivation.

When a company purchases its shares, managers give a signal to investors. The direction of this signal is ambiguous. It may be that the company perceives no profitable use for internally generated funds because of a lack of growth opportunities. On the other hand, especially when a firm offers to buy its shares at a substantial premium above the market price, management may be convinced that market capitalization of the firm is considerably below the fundamental value, so the company is undervalued (Vermaelen, 1981). In this case share repurchase announcement can be a device to signal to investors that the true value of their corporation’s equity is undervalued. It is widely believed that “undervaluation signal” is that primarily share repurchases motivation.

Another, category of buy-back motives includes share repurchases through which a firm aims to distribute excess cash to its shareholders. Excess cash could be a reason of agency conflicts as self-interested managers might use these funds for negative net present value investments like fringe benefit consumption or empire building and thereby harm the owners of the firm (Jensen, 1986). Jensen (1986) argues that these share repurchases are an effective way to eliminate excess “free” cash flow that would otherwise be wasted by management.

The next category of share repurchases motives refers to the defense against takeovers. Bagnoli, Gordon and Lipman (1989) argue that the managers repurchase shares to block a takeover, by reducing cash reserves and reducing the amount of shares available to purchase, only if the cost such a transaction is not too high. On the other hand, Hackethal and Zdantchouk (2006) claim that the use of repurchases in defensive situation might contravene shareholders’ interest in cases when the takeover would actually increase the value of the combined firms but reduce private benefits for the managers. The researchers argue that managers who repurchase shares in defensive situations might hence act solely in their own interest and therefore possibly at the expense of shareholders.

A third motivation is related to the optimization of a firm’s capital structure. Grullon and Ikenberry (2000) state that share repurchase is a popular way to change a firm’s capital structure and managers may use share repurchase programs to fine-tune their capital structure and respond to the potential dilutive effects from employee share option plans.

However, in many countries such as Germany, France, Italy, the volume of shares to be repurchased must not exceed 10% of total shares outstanding. Firms from such countries can therefore not use share repurchase programs to increase their debt-to-capital ratio dramatically and to transfer value from debt holders to shareholders.

Extensive research on share repurchases has so far focused not only on the U.S. markets (i.a. Comment and Jarrell, 1991; Ikenberry, Lakonishok and Vermaelen, 1995; Grullon and Michaely, 2004), but also on other developed countries: Canada (i.a. Ikenberry, Lakonishok and Vermaelen, 2000), U.K. (i.a. Rees, 1996; Rau and Vermaelen, 2000; Padgett and Wang, 2007), Germany (i.a. Stehle and Seifert, 2003; Hackethal and Zdantchouk, 2006).

Relatively little research has yet been published with the results for the emerging markets reaction on share repurchase programs. Studies on the Polish capital market have been conducted by i.a. Będowska-Sójka (2003), Gryglewicz (2004), Gurgul and Majdosz (2005), Pieloch (2011).

The leading theme of such studies is the signaling effect of share repurchases. Most of the research demonstrates that already the announcement of the share repurchase could be a strong signal to the capital market and result in a statistically significant increase in market prices of the shares, regardless of fact whether a company actually carry out in the future buy-back or not.

There are many examples of studies which give support for the fact that abnormal returns increase around the repurchase announcement. Positive cumulative abnormal returns (CAR) on the U.S. market have been observed by i.a. Ikenberry et. al. (1995) who show 3.5% abnormal returns in the 5-day window around stock repurchase announcements. Similarly, Li and McNally (1995) observe for Canada 3,6%. In Rau and Vermaelen (2002) study of British repurchases the excess market reaction is only 1,14% within the same 5-day window.

The results for a shorter term – cumulative average abnormal returns in the 3-day window, present i.a.: for the U.S. market - Vermaelen (1981) who documents 3,7%, Grullon and Michaely (2004) who get only 2,7%, similarly in Comment and Jarrell research – only 2,30% (the U.S.). On the German market Seifert and Stehle (2003) observe much higher results – about 5,9% and Hackethal and Zdantchouk (2006) confirm even more – about 11,6%.

In order to compare our study with prior results from the Polish market, we should consider Gryglewicz's research (2004) who focused on a comparison of stock repurchases and dividends on the Warsaw Stock Exchange over the period 1997-2000. He gives an evidence that there is a strong positive correlation between share repurchases and abnormal returns. Due to his study abnormal returns around stock repurchase announcements are significant at standard levels of confidence in all time windows. Already in the 3-day window the abnormal returns amount to 2.11%. As the analyzed time period widens, the abnormal returns increase and reach the most statistically significant level of 6.23% in the 7-day window. These results seem to be relatively high

when compared them to other studies (i.a. Ikenberry, Lakonishok and Vermaelen (CAR(-2,2) = 3,54%), Vermaelen (CAR(-1,1) = 3,62%)).

Gurgul and Majdosz (2005) tested several hypotheses about market response to dividend and repurchase announcements analyzing forty five dividend announcements and twenty repurchase announcements which were issued by companies listed on the primary market of the WSE over the period from 1st January 2000 to 30th June 2004. On the announcement day average cumulative abnormal return was negative (-0.82%), while on the next day significantly increased to 1.3%. This one-day delay in response of the capital market may result, as reported by Gurgul and Majdosz (2005), can be, at least partially, attributed to technical factors.

Pieloch (2011) analyzed 29 announcements which were issued by companies listed on the Warsaw Stock Exchange over the period 2006-2010. She observed positive abnormal returns on the day of the announcement and two following days. On the third, fourth and fifth day following the announcement she observed negative abnormal returns (Pieloch, 2011). The results of her study indicates negative market reaction in 41-day window (CAR(-20,20) = -2,28%), but positive in a short term. In 3-day window the abnormal return increases to 0,83%, and in 9-day window to 9,33%. However the author underlines that that data used in her study is not representative due to the number of announcements events.

## Data description

Our sample was formed by identifying all share repurchase announcements reported by companies listed on the NewConnect Stock Exchange from January 2007 (the year the alternative stock market was introduced) through June 2016 that stated a firm intended to repurchase its own common stock through open market transactions. We examine all open market share repurchase announcements without regard to whether the programs were actually completed.

The initial sample consists of 71 share repurchase announcements issued by 60 companies from different industries (among those 60 companies there were 9 firms that announced buyback more than once). The further analysis was restricted to the companies that not only announced the buyback but also implemented it – there were 57 companies that implemented buyback programs. We excluded 3 companies that announced buyback only, without implementing it. We focused only on the first buyback program implementation (if the company announced and implemented more than one buy back, we focused was on the first program only) receiving a data of 64 buyback programs.

We collected data available from firms' websites (current, semi-annual and annual reports), and the regulators' website. All data were hand-collected. Data analysis and statistical calculations were made using Statistica software product.

## Research methodology

We conduct our research using event study methodology introduced by Fama, Fisher, Jensen and Roll (1969). The event study methodology has become the standard method of measuring share price reaction to some announcement or event (Binder, 1989).

At the beginning of the study, we defined the pre-event window and the event window. In order to avoid the perturbation caused by the presence of other events within the estimation period, the length of the pre-event window is limited to twenty trading days prior to the event window. The post-event window contains twenty trading days after the day zero.

The first step of the research was to calculate daily returns for both individual securities as well as market index using the following equation:

$$R_{it} = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100 \quad (1)$$

Where:

$R_{it}$ - returns on a share of firm i on time t,

$P_t$ - price of the share of firm i at time t,

$P_{t-1}$ -price of the share of firm i at time t-1.

For every security, the abnormal return for each day in the event period has been calculated using following procedure (Brown, Warner, 1980: 173):

$$AR_{it} = R_{it} - R_{mt} \quad (2)$$

Where:

$AR_{it}$ - abnormal returns on share of firm i at time t,

$R_{it}$ - denotes the share return of i-firm for a t-day,

$R_{mt}$ - denotes the market return for a day t.

Furthermore  $i = 1, \dots, n$ ;  $t = 1, \dots, T$

To check the null hypothesis about zero average abnormal returns against the alternative that average abnormal returns are statistically different from zero, test based on the  $t$ -statistic has been used. We checked the null hypothesis for all days within the event window.

The average abnormal returns on day t is calculated using following equation:

$$AAR_t = \frac{1}{n} \sum_{i=1}^n AR_{i,t} \quad (3)$$

Where:

$AAR_t$ - average abnormal returns on day  $t$ ,

$AR_{it}$ - abnormal returns on stock  $i$  at time  $t$ .

In the next step the cumulative average abnormal returns have been calculated, using following formula:

$$CAAR(T_1, T_2) = \sum_{T=T_1}^{T_2} AAR_T \quad (4)$$

Where:

$CAAR_i$ - cumulative average abnormal returns for  $(T_1, T_2)$  event window,

$T_1$ - initial day of the event window,

$T_2$ - final day of the event window,

The time period from day  $T_1$  to day  $T_2$  is called a CAAR-window or a CAAR-period.

To compare our results with prior research there are following sets of CAARs measured: for a short event window  $CAAR(-1,1)$  and  $CAAR(-2,2)$  and for the longer time window  $CAAR(-5,5)$ .

## Empirical results

Table 1 presents the descriptive statistics of analyzed share repurchase programs announced by companies listed on the NewConnect Stock Exchange over the period 2007-2016.

**Table 1. Descriptive statistics of share repurchases announced on NewConnect over the period 2007-2016**

|                             | 2007 | 2008 | 2009 | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  |
|-----------------------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| Number of announcements     | 0    | 1    | 3    | 3     | 11    | 14    | 11    | 17    | 3     | 1     |
| Total payout (EUR thousand) | 0    | 189  | 367  | 1,925 | 3,622 | 5,373 | 6,060 | 7,427 | 8,983 | 1,250 |

*Source: own adjustment*

Due to the fact that 2007 was the year of establishing the alternative stock market NewConnect in Poland, we have not observed any share repurchase announcement then. The highest number of share repurchases were announced seven years later, in

2014. In analyzed period the listed companies transferred to the shareholders in total about 35 million EUR through repurchasing shares.

Descriptive statistics of the average abnormal returns for each day from the 5-day event period (from the second day prior to announcement to the second day after) are reported in table 2.

**Table 2. Descriptive statistics of the average abnormal returns (%)**

|    | Mean | Median | Min    | Max   | Standard deviation | Number of positive abnormal returns |
|----|------|--------|--------|-------|--------------------|-------------------------------------|
| -2 | 0,21 | 0,17   | -33,66 | 32,61 | 7,61               | 36                                  |
| -1 | 0,83 | 0,38   | -13,97 | 25,68 | 4,96               | 39                                  |
| 0  | 0,6  | 0,06   | -15,74 | 20,44 | 5,03               | 32                                  |
| +1 | 1,71 | 0,36   | -16,15 | 31,55 | 6,90               | 39                                  |
| +2 | 1,69 | 0,20   | -14,21 | 49,79 | 9,48               | 34                                  |

Source: own adjustment

The results of descriptive statistics show that the analyzed average abnormal returns are relatively diversified. The minimum values diverge from maximum values, the average values diverge from the median. The highest difference between minimum and maximum value can be observed for the second day before the announcement. The highest standard deviation can be observed for the second day after the share repurchase announcement.

Table 3 presents the parametric test results for average abnormal returns for each day of the 5-day event period (from day -2 to day +2).

**Table 3. Parametric test results for average abnormal returns**

|    | Average abnormal returns (%) | t-statistic |
|----|------------------------------|-------------|
| -2 | 0,21                         | 0,216309    |
| -1 | 0,83                         | 1,341234    |
| 0  | 0,6                          | 1,013404    |
| +1 | 1,71**                       | 1,983642    |
| +2 | 1,69                         | 1,430691    |

\*\*  $p < 0,05$ , \*\*\*  $p < 0,01$

Source: own adjustment

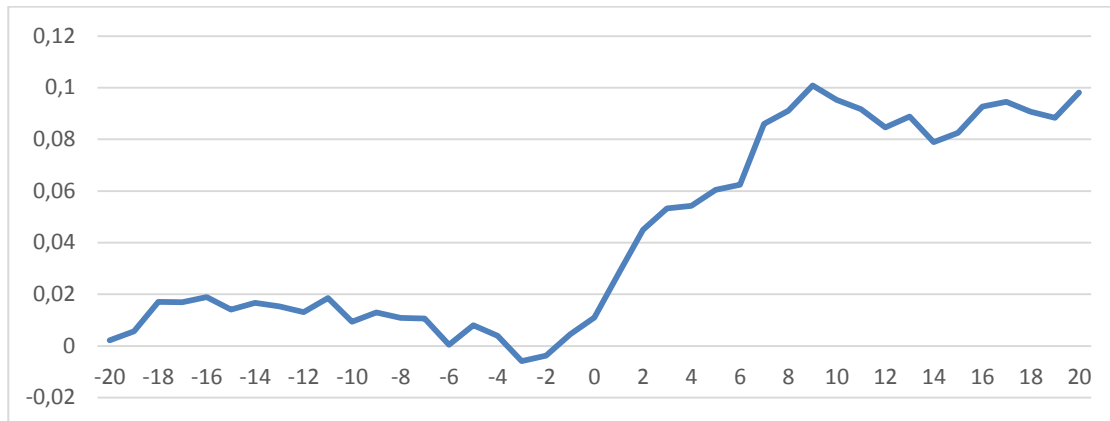
As expected, analyzed share repurchase announcements issued by companies listed on the alternative trading system of Warsaw Stock Exchange – NewConnect are associated with positive abnormal returns. Average abnormal return from the an-



nouncement day equals 0,6%, but it is not statistically significant. On the next day the value increases to a statistically significant 1,7%. The findings are in line with Gurgul and Majdosz (2005) who confirmed that the shareholders of firms announcing share repurchases on the WSE earned a statistically significant abnormal return of 1,295% on the day following the announcement.

The CAAR movement around the announcement date is presented on the figure 1.

**Figure 1. Cumulative average abnormal returns for share repurchases over 41-day period surrounding the announcement**



Source: own adjustment

The plots starts 20 trading days before each instrument initial share repurchases announcement and continue 20 days after. It should be noticed that the announcements of share repurchases are preceded by a significant decrease in share prices. Similar results were observed on the Warsaw Stock Exchange in the prior research, by i.a. Będowska-Sójka (2003) and Gryglewicz (2004). Researchers from developed countries also noticed the positive abnormal returns shortly before the share repurchase announcement (i.a. Vermaelen, 1981; Comment and Jarrell, 1991; Hackethal and Zdantchouk, 2006).

The 41-day CAAR presented on the figure 1 shows that share prices began to rise 3 days before the share repurchase announcement date. The reasons of why positive abnormal returns can already be observed shortly before the event day could be related, as argue Będowska-Sójka (2003), to the existence of insider trading. Hackethal and Zdantchouk (2006) propose two explanations for pre-announcement abnormal returns. One is similar to the one above mentioned - firm insiders traded use their private information regarding the share repurchase announcement. Secondly, Hackethal and Zdantchouk argue that researchers may have missed some bits of public information that had been dissipated to the markets.

To clarify the nature of announcement returns, we present the data for the cumulative average abnormal returns surrounding share repurchase announcements in 3-, 5- and

11-day windows centered on the announcement day (announcement day = 0). The results are reported in table 4.

**Table 4. Cumulative average abnormal returns around announcement day**

|             | CAAR(-1;1) | CAAR(-2;2) | CAAR(-5;5) |
|-------------|------------|------------|------------|
| CAAR value  | 3,18%**    | 5,08%***   | 6,0%***    |
| t-statistic | 2,524      | 2,982      | t=2,719    |
| (p value)   | (0,0141)   | (0,0041)   | (0,0084)   |

Significant at \*\*  $p < 0,05$ , \*\*\*  $p < 0,01$

Source: own adjustment

The results of the study confirm that cumulative average abnormal returns around the share repurchase announcements are significant at standard level of confidence in all time windows. In the 3-day window the CAAR equals 3,18%. Widening the event window, the cumulative average abnormal returns increase and reach the statistically significant level of 6,0% in the 11-day window.

These findings are consistent with Gryglewicz (2004) who confirmed following results CAAR(-1;1)=2,11%, CAAR(-2;2)=4,88%, CAAR(-5;+5)=4,65%. These results are relatively high when compared to other studies conducted for more developed countries – Ikenberry et. al. (1995) who confirmed 3,54% abnormal returns in the 5-day window around stock repurchase announcements for the U.S. market. Rau and Vermaelen (2002) show only 1,1% cumulative average abnormal return in the 5-day window for the U.K.

On the other hand, the result of our study for a short period CAAR(-1;1)=3,18% is much lower than the results for German capital market: CAAR(-1;1)=5,9% presented by Seifert and Stehle (2003) or 11,6% confirmed by Hackethal and Zdantchouk (2006). Seifert and Stehle (2003) and Hackethal and Zdantchouk (2006) observed that abnormal returns around market repurchase announcements are much higher in Germany than in other countries.

## Conclusions

This paper examines how the capital market response to repurchase announcements. The analysis uses a sample of repurchase announcements which were released on the alternative trading system of the Warsaw Stock Exchange – NewConnect over the period 2004–2016. Using daily data from NC Stock Exchange we calculate daily abnormal returns for 64 share repurchase announcements for the 41-day event window.

We observe positive, but statistically insignificant average abnormal return on the day of the share repurchase announcement. We confirm that the shareholders of firms announcing share repurchases earned a statistically significant abnormal return of 1,71%

on the day following the announcement. Our finding is consistent with previous results (i.a. Gurgul and Majdosz, 2005) for the Warsaw Stock Exchange.

The results of the study confirm that the cumulative average abnormal returns around the share repurchase announcements are positive and statistically significant at standard level of confidence in all time windows. The result for a short event window CAAR(-1;1) equals 3,18%. Widening the event window, the cumulative average abnormal returns increase and reach the statistically significant level of 6,0% in the 11-day window. These results are consistent with prior findings for the Warsaw Stock Exchange.

The effects for a short event window are in line with those documented for the U.S. market, relatively high when compared to the studies conducted on the U.K. market and relatively low when compared to the German studies.

We also observed positive abnormal returns shortly before the share repurchase announcement. This observation is also in line with the prior results for WSE and with the results documented for other more developed countries. To answer the question whether this result is caused by the insider trading or by the researchers who could have missed some bits of public information that had been dissipated to the markets we should conduct another research.

Concluding, empirical findings suggest that NewConnect market reaction on share repurchases do not differ from those observed on the other markets.

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