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Roman Asyngier

Maria Curie-Skłodowska University in Lublin

e-mail: roman.asyngier@poczta.umcs.lublin.pl

THE EFFECT OF REVERSE STOCK SPLIT ON THE WARSAW STOCK EXCHANGE

Summary: The aim of the article was to conduct literature studies on the effect of reverse stock split (RSS) as well as to carry out research on the influence of reverse split operation on prices and volume of shares turnover quoted on the WSE. Research methodology concentrated on relative force of quoted shares towards index of a wide market. Performed analyses showed occurrence of a negative influence of reverse stock split on share quotations before and after operation, particularly strong in first several days after RSS. The article is the continuation of studies on the effect of reverse split and is a part of wider research on functioning of the Polish capital market.

Keywords: Warsaw Stock Exchange, capital market, reverse stock split, abnormal returns.

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1. Introduction

The problem of penny stocks has been growing on the Polish stock exchange for years. Consent of market organizer and supervision authority to making by issuers profound stock splits and enormous issues of cheap shares could not be left without any consequences. Lack of reaction and withholding of the Warsaw Stock Exchange (WSE) board with introduction of proper regulations has only intensified the problem of junk shares. In 2013 penny stock made 18% of all quoted shares¹ and the problem could not be ignored any more. Introduced very strict regulations extorted the whole avalanche of reverse stock splits (RSS).

The goal of the article was to conduct literature studies on the effect of reverse stock split as well as to carry out research on the influence of RSS operation on prices and volume of turnover of shares quoted on WSE. Research methodology concentrated on relative force of quoted shares towards index of a wide market.

¹ Own calculations based on results of trading session from 30 December 2013.

Performed analyses showed occurrence of a negative influence of RSS on share quotations before and after operation, particularly strong in first several days after RSS. The article is continuation of studies on the effect of reverse stock split and is a part of wider research on functioning of the Polish capital market.

2. Reverse stock split motives

On the Polish market and stock markets where criterion of minimal share prices was determined the most important motive of conducting reverse stock split operations is defence against restrictions imposed by market makers to issuers. Reverse split in this case is necessity resulting from rules regulating share turnover on stocks. On the basis of these rules, penny stocks can be eliminated from index calculations, moved to quotations little attractive for investors, temporarily suspended in turnover or even removed from the market.²

Moreover, authors of studies on reverse stock splits indicate a few other determinants of making decisions about reverse splits (see: [Peterson, Peterson 1992; Bacon, Salandro, Shin 1993; Marchman 2007]). One of more crucial determinants is marketing effect – improvement of issuer’s image by getting rid of the opinion of “junk company.” Reverse split can reduce transaction costs of shareholders [Radcliff, Gillespie 1979]. It is not only about height of paid commissions on transactions but significant decrease of price spreads. Significant on developed markets is an opportunity of determining securing deposits on shares. Regulations repeatedly eliminate penny stocks from such an opportunity [Han 1995].

Crucial seems to be also liquidity aspect which can positively affect issuer in a few areas. Increase of issuer’s share liquidity can change perception of a company and encourage individual and institutional investors to purchase shares. Growth of interest in shares significantly increases chances for capitalizing company due to a new issue of shares. Return of price to an optimal price range can be important in this aspect, i.e. certain mean market value of share (see: [Conroy, Harris 1999; He, Wang 2011]). Very cheap and very expensive shares are of smaller interest for individual investors. Improvement of liquidity might provide in the future qualification of shares to prestigious market indices. The studies have shown that in fact RSS has influence on a significant increase of volume and additionally there are definitely fewer periods without transactions [Han 1995].

² More on the subject of regulations binding on stock markets see in section 3 of this article.

3. Studies of the influence of reverse stock splits on share quotations

Reverse stock split is a purely technical operation which does not bring a company or shareholders any extra profit. Thus theoretically their influence on share quotations of companies conducting those operations should be indifferent. However, straight majority of scientific studies analysing the influence of reverse split on share quotations have found a negative “effect of RSS.”

Occurrence of negative surplus returns on the American market was revealed in early studies on the issue by Radcliffe and Gillespie [1979], Woolridge and Chambers [1983] as well as Grinblatt, Masulis and Titman [1984]. It was confirmed later by Han [1995] indicating negative returns before and on a day of reverse split and an increased volume after RSS.

Ohlson and Penman [1985] found an increased variability of share prices after the date of reverse stock split. Lamoureux and Poon [1987] revealed a constant variability of quotations measured by beta coefficient and thus confirmed negative abnormal returns. Whereas Koski [2007] on the basis of his studies found a decreased variability of quotations after reverse split with narrowed spreads. However, that dependence did not concern companies of price lower than 2 USD.

Martell and Webb [2008] emphasized other important aspects of reverse splits while analyzing NASDAQ market. They stated that it is better to conduct RSS with a weak market than with good market conditions. Many studies concerned the problem of negative perception of reverse split operation by the market (e.g. [Leland, Pyle 1977; Brennan, Hughes 1991; Conroy, Harris 1999; Ikenberry, Rankine, Stice 1996]). Other studies also revealed an aspect of reduced transaction costs on the American market after reverse stock split [Peterson, Peterson 1992; West, Brouillette 1970].

Apart from the American market, there are few studies on the effect of RSS in the world. Their results are not as explicit as in case of studies conducted on the American market. A negative effect of reverse split for companies conducting reverse splits on the stock exchange in Hong Kong was found by Jing [2003]. The studies revealed negative surplus returns around the date of announcement and after reverse split. Similar conclusions for stock market in Sweden were drawn by Burnie, De Ridder and Råsbrant [2009]. In contrast with most worldwide research, Masse, Hanrahan and Kushner [1997] mostly showed positive abnormal returns for the Canadian market before and after reverse split. Whereas Indonesian researchers found a negative impact of reverse split on liquidity of shares [Fransiska, Purwaningsih 2011]. Despite laborious searches the author has not found any studies, except his own [Asyngier 2013], on the influence of RSS operation on share quotations on the Polish stock market.

4. The Warsaw Stock Exchange regulations concerning penny stocks

In March 2008 after noticing the problem of penny stocks the WSE created Alert List – a market segment for bankrupt companies, with low market capitalization, little liquid and with large variability of share price. The result of signing up of issuer's shares for Alert List was transferring shares to single-price quotations system, their exclusion from portfolio of share indices and special marking of issuer in stock news bulletin.³

Items 4 and 5 of Resolution no. 167/2008 of Stock Exchange Board [Uchwała Nr 167/2008] referred to penny shares in details. It was determined that due to a reason of high variability of share quotations, shares of those companies can be subject to classification which mean price during a month just before qualifying of company shares to Alert List was equal to or 50 groszy⁴ lower than that. However, this criterion could not be used if during a period preceding formation of share price on a level lower than 50 groszy there was decrease in the nominal share value.

This regulation corresponds with a very popular in 2006–2007 practice of profound reverse splits to which Stock Exchange did not oppose in any case. It is necessary to state clearly that the problem of penny stocks which occurred then resulted not only from falling trend on worldwide stock exchanges but also from leniency of Stock Exchange towards companies conducting reverse splits. It is worth mentioning that on the day when regulations were announced, among 350 quoted companies only seven had price lower than 50 groszy.⁵ However, nearly a year later, on the bottom of stock market fall and with not much higher number of quoted issuers there were 52 of such shares.⁶ Stock exchange noticed its mistake then and by resolution no. 200/2009 determined that companies which made reverse split leading to reduction of price below 50 groszy and big quotation fluctuations would enter the Alert List immediately. To the list of risky entities the WSE added also issuers whose share price was over 50 groszy but whose price changes were so big that the interest of stock exchange turnover was in favour of it. A regulation saying about exclusion of shares of issuers who will not present and realize a repair program has turned out to be an empty threat.⁷

³ Regulation on removing shares from the list of securities which can be the subject of short selling was added later as well.

⁴ Grosz is 1/100 of zloty.

⁵ Own calculations based on the results of trading session from 5 March 2008.

⁶ Own calculations based on the results of trading session from 17 February 2009.

⁷ What is more, the regulation on classification of segmentation of companies with price lower than 50 groszy was not fully obeyed. On the basis of Stock Exchange Board actions in this matter one can assume that price floor was decreased to 5 groszy.

Only in December 2013 the Stock Exchange firmly started to deal with the problem of penny stocks. At present the Alert List is dedicated solely to penny stocks. Starting from March 2014, all shares with unit market value lower than 50 groszy have been classified to the segment, regardless of the level of price variability. From December 2014 the classification threshold will be increased to 1 PLN. Issuer whose shares will be classified to the segment twice in a row will be obliged to prepare actions and schedule of the repair program accomplishment. If the situation repeats six times in a row, turnover of issuer's shares can be suspended for a period up to three months. After that period the Stock Exchange Board will be able to exclude shares of penny stock from public trading [Uchwała Nr 1387/2013]. All consequences of classification of issuer's shares to the Alert List have been left unchanged. During the first classification to the segment, i.e. in March 2014, shares of 30 issuers entered the Alert List [Komunikat Zarządu GPW z 27 marca 2014]. In June 2014 shares of 28 issuers were qualified, including shares of 20 issuers for the second time in a row [Komunikat Zarządu GPW z 26 czerwca 2014].

The problem of penny stocks does not concern only regulated market of Warsaw Stock Exchange. On the NewConnect market that phenomenon is even more distinctive. It is enough to mention that by the end of June 2014 shares of 209 companies had unit price lower than 1 PLN (nearly half of quoted shares) and as many as 60 had a price not exceeding 10 groszy.⁸ Also on that market in 2013 WSE introduced a new market segmentation creating segments risky for investors – Super High Liquidity Risk and High Liquidity Risk.⁹

Regulations applying to penny stocks are nothing unusual on stock markets and are valid even on the biggest world markets. A criterion of minimal market share prices is determined at NYSE Euronext. If within next 30 trading session days share price forms below 1 USD, issuer will receive a suitable notification and will be called to undertake proper steps. Issuer has to announce the fact of receiving notification within the period of 4 days. Within 10 days (30 days for companies beyond the USA) issuer must provide information about undertaken plans allowing for fulfilling the criterion of minimal share price. If within next six months the price does not rise over 1 USD, the shares will be excluded from the turnover.¹⁰

⁸ Own calculations based on results of trading session from 30 June 2014, http://www.newconnect.pl/index.php?page=statystyki_dzienne&year=2014&month=06&day=-1 (retrieved: 21.08.2014).

⁹ Detailed rules of classification to the above mentioned market segments are available on NewConnect website, http://www.newconnect.pl/index.php?page=segmenty_rynku_newconnect (retrieved: 28.08.2013).

¹⁰ <http://nyserules.nyse.com/nyse/rules/> (retrieved: 28.08.2013).

Similar regulations concerning quotations of penny shares are valid for instance on the electronic stock exchange NASDAQ and AMEX.¹¹

5. Reverse stock split operations on the WSE

Companies quoted on the WSE carried out first RSS operations in 2009.¹² These were the companies: FON and PC Guard. Both operations, proceeding in a different way, were preceded with consultations with National Depository for Securities (NDS), Warsaw Stock Exchange and law offices. These consultations were necessary to solve the problem of so called “reverse split residues”¹³ in a legally acceptable way. FON accepted a solution in which shareholder for “residues” received one new share. In that case deficits were covered by main shareholder who waived his rights free of charge for shareholders,¹⁴ whereas PC Guard bought out “residues” from shareholders to amortize at a price determined by AGM of the company. Later reverse splits were made on the basis of experiences of those two issuers.

To make reverse splits possible in companies, annual general meeting must take appropriate resolutions, sometimes even changing issuer’s statute. Sometimes additional actions allowing for conducting the operation¹⁵ are necessary. After registration of changes in the National Court Register (NCR) documentation gets to NDS and WSE which make decisions about setting reference day and exchange date. For the time of conducting reverse split quotations on the market are suspended.

By the end of July 2014 34 listed companies carried out the process of reverse splits including three of them (Elkop, FON, Rubicon) which did it twice (Table 1).

As many as 25 reverse splits were accomplished in 2014, which should be explicitly bound with the resolution of the WSE Board from December 2013.¹⁶ Only Unicredit and Serinus had share price before reverse split on a level higher than 1 PLN and only in case of these issuers reverse split was not imposed by

¹¹ See http://nysemanual.nyse.com/lcm/Help/mapContent.asp?sec=lcm-sections&title=sx-ruling-nyse-policymanual_802.01&id=chp_1_9_2_1; <http://www.sec.gov/rules/sro/nyseamex.shtml> and <http://www.sec.gov/rules/sro/nasdaq/2013/34-70269.pdf> (retrieved: 28.08.2013).

¹² The first public company which conducted reverse split was Centrozap (currently Ideon). Issuer made reverse split in August 2008 in ratio of 10 : 1, before return of shares to Stock Exchange quotations.

¹³ “Reverse split residues” will not arise when all shareholders have an amount of shares exactly corresponding to the ratio of exchange or its multiple. It is practically impossible in case of issuers whose shares are in public turnover.

¹⁴ “Residues” can also be covered by an institution acting on the basis of contract with issuer.

¹⁵ For example, Bioton had to carry out additional issue of shares in the amount of 3688 items only to make a total number of shares divisible by a ratio of exchange: See: <http://www.parkiet.com/artykul/7,1345626-Bioton--scalenie-ma-zakonczyc-sie-w-grudniu.html> (retrieved: 28.08.2013).

¹⁶ More on this subject in the previous section of the article.

Table 1. Reverse split operations on the WSE

Company	Date of quotation before RSS	Closing price before RSS	Ratio of RSS	Date of quotation after RSS	Closing price on a day after RSS	Number of days of quotation suspension	Change of price on a day after RSS (in %)
FON	15.05.2009	0.01	1–50	03.06.2009	0.68	18	36.00
PC GUARD	23.10.2009	0.02	1–100	12.11.2009	2.31	19	15.50
ORZEL	07.01.2010	0.07	1–34	26.01.2010	2.47	18	3.78
ELKOP	26.03.2010	0.02	1–50	16.04.2010	0.66	20	–34.00
SANWIL	23.04.2010	0.04	1–20	14.05.2010	0.76	20	–5.00
MEWA	16.08.2010	0.01	1–106	02.09.2010	0.66	16	–37.74
WIKANA	12.10.2011	0.08	1–10	31.10.2011	0.72	18	–10.00
UNICREDIT	20.12.2011	3.28	1–10	02.01.2012	30.00	12	–8.54
HERKULES	31.08.2012	0.25	1–5	19.09.2012	1.15	18	–8.00
EFH	25.01.2013	0.17	1–10	18.02.2013	1.20	23	–29.41
SERINUS (KOV)	14.06.2013	1.16	1–10	04.07.2013	10.22	19	–11.90
RUBICON	31.10.2013	0.10	1–6	29.11.2013	0.52	28	–13.33
BIOTON	20.12.2013	0.02	1–100	14.01.2014	2.06	24	3.00
POLCOLORIT	27.01.2014	0.12	1–10	13.02.2014	1.66	16	38.33
ATLANTIS	14.02.2014	0.14	1–10	06.03.2014	1.42	19	1.43
CALATRAVA	21.02.2014	0.02	1–100	12.03.2014	2.27	18	13.50
KBDOM	25.02.2014	0.05	1–100	14.03.2014	4.84	16	–3.20
ELKOP	27.02.2014	0.19	1–7	18.03.2014	1.21	18	–9.02
WINVEST	28.02.2014	0.12	1–80	17.03.2014	8.20	17	–14.58
WDM	28.02.2014	0.24	1–8	19.03.2014	1.80	18	–6.25
IFCAPITAL	28.02.2014	0.26	1–6	19.03.2014	1.34	18	–14.10
BBIDEV	10.03.2014	0.35	1–5	27.03.2014	1.70	16	–2.86
FON	10.03.2014	0.10	1–16	27.03.2014	1.49	16	–6.88
BORYSZEW	14.03.2014	0.47	1–10	02.04.2014	5.20	18	10.64
RUBICON	21.03.2014	0.37	1–10	22.04.2014	3.71	31	0.27
INVISTA	25.03.2014	0.35	1–6	11.04.2014	2.10	16	0.00
06MAGNA	28.03.2014	0.21	1–10	14.04.2014	1.94	14	–7.62
PPG	02.04.2014	0.14	1–50	17.04.2014	7.73	14	10.43
IDMSA	16.04.2014	0.06	1–12	08.05.2014	0.42	21	–41.67
IMPERA	22.04.2014	0.39	1–6	12.05.2014	2.00	19	–14.53
PRÓCHNIK	06.05.2014	0.29	1–9	23.05.2014	2.61	16	0.00
MIRACULUM	16.05.2014	0.09	1–50	04.06.2014	4.50	18	0.00
ZREMB	19.05.2014	0.38	1–5	05.06.2014	1.85	16	–2.63
CHEMOS	23.05.2014	0.18	1–8	11.06.2014	1.50	18	4.17
MSX Resources	04.06.2014	0.12	1–25	24.06.2014	3.00	19	0.00
DUDA	16.06.2014	0.77	1–10	04.07.2014	7.33	17	–4.81
ERG	11.07.2014	0.37	1–50	30.07.2014	16.36	18	–11.57
Mean		0.30	1–30		3.77	18.38	–4.34

Source: own study.

regulations binding on the Polish stock exchange.¹⁷ In other cases the determinant of conducting the reverse split operation were implemented regulations concerning penny stocks and later consequences which may affect their issuers. Mean exchange ratio was approximately 30-1. Four issuers decided to exchange 100 and Mewa even 106 shares for one new. Mostly, the process of reverse split and necessary time of suspension of quotations did not exceed three weeks. However, in two cases, both applying to Rubicon, the period of quotation suspension was at least four weeks. On the first quotation day after share exchange, price decrease was recorded in 60% of the studied cases, which meant that change of quotations on that day was -4.34%.

6. Methodology and researched group

Shares of companies quoted on regulated market of the WSE, which made reverse stock splits until 31 July, 2014, were included in the research. The analysis covered 250 trading sessions, i.e. 125 before and 125 sessions after RSS, which corresponds to approximately six months before and six months after that operation. Since the most reverse splits took place in 2014 it was assumed that the influence of those operations on the share prices would be analysed before RSS only. In the analyses of the impact of reverse stock split on prices after that event were taken into account only those operations which started in 2013. Including Bioton, which finished reverse split in January 2014, there were 13 of such events. However, due to the necessity of excluding the companies Unicredit and Rubicon¹⁸ from the analyses, the research group in that range was limited to 11 issuers.

Moreover, the force of relative share towards general index of the WIG market condition it was taken into account in order to eliminate the influence of general market condition on share quotations of analysed companies. Because most analysed securities are penny shares whose prices change accidentally many times, a

¹⁷ In case of Unicredit reverse split was determined by price not exceeding 1 EUR on the Italian market. The operation was possible after registration of reverse split resolution on common and preferred stocks of UniCredit in the Italian trade register. In case of Serinus (former KOV) the operation was crowned with the procedure of taking over a Canadian company Winstar Resources – new entity changed the name into Serinus Energy, with shares quoted on stocks in Toronto and Warsaw.

¹⁸ A week after reverse split Unicredit set the day of rights issue which corrected share price by over 40%. Thus, studying share price of this company after reverse split became groundless. Rubicon made reverse split twice in less than five months. Undertaking studies of share price behaviour after first reverse split and before second reverse split would be aimless since both research periods will overlap with each other. So in the studies the behaviour of share quotation of Rubicon only before the first reverse split operation was taken into account.

universally applied method based on cumulated abnormal returns (CAR) turned out to be useless for the research.¹⁹

The research methodology was based on a constructed price index covering only share quotations of companies conducting the RSS operation. The index was calculated as the arithmetic mean of index sum of relative force of particular shares, i.e. quotients of prices from a given period P_t to value of the index WIG on that day.²⁰ It is presented by the following formula:

$$IC_t = \frac{\sum_{n=1}^N \frac{P_{n,t}}{WIG_t}}{N},$$

where: IC_t – price index of group on day t ,
 N – number of companies included in index,
 n – number of next company included in index,
 $P_{n,t}$ – price of n th company on day t ,
 WIG_t – value of the WIG index on day t ,
 t – next trading sessions, while t_0 means last quotation session before quotation suspension with regard to reverse split.

Quotations of selected stocks were reduced to one time point, assuming that day t_0 means the last day of quotations before RSS. The price index of each company was given on that day the value of 100 points, which means that the value of the price index for the whole research group on that day was also 100 points. The whole studies are based on the assumption that shares of all companies have an identical part in the price index of the research group and the change of the share price of each company, including changes of WIG index, identically affects the change of the price index. The price index of the group is the arithmetic mean of share price indices, not weighed by the height of turnovers and capitalization.

7. Influence of reverse stock split on share prices on the WSE

The conducted analyses show that within the period of six months before reverse stock split the average price of analysed companies illustrated by price index was in a clear falling trend (Figure 1). The average decrease of price index of relative force of the whole researched group was almost 20%. However, it should be noticed that the

¹⁹ The analyzes carried out with the CAR method showed inaccurate results due to the nature of Polish penny stocks (very low price, in many cases even less than 10 groszy) and a minimum tick size price of shares quoted on the WSE (1 grosz). For example, the increase of the price from 1 to 2 groszy (+ 100%), followed by a decrease to the base value (–50%), the CAR method gave a false positive abnormal return of 50%. In fact, the change was 0%.

²⁰ Research methodology modelled on the studies by Bałtowski and Kwit [2002]. The methodology was significantly changed and simplified in comparison with original version.

force of falling trend was significantly different in researched groups. Shares of issuers who conducted RSS in the years 2008–2013 (G2008-2013) were under bigger pressure of supply. In that research group the mean decrease of price index was under 40%. In that case the decreasing trend was clear during the whole analysed period. In case of issuers making reverse splits in 2014 (G2014) meant decrease of price including changes of WIG index was only 5.4%. What is more, the trend should be defined as sideways with limited fluctuations. A clearer decreasing trend was visible only in the last three months when shares lost in value on average about 10%.

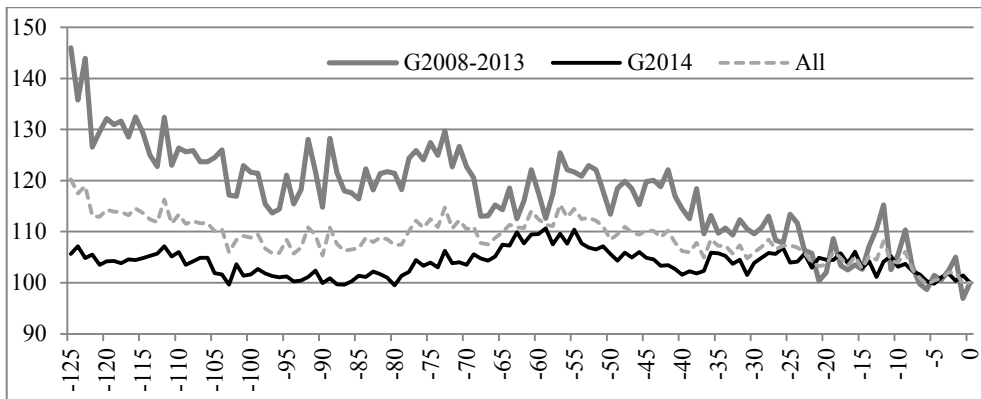


Figure 1. Average share price before reverse stock split

Source: own study.

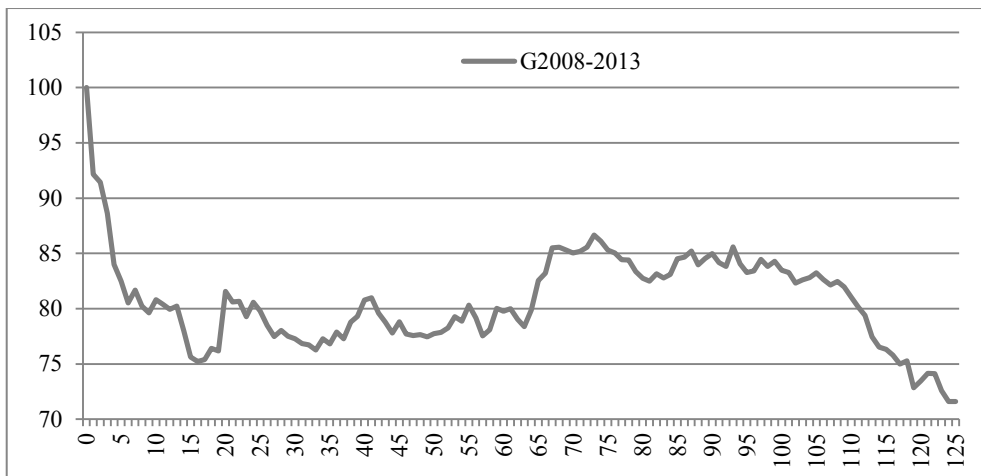


Figure 2. Average share price after reverse stock split

Source: own study.

Very clear trends can be observed in the analysed research group of 11 issuers after RSS (Figure 2). Within six months after RSS in most cases prices, including WIG index, kept on decreasing trends, falling on average by 28.4%. Shares of five issuers (Orzeł, Elkop, Sanwil, Wikana, EFH) in the studied period quoted serious falls – from 37% (Wikana) to even 84% (Orzeł). Slight decreases occurred on shares of Serinus and Herkules. In three cases (FON, PC Guard, Sanwil) increases of the order of 13–24% were quoted. The absolute leader was Bioton, which price increased by 160%.

The index of relative force of companies shows that the biggest decrease occurred within first 16 days after RSS, when decrease average was nearly 25%. Definitely the biggest dynamics of decrease occurred within first six days after RSS when the fall was almost 20%, on average. The second period of clear quotation weakness of studied share prices took place after four months since reverse split. On the basis of a limited research sample that decrease cannot be explicitly bound with the reverse split operations.²¹ Stable but weak increasing trend lasting between periods of the described decreases has the character of typical technical correction of strong falls of quotations following reverse split.

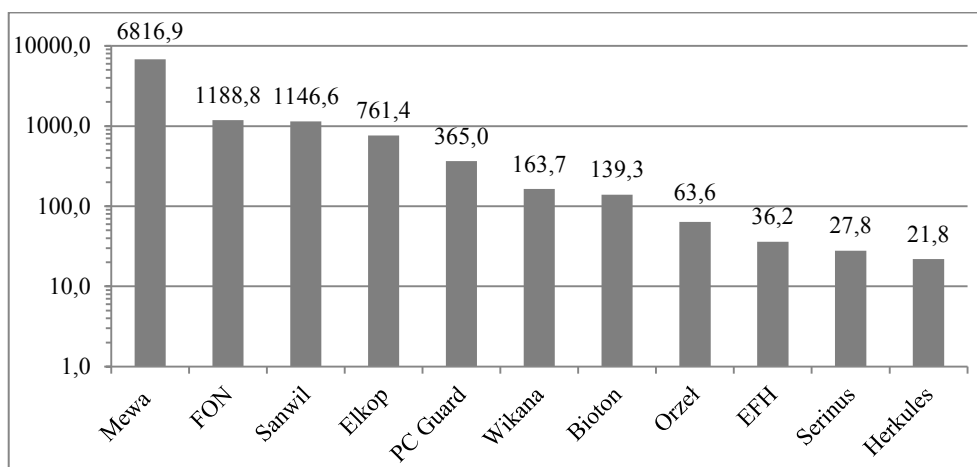


Figure 3. Average change of volume of trade after reverse stock split (in %)

Source: own study.

²¹ Especially that the company driving the fall was Orzeł which was already in the state of bankruptcy at that time. Before a year passed after reverse split the company was excluded from quotations on WSE.

The results of change analysis of turnover of shares after reverse stock split explicitly indicate a positive influence of RSS on share liquidity (Figure 3).²² In case of all the analysed stocks there was a clear increase of the average share turnover within six months after RSS in comparison with the same period before the event. Among 11 companies, even in seven cases the increase of volume was at least twofold. In case of three issuers the increase of volume after reverse split was over tenfold bigger.

On the basis of the research sample consisting of 11 companies there is no way to answer the question whether reverse split decreases a number of days without transaction. Among the analysed companies only in three cases within the period of six months before and after reverse split days without turnover occurred. The company Mewa quoted even seven days without trade before reverse split while after reverse split such days were not recorded. Two companies (Wikana and EFH) had only days without trade after reverse split, respectively one and two days.

8. Conclusions

The conducted analyses indicate the occurrence of a negative effect before the reverse stock split operation. In the whole researched group the effect was particularly evident in the last three months before RSS. Relative force of share quotations towards the wide market index is bigger though in the group of companies which made reverse split in 2014. It is hard to explicitly show the reason for such a state of affairs. The financial condition of issuers of last reverse splits – better than that of issuers making operations of RSS in the previous years, and their capitalization could have impact on that. It is possible though that along with the passing time and a bigger and bigger number of reverse splits, investors react to those operations less pessimistically. It is possible that the power of supply during next reverse splits will be also limited. However, studies thus far reveal a particularly strong negative effect occurring in first several days after RSS. It is an obvious tip for investors to avoid investments in shares of companies conducting reverse splits. Reverse stock split has a very beneficial effect on the volume of the turnover. In the all analyzed cases there was a clear increase of liquidity in share trading.

Studies on the influence of the reverse stock split operations on stock prices should be continued in the future. It is particularly important for confirmation of trends occurring after RSS. The limited research sample, on which the above mentioned analyses were made, can deform results and thus make drawing correct and explicit conclusions impossible. In the future research it is necessary to use advanced statistical

²² Detailed analyses of changes of volume of trade after reverse split operations will be the subject of the next publication.

tests and broaden the range of studies by the analysis of quotation variability and if need be the effect of announcement of conducting the RSS operation on stock quotations.

There are strong indications that the number of issuers conducting reverse stock split on the Warsaw Stock Exchange and thus a base for further research will increase soon. Taking into account the current size of the Alert List we can assume that about 30 issuers during several months will carry out the RSS operations. Nearly all of them declare willingness to conduct the operation of RSS in the nearest future, which will allow for avoiding exclusion of shares from quotations on regulated market.

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EFEKT RESPLITU NA GIEŁDZIE PAPIERÓW WARTOŚCIOWYCH W WARSZAWIE

Streszczenie: Celem artykułu było przeprowadzenie studiów literaturowych nad efektem scalenia akcji, a także nad wpływem operacji scalenia akcji na kursy oraz wolumen obrotu akcjami notowanymi na giełdzie warszawskiej. Metodologia badawcza koncentrowała się na sile relatywnej notowanych akcji w stosunku do indeksu szerokiego rynku. Dokonane analizy wykazały wstępowanie negatywnego wpływu resplitu na notowania akcji przed operacją i po niej, szczególnie silnego w pierwszych kilkunastu dniach po scaleniu. Artykuł jest kontynuacją badań nad efektem resplitu i stanowi część szeroko zakrojonych badań nad funkcjonowaniem polskiego rynku kapitałowego.

Keywords: Giełda Papierów Wartościowych w Warszawie, scalenie akcji, ponadprzeciętne stopy zwrotu, rynek kapitałowy.