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Financial Investment and Insurance – Global Trends and the Polish Market

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THE PROFITABILITY OF ACQUIRING COMPANIES LISTED ON THE WARSAW STOCK EXCHANGE

Summary: The aim of the research presented in this article is to assess the impact of acquisitions on the profitability of the acquiring companies. The study was conducted on a sample of 439 companies listed on the Warsaw Stock Exchange. To ensure comparability of data, only companies that are not financial institutions or funds were analysed. The test sample included companies that made acquisitions in the period 2006–2011. The comparative sample was made up of companies with no takeover history. The study analysed the profitability of companies by analysing indicators such as return on equity, return on assets and the price-earnings ratio showing the prospective profitability of the companies. The analysis included the absolute values of profitability, and the relative changes in profitability in the three years following the acquisition. According to the results of the non-parametric Mann Whitney *U* test, there is no statistical evidence that median (average) profitability ratios are different in group of acquirers and group of non-acquires. The analyses based only on the descriptive statistics, i.e. ROE, ROA, P/E, and MV/BV means and medians, show that the synergy theory is not confirmed for the Polish capital market. The considerably lower financial results of the acquiring companies observed in the study tend to support the conclusion on the veracity of the theories of the hubris hypothesis and managerial overconfidence. This may mean that the acquisitions made by listed companies do not lead to increased value for their shareholders.

Keywords: mergers & acquisitions, capital market, Warsaw Stock Exchange, profitability, return on equity, return on assets, price-earnings ratio, market to book value.

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1. Introduction – mergers and acquisition scale

In recent years the numbers and values of merger and acquisition (M&A) transactions have been rising. The significance of M&A to the economies of individual enterprises, national markets and the world economy is also growing. New entities with superior bargaining power are being established. The consolidation processes are being conducted through merger waves [Steger, Kummer 2007]. The causes of this transformation, the escalation of the merger processes during certain periods, and the specifics of these processes within certain periods are produced by macroeconomic events [Mitchell, Mulherin 1996; Andrade, Mitchell, Stafford 2001; Andrade, Stafford 2004].

During the 1960s there was a wave of conglomerate mergers which merged entities carrying out unrelated activities. The next wave came in the 1980s, and saw the financing of transactions hold a significant share of debt. The 1990s merger wave saw particular activity from internet companies. After the crash of the acquisition market in 2001, the following years saw enterprises assume industry consolidation up until the start of the financial crisis in 2007. That period saw a drop in transaction numbers and values. The years 2010–2013 were accompanied by a great diversity of mergers. Today, these processes are difficult to assess in a uniform manner.

The aim of the research presented in this article is to assess the impact of acquisitions on the profitability of Polish companies listed on the Warsaw Stock Exchange. Profitability is closely linked to value creation for all stakeholders and especially to value creation for shareholders.

Periodical rises and falls in the numbers and values of merger and acquisition transactions are observed on the Polish capital market. They coincide with changes occurring in developed markets. The extensive, global comparative research done by Grant Thornton [2010, 2011] shows that Polish entrepreneurs attach great importance to the realisation of the growth of their companies through acquisitions, i.e. through external growth. They want to realize it in series, in form of programmes. As of 2009, they are the clear leaders in this field. 59% of Polish entrepreneurs in the sample group are planning to expand their companies through mergers and acquisitions, which is a much higher number than in the USA (41%), Great Britain (36%), European Union (29% on average), globally (34% on average), or in Germany (11%). The merger and acquisition processes involve companies that treat the realisation of successive acquisitions as an integral part of their growth strategies. This is also confirmed by the analysis of the companies listed on the Warsaw Stock Exchange.

2. Reasons for acquisition decisions

A decision on mergers and acquisition is an investment decision that usually requires considerable expenditure, changes the value of the entire company, changes the company's capital and assets structure, changes the cash flow available to interested parties, and establishes the new company's operating risk for the future. Consolidation is expected to entail a growth in the values of the merged entities. Neoclassical finance theory assumes that the companies will improve their results through mergers. There are three theories explaining the sources of the creation of additional value from mergers. They are the synergy theory, the market for corporate control theory, and the free cash flow theory.

According to the general synergy theory, mergers improve the effectiveness of the assets utilised in the new, larger entity. The synergy effect is produced by the application of the economics of scale and size effects, the utilisation of collective assets, knowledge and skills in various segments of the new, larger entity, and improvement of the company's market bargaining power.

According to the market for corporate control theory [Ruback, Jensen 1983], there is an opportunity for better utilisation of the acquired assets, which arises from control of the company by new and more effective management. The new managers have greater management skills and are more determined in the implementation of their objectives.

Jensen's free cash flow hypothesis [Jensen 1986] explains post-acquisition managerial behaviour. The use of debt to finance the purchase of other companies forces executives to take all measures to ensure the preservation of the company's ability to repay the debt. At the same time it reduces the opportunities for ineffective investments that could potentially reduce the assets of the company's owners.

According to each of these synergy theories, the actions taken by company executives should rationalise company operations and improve the financial results of the merged entities, which should consequently raise their value.

In the opinion of Shleifer and Vishny [2003] the neoclassical finance theory, which assumes the improvement of economic results following mergers, is not confirmed in empirical research. If there is no improvement in the results, the attempted explanation is based on the behavioural finance theory. Behavioural finance theory attempts to explain mergers and acquisitions in a different manner, suggesting an explanation based on the agency theory and the hubris hypothesis, and applying the "market timing" approach [Gajdka 2013].

Roll's hubris hypothesis [Roll 1986] assumes that the executives of the acquiring companies are deeply convinced of their ability to improve the future results of the companies and to achieve an exceptional synergy effect. They strive to improve company value, but the foundations of their calculations are unrealistic. In consequence this leads to excessive numbers of serial acquisitions [Doukas, Petmezas 2007]. In addition, the excessive numbers of acquisition lead to *managerial overconfidence* [Billet, Qian 2008].

According to the agency theory, the decisions on acquisitions made by company executives serve to realize their particular interests. The growth of the assets controlled by the company is usually associated with the growth of executive remuneration and the prestige of the management board. The empire building hypothesis results from the management board's deep desire to take action aimed at company growth, acquiring control of bigger assets, and the development of the company's assets at a level which ultimately turns out to be non-optimal. From the company's perspective, the decisions made by the managers are irrational, but at the same time they are rational from the perspective of the particular interests of some groups of managers.

According to the behavioural finance theory, mergers and acquisitions, along with valuations performed on the capital market, may be described in two ways, by adopting two different assumptions. The first assumes that the managers are irrational and the market is effective. The second assumes that rational managers are operating in an ineffective market [Baker, Ruback, Wurgler 2007]. The model by Shleifer and Vishny [2003] shows the market behaviour of executive staff when shares are periodically overestimated or underestimated. Managers use the shares of their own companies to purchase the acquired company. By taking advantage of the periodical market share price overestimations and underestimations, the managers act within reason, leading to the growth in the value of their companies. They do focus on the need to create the effects of operating and financial synergy which − according to the neoclassical finance theory − should appear in the entities undergoing the merger or acquisition process. Merger waves are dominated by share payments, as managers use the shares of an overestimated company to acquire the shares of an underestimated company, i.e. take control of the tangible assets through overestimated shares [Harford 2005].

3. Empirical research within the scope of operating effectiveness

Merger and acquisitions activity is an area of intensive empirical research which mainly concerns the effects of acquisitions on the share prices of the companies acquiring and being acquired on the public capital market. The next research area is the analysis of effects of acquisition on the company's financial condition, i.e. its operating results. This article focuses on the operational effectiveness of the acquisitions. The below research material is a sample from a considerably greater volume. The selection was made basing on how strongly given research is related with the profitability assessment of the acquiring companies. Profit achievement is of considerable importance to a company's growth potential.

Meeks [1977] conducted one of the earliest surveys of mergers' effectiveness on the British market. The survey covered 233 acquiring companies, which had conducted acquisitions between the years 1964 and 1972 and their results from 3 years before the acquisition to seven years after the acquisition. The survey compared the tested companies' results before and after the acquisition to those recorded by average companies within the same sector. There was a statistically significant drop (within 3–5 years) of the rate of return on asset, calculated as a relationship of net profit to net assets. The research shows that the acquisitions had a negative impact on company profitability.

In their classic study, Healy, Palepu, and Ruback [1992] examined the operating results of 50 large companies making acquisitions on the American market in the years 1979–1984. They observed statistically significant post-acquisition increases in cash flows, and proved that they resulted from the increased productiveness of assets utilised under the new conditions. Their clinical studies showed positive effects: that the analysed companies did not reduce expenditure on development and asset growth, and simultaneously did not show a clearance of long-term assets. It was confirmed that the analysed companies had a statistically significant asset productiveness improvement of 3%, calculated as a relationship of operating profit to assets market value. The companies covered by the research saw their operating cash flows grow considerably in comparison to other companies from the same sector. This serves as a foundation for projections predicting growth of company value. Additionally, the research shows that there is no relationship between the mode of financing and the post-acquisition operating results. The research by Healy, Palepu, and Ruback is considered to have studied an insufficient number of companies.

Dickerson, Gibson, and Tsakolotos [1997] conducted extensive research of the capital market in Great Britain. It covered a total of 2941 companies, including 613 acquiring companies that made 1443 transactions over the analysed period of 1948–1977. The purchasing companies recorded a 2.9% average annual drop in profitability. The research shows that the return on assets (ROA) of the acquiring companies was lower by 2.03 percentage points in comparison to non-acquiring companies. Mergers do not improve profitability. In the long-term it has a clearly negative effect on the profitability of the purchasing company. The research did not cover the nature of the mergers (vertical, horizontal, or conglomerate). The causes for the drop in profitability were also omitted.

Ghosh [2001] analysed the financial effects of 315 acquisition transactions completed on the American capital market in the years 1981–1995. In his opinion the acquirers achieved a similar ROA to that of other comparable entities. The research has not shown either that the operating effectiveness improved after the acquisition or that there was a statistically significant improvement in the relationship between operating profit and asset market value. In his opinion, the payment method affects the volume of the future operating cash flows, which grows in companies making the payment in cash, and drops in those making the payment with shares. He assumes that this results from the sales growth effect rather than cost reduction. Acquisition for cash entails improved asset management during the post-acquisition period. Payment with shares does not produce the intended synergy effect.

Heron and Lie [2002] surveyed 657 companies from the American market, which conducted a total of 859 acquisitions during the years 1985–1997. The analysis shows that the acquirers recorded better operating results than those of comparable companies from the same sector. The research has not shown attempts at pre-acquisition manipulation of the financial results. There were observations of considerable improvement in the operating effectiveness of the acquiring companies. The improvement of the operating results was higher when the companies with a high MV/BV indicator acquired companies with a low indicator for companies operating in the same sector. There was no confirmation of any impact of the payment form on the future profit of the acquirer.

Carline, Linn, and Yadav [2002] analysed British companies that carried out domestic mergers during the years 1985–1994. They examined the financial results for 3 to 5 years before the merger and for 3 to 5 years after the merger. They observed the relationship between the operating profit and its depreciation, and the total assets committed by the purchaser and the seller. According to the results of their research, within 5 years both contractual parties improved their effectiveness, measured by operating cash flows. These results are in line with the earlier research results by Healy, Palepu, and Ruback conducted on the American market. Furthermore, Carline, Linn, and Yadav determined that the improvement in the operating results is strongly associated with the payment method for shares, the nature of the acquisition, i.e. friendly or hostile, and the managing staff's share in the shareholding of the acquired companies.

Sharma and Ho [2002] analysed the effects of 36 acquisition transactions made during the years 1986–1991 on the Australian capital market. The acquiring companies were compared with companies from the same sector that were not involved in acquisitions. The results of their research showed that acquisitions do not lead to improvement in operating results. The evaluation of the companies and transactions applied numerous measures of operating activity, such as Return on Assets (ROA), Return on Equity (ROE), Profit Margin PM), Earnings per Share (EPS), and Operating Cash Flow (CFO). According to Sharma and Ho, the later operating effectiveness is not influenced by the type of the acquisition, the payment form, or the relationship between the sizes of the merged entities. They indicate that the acquiring companies do not improve their ROE, ROA, PM, and EPS in relation to comparable companies.

Gurgler, Mueller, Yurtoglu, and Zulehner [2003] conducted extensive research into acquisition transactions on the global market. The surveys covered almost 70 000 announced acquisition transactions, almost 45 000 of which were completed. The merged companies were compared with non-merged companies. On average, the merged companies recorded profit growth and a simultaneous sales drop. The specific results depended on company size.

Martynova, Oosting and Renneboog [2006] surveyed companies undertaking acquisitions within continental Europe, which totalled 155 transactions in the years 1997–2001. They recorded long-term operating effectiveness stemming from the acquisitions. In assessing the acquisition results four relative indicators were applied: EBITDA, and EBITDA volumes adjusted for changes in the net operating capital related to total assets and sales volumes. The results achieved by the surveyed companies were compared to those of similar companies, with consideration for the sector, size, and effectiveness in the pre-acquisition period. The operating effectiveness was not affected by the payment method, geographical location, earlier debt level, or any prior relationship between the merged entities. The research showed that the pre-merger results of each of the merged companies were higher than those of comparable entities, and dropped following the mergers. Subsequent periods showed a drop in effectiveness for hostile acquisitions completed through tender offers in the event of excessive monetary assets and if the acquisition concerned a relatively small business entity.

Amel-Zadeh [2008] analysed 50 largest transactions announced on the NYSE in the years 1998–2001. He applied effectiveness measures based on profit and cash flows. He observed a clear drop in operating results in relation to the sample group. These differences were greater for indicators based on profit than for indicators based on cash flows. In his opinion, the comparison is difficult due to numerous factors, such as depreciation, financial costs, diverse debt level, or changes to net working capital. Proper evaluation indicators should be adjusted for these items.

Bouwman, Fuller, and Nain [2009] surveyed 2944 transactions conducted between 1979 and 2002 by companies listed on the American stock exchanges (NYSE, NASDAQ, AMEX). These transactions had to satisfy restrictive premises, including those concerning their significant value, and a lack of prior relationship between the acquiring entity and the entity being acquired. The extensive study concerned the effects on the acquisitions made by the capital market and the evaluations of the operating effectiveness visible in financial reports. The operating effectiveness was established as the relationship between operating profit and average asset value. The scope of operating effectiveness covered the consequences of the acquisitions starting from the third post-transaction year. The complete operating effect of the merger was evaluated as the difference between the operating profitability of the purchaser and the operating effect of a comparable company. The comparable companies were selected from those within the same sector, with a similar size, and that had not been involved in acquisitions within the past three years. Considerable differences in effectiveness were noticed between the purchasers buying during a growth period and those buying during a declining period. The purchasers buying during declining periods presented greater operating effectiveness. The differences in effectiveness resulted from the various dates of the acquisitions. Certain transactions were too late. According to Bouwman, Fuller, and Nain, these results are in line with the investors' herd behaviour.

Yen, Chou, and André [2013] conducted research into mergers processed on emerging capital markets. They analysed the effects of 98 transactions made during the years 1998-2005 for company results between the years 1995–2009. The research analysed the effects of acquisitions on the operating effectiveness of the purchasing companies. The long-term effects were observed through the measurement of operating cash flows before fiscal recognition (OCFR) for three years before and three years after the transaction. The results were compared to similar companies within the same sector and of similar size and effectiveness. The research shows that average purchasers have good economic conditions considering operating effectiveness. There was slight improvement to operating effectiveness observed three years after the transaction. Individual countries presented considerable diversity in effectiveness changes. The quality of the legal system has an impact on the merger effectiveness.

Perepeczo [2009] carried out an analysis of the financial performance of 13 Polish companies listed on the Warsaw Stock Exchange making acquisitions in 1997–2003. According to the results of her research merged companies achieve worse financial results for the period after the merger compared with the period prior to the merger.

The aforementioned research is not uniform, which makes it difficult to compare the aforementioned results of the empirical research. This results from the following:

1) diverse treatment of the comparison group (companies not making acquisitions, companies not making acquisitions during the selected period),
2) geographic location (selected country, region, global range),
3) economic prosperity during the analysed period,
4) transaction scope (domestic, international),
5) nature of the capital market (developed, emerging),
6) time period of the research,
7) period of evaluation of the acquisition effects (short-term, long-term),
8) numbers of surveyed transactions in the group
9) numbers of surveyed companies in the group (30 companies, 40 000 companies),
10) numbers in the comparison group (transactions, companies),
11) deal value (certain transactions can be omitted),
12) application of diverse measures for the evaluation of the acquisition effects (fundamental indicators – accounting, market indicators, managers' subjective opinions),
13) potential for changing accounting policy [Custodio 2014],
14) method of standardisation of the effectiveness evaluation indicators,
15) adjustment of indicators (amortisation, non-cash flow items, extraordinary items, …),
16) corporate governance quality,
17) friendly or hostile nature of the acquisition (application of value destructive defensive strategies),
18) payment method (cash, equity),
19) transaction method – one or multiple competing purchasers.

The aforementioned factors can make it very difficult to compare the research conducted by the various different teams.

4. The author's research on acquirers listed on the Warsaw Stock Exchange

The survey of the effect of completed acquisitions on the profitability of the acquiring companies was conducted by analysing the financial results and share prices of companies listed on the Warsaw Stock Exchange. These companies were not financial institutions or funds in order to provide comparability of the data obtained from financial reports. The analysis covered a total of 439 companies, of which 256 were taken under consideration. These companies conducted a total of 1060 acquisitions. The selection of specific companies for the group of acquiring companies took into account the transactions made during the years 2004–2011. The research covered the effects of the acquisitions on the companies during the years 2006–2012. The control group was composed of companies that had not acquired any company.

In each year the sizes of the surveyed and control groups were different. The size of the surveyed group increased, which was as a result of the fact that the group of purchasers grew over subsequent years. Simultaneously, a certain group of companies was withdrawn from the public capital market and various successive companies entered the group of occasional acquirers. The survey evaluated the effects of the acquisitions on the financial results of the acquiring companies over four successive years (from year zero to year three). These results were compared with the group of companies that had not made a single acquisition.

From the acquirers point of view M&A processes are sophisticated investment ventures with a large initial capital expenditure and significant capital expenditure during the long-term integration process. Due to these facts the financial effects of M&A processes are analysed over 1–3 years or 1–4 years after the acquisitions. It is assumed that with a period longer than three years there are many other than M&A factors affecting the operating and financial results of analysed companies.

In accordance with the provisions, the survey aimed to provide answers to the following questions:

- Do acquisitions made by companies lead them to improve their financial results in the form of profitability, i.e. to the creation of the synergy effect?
- Are acquisitions made by companies appreciated by the capital market in the form of raising share prices?

The survey applied the following indicators based on the financial reports calculated at the end of each successive year and the listed company's share prices at the end of the same periods:

- return on equity (ROE) as the relationship of net profit to the book value of equity at the end of the year. This indicator constitutes the measure of property growth for the owner. Its value reflects the financial results of the company;
- return on assets (ROA) as the relationship of net profit to the book value of assets at the end of the year. This indicator constitutes the measure of property potential to create profit;
- Price/Earnings Ratio (PE) as the relationship of the share price to the profit made by one share. This indicator is the measure of the prospective profitability of the company. Its value reflects the evaluations of the company's financial results made by the capital market;

- MV/BV indicator as the relationship of the equity market value (company capitalisation) to the accounting value of the company. This indicator is the measure of the company's "intellectual" capital, the contribution of the company's management to its value growth. Its value reflects the evaluations of the company's assets made by the capital market.

These outlined profitability ratios can be used in analysis of companies from different sectors. Taking into account other measures, such as operating profitability ratios, could complicate the comparison of companies from different sectors.

The study attempts to check the truth of the synergy theory in regards to the Polish capital market. If this theory proves correct, it means that financial results of the acquiring companies improve as a result of successive acquisitions.

In the study the following hypotheses were tested:

H_0: The acquiring companies hold the same value for the **X** (ROE, ROA, PE, MV/BV) indicator as the companies not making acquisitions.

$H_{A1,2}$: The acquiring companies hold a higher (or lower) value for the **X** (ROE, PE, MV/BV) indicator than the companies not making acquisitions.

Rejection of hypothesis zero is associated with the acceptance of an alternative hypothesis in option 1 or 2. A greater indicator value is associated with the fact of the acquiring companies achieving better financial results than those in the group not making acquisitions (synergy theory). A lower indicator value is associated with the fact of the acquiring companies achieving worse financial results than those in the group not making acquisitions (confirmation of the hubris theory).

The study presents the following zero hypotheses:

Hypothesis 1: The acquiring companies hold the same return on equity (ROE) as the companies not making acquisitions.

Hypothesis 2: The acquiring companies hold the same return on assets (ROA) as the companies not making acquisitions.

Hypothesis 3: The acquiring companies hold the same prospective earnings (PE) as the companies not making acquisitions.

Hypothesis 4: The acquiring companies hold the same share of intellectual company capital (MV/BV) as the companies not making acquisitions.

Additional zero hypotheses (variant a), which refers to the speed of the resultant improvements (changes), are also presented:

Hypothesis 1a: The acquiring companies hold the same growth rate of return on equity (ROE) as the companies not making acquisitions (ΔROE/ROE).

Hypothesis 2a: The acquiring companies hold the same growth rate of return on assets (ROA) as the companies not making acquisitions (ΔROA/ROA).

Hypothesis 3a: The acquiring companies hold the same growth rate of the PE ratio as the companies not making acquisitions (ΔPE/PE).

Hypothesis 4a: The acquiring companies hold the same growth rate of MV/BV ratio as the companies not making acquisitions ((ΔMV/BV) / (MV/BV)).

Rejection of these hypotheses produces the conclusion that the relationships are different (according to alternative hypothesis) for the two groups of surveyed companies – acquiring and non-acquiring. The surveys applied tests for the establishment of the relevant average differences between the two groups. The main method was the *t*-Student test, and if its criteria could not be fulfilled, the *U* Mann-Whitney test was used. The level of significance was found to be 5%. The test considered the truth of the hypotheses for the end of each consecutive year between 2006 and 2012.

At the calculated level of significance of 5%, there were no reasons for the rejection of hypotheses zero with equal recorded relationships. At an adjusted significance level of 10% [Maddala 2006, p. 64], there were also no reasons for the rejection of hypotheses zero with equal recorded ratios.

The conducted study also calculated the descriptive statistics of the average arithmetic values and the medians in the group of surveyed companies conducting acquisitions, and in the control group of companies not making acquisitions. The average and median values are adequately presented in Tables 1–4.

Table 1. Return on Equity (ROE) for acquirers and non-acquiring firms in 2006–2012

Year of acquisition	Year of analysis – after acquisition			
1	2			
2006	0	1	2	3
Mean for group of acquires	10.3%	12.7%	3.0%	1.4%
Mean for group of non-acquiring firms	15.1%	12.3%	4.7%	3.8%
Median for group of acquires	10.6%	8.8%	4.0%	4.8%
Median for group of non-acquiring firms	12.5%	10.9%	6.2%	4.4%
2007	0	1	2	3
Mean for group of acquires	10.8%	2.3%	–0.4%	3.9%
Mean for group of non-acquiring firms	13.3%	5.6%	5.5%	7.8%
Median for group of acquires	8.4%	4.0%	3.4%	5.0%
Median for group of non-acquiring firms	11.5%	7.4%	5.2%	6.5%
2008	0	1	2	3
Mean for group of acquires	3.2%	0.8%	4.3%	3.9%
Mean for group of non-acquiring firms	5.5%	5.7%	8.2%	2.1%
Median for group of acquires	4.1%	4.0%	5.1%	5.6%
Median for group of non-acquiring firms	7.6%	5.0%	6.7%	6.6%
2009	0	1	2	3
Mean for group of acquires	1.7%	4.8%	4.2%	0.6%
Mean for group of non-acquiring firms	5.5%	8.3%	1.5%	0.6%

1	2			
Median for group of acquires	3.4%	5.1%	6.1%	3.1%
Median for group of non-acquiring firms	5.5%	7.0%	6.5%	4.5%
2010	0	1	2	3
Mean for group of acquires	6.0%	4.5%	0.6%	n/d
Mean for group of non-acquiring firms	7.0%	0.6%	0.5%	n/d
Median for group of acquires	5.7%	6.2%	3.4%	n/d
Median for group of non-acquiring firms	6.4%	6.5%	4.0%	n/d
2011	0	1	2	3
Mean for group of acquires	4.5%	1.1%	n/d	n/d
Mean for group of non-acquiring firms	0.3%	–0.2%	n/d	n/d
Median for group of acquires	6.2%	3.5%	n/d	n/d
Median for group of non-acquiring firms	6.5%	3.9%	n/d	n/d

Source: author's calculations.

Table 2. Return on Assets (ROA) for acquirers and non-acquiring firms in 2006–2012

Year of acquisition	Year of analysis – after acquisition			
1	2			
2006	0	1	2	3
Mean for group of acquires	6.4%	6.6%	1.1%	0.2%
Mean for group of non-acquiring firms	6.8%	6.4%	1.4%	0.4%
Median for group of acquires	5.2%	5.4%	2.0%	2.7%
Median for group of non-acquiring firms	5.9%	6.2%	3.4%	2.6%
2007	0	1	2	3
Mean for group of acquires	5.9%	0.2%	–1.6%	1.7%
Mean for group of non-acquiring firms	6.8%	2.0%	1.4%	3.0%
Median for group of acquires	5.2%	1.9%	2.5%	3.1%
Median for group of non-acquiring firms	6.8%	3.8%	3.1%	3.5%
2008	0	1	2	3
Mean for group of acquires	0.9%	0.0%	2.3%	1.2%
Mean for group of non-acquiring firms	1.8%	0.7%	2.8%	0.8%
Median for group of acquires	2.0%	2.6%	3.1%	2.9%
Median for group of non-acquiring firms	3.8%	2.8%	3.6%	3.5%
2009	0	1	2	3
Mean for group of acquires	0.3%	2.5%	1.4%	-3.9%

Table 2, cont.

1	2			
Mean for group of non-acquiring firms	0.4%	2.6%	0.4%	–1.1%
Median for group of acquires	2.5%	3.0%	3.0%	1.4%
Median for group of non-acquiring firms	3.1%	3.7%	3.4%	2.3%
2010	0	1	2	3
Mean for group of acquires	2.7%	1.6%	–3.5%	n/d
Mean for group of non-acquiring firms	2.3%	–0.1%	–1.4%	n/d
Median for group of acquires	3.4%	2.9%	1.5%	n/d
Median for group of non-acquiring firms	3.3%	3.5%	2.3%	n/d
2011	0	1	2	3
Mean for group of acquires	1.7%	–3.0%	n/d	n/d
Mean for group of non-acquiring firms	–0.3%	–2.1%	n/d	n/d
Median for group of acquires	2.9%	1.5%	n/d	n/d
Median for group of non-acquiring firms	3.6%	2.3%	n/d	n/d

Source: author's calculations.

Table 3. Price Earnings Ratio (PE) for acquirers and non-acquiring firms in 2006–2012

Year of acquisition	Year of analysis – after acquisition			
1	2			
2006	0	1	2	3
Mean for group of acquires	57.02	23.83	9.52	30.49
Mean for group of non-acquiring firms	60.34	32.27	16.58	47.67
Median for group of acquires	24.90	21.20	7.30	13.25
Median for group of non-acquiring firms	29.45	23.30	8.90	17.75
2007	0	1	2	3
Mean for group of acquires	29.19	13.27	37.87	38.82
Mean for group of non-acquiring firms	31.08	16.34	48.62	50.92
Median for group of acquires	24.55	8.50	15.60	18.40
Median for group of non-acquiring firms	21.70	8.85	17.30	17.20
2008	0	1	2	3
Mean for group of acquires	12.59	35.74	35.63	12.19
Mean for group of non-acquiring firms	17.81	54.67	57.56	20.06

1	2			
Median for group of acquires	8.40	15.50	17.90	9.90
Median for group of non-acquiring firms	8.90	17.50	17.60	9.80
2009	0	1	2	3
Mean for group of acquires	37.71	56.35	12.20	19.75
Mean for group of non-acquiring firms	54.37	30.76	21.36	27.75
Median for group of acquires	16.00	17.95	9.60	10.40
Median for group of non-acquiring firms	16.75	17.60	10.65	11.35
2010	0	1	2	3
Mean for group of acquires	52.57	12.05	20.31	n/d
Mean for group of non-acquiring firms	33.49	23.01	28.34	n/d
Median for group of acquires	17.20	9.60	10.85	n/d
Median for group of non-acquiring firms	18.05	10.90	11.10	n/d
2011	0	1	2	3
Mean for group of acquires	12.75	20.27	n/d	n/d
Mean for group of non-acquiring firms	22.62	29.12	n/d	n/d
Median for group of acquires	9.60	10.65	n/d	n/d
Median for group of non-acquiring firms	10.90	11.35	n/d	n/d

Source: author's calculations

Table 4. MV/BV Ratio for acquirers and non-acquiring firms in 2006–2012

Year of acquisition	Year of analysis – after acquisition			
1	2			
2006	0	1	2	3
Mean for group of acquires	4.51	3.39	1.37	1.73
Mean for group of non-acquiring firms	3.59	2.80	1.45	1.73
Median for group of acquires	2.50	2.51	0.86	1.34
Median for group of non-acquiring firms	2.96	2.29	0.92	1.30
2007	0	1	2	3
Mean for group of acquires	3.25	1.27	1.69	1.93
Mean for group of non-acquiring firms	2.70	1.53	1.75	2.69

Table 4, cont.

1	2			
Median for group of acquires	2.49	0.83	1.30	1.33
Median for group of non-acquiring firms	2.17	0.98	1.37	1.61
2008	0	1	2	3
Mean for group of acquires	1.33	1.73	1.90	0.98
Mean for group of non-acquiring firms	1.54	1.72	2.89	1.14
Median for group of acquires	0.87	1.29	1.37	0.79
Median for group of non-acquiring firms	0.96	1.38	1.65	0.97
2009	0	1	2	3
Mean for group of acquires	1.42	1.85	1.03	1.43
Mean for group of non-acquiring firms	2.17	3.13	1.11	1.50
Median for group of acquires	1.31	1.39	0.81	0.78
Median for group of non-acquiring firms	1.39	1.65	1.07	1.08
2010	0	1	2	3
Mean for group of acquires	1.95	1.11	1.47	n/d
Mean for group of non-acquiring firms	3.16	1.01	1.45	n/d
Median for group of acquires	1.41	0.82	0.85	n/d
Median for group of non-acquiring firms	1.65	1.06	1.08	n/d
2011	0	1	2	3
Mean for group of acquires	1.09	1.45	n/d	n/d
Mean for group of non-acquiring firms	1.02	1.49	n/d	n/d
Median for group of acquires	0.82	0.86	n/d	n/d
Median for group of non-acquiring firms	1.10	1.09	n/d	n/d

Source: author's calculations.

The data presented in Tables 1–4 show the following:

- during the analysed period the median return on equity was lower in the group of companies conducting acquisitions than in the group of companies not making acquisitions (with the exception of acquisitions conducted in 2006 with the 2009 analysis period);
- during the analysed period the median return on assets was considerably lower in the group of companies conducting acquisitions than in the group of

companies not making acquisitions (with the exception of acquisitions conducted in 2006 with the 2009 and 2010 analysis period and the acquisitions conducted in 2010 with the 2010 analysis period);

- during the analysed period the median of the Price Earnings Ratio (P/E) was lower in the group of companies conducting acquisitions than in the group of companies not making acquisitions (with the exception of the acquisitions conducted in 2007 with the 2007 and 2010 analysis period and the acquisitions conducted in 2008 with the 2010 analysis period);
- during the analysed period the median of the market value of equity to book value of equity was lower in the group of companies conducting acquisitions than in the group of companies not making acquisitions (with the exception of the acquisitions conducted in 2006 with the 2007 analysis period and the acquisitions conducted in 2008 with the 2007 analysis period).

These results show that the profitability of equity and profitability of assets are lower in the group of companies making acquisitions than those of the companies that do not conduct such activity. The current increases in equity capital and increases in assets are lower in the group of purchasing companies. In general the PE and MV/BV ratios, which depict prospective profitability, are also lower in the group of companies making acquisitions. This is evidenced by the fact that the capital market does not appraise the growth potential within the group of these companies as high.

5. Conclusions

Acquisition decisions are complex investment decisions. They are conditioned by numerous factors that are initially identified within developed capital markets. Professional literature continues to present many controversies concerning the explanation of the mechanism encouraging acquisition and the mechanisms forming the financial results in the group of purchasers. As has been shown in the quoted articles this problem is not adequately recognised in emerging markets. The presented article indicates the effects of acquisitions on company profitability and the market evaluation of these companies. The analyses based only on the descriptive statistics, i.e. ROE, ROA, P/E and MV/BV means and medians, show that the synergy theory is not confirmed for the Polish capital market. The considerably lower financial results of the acquiring companies observed in the study tend to support the conclusion on the veracity of the theories of the hubris hypothesis and managerial overconfidence. This comparative analysis of two groups of companies: acquirers and non-acquirers, is a first attempt to assess financial effectiveness of relatively large group of acquirers on the Polish market for corporate control. It is a contribution to the previous research and adds to the analysis of the Polish capital market. However, the study presented above requires further examination, including especially the design of a proper control group of companies to test the differently formulated hypothesis.

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RENTOWNOŚĆ SPÓŁEK PRZEJMUJĄCYCH NOTOWANYCH NA GIEŁDZIE PAPIERÓW WARTOŚCIOWYCH W WARSZAWIE

Streszczenie: Celem badań przedstawionych w artykule jest ocena skutków przejęć dla rentowności spółek przejmujących. Prezentowane w artykule badanie prowadzone było na próbie 439 spółek notowanych na Giełdzie Papierów Wartościowych w Warszawie. Aby zapewnić porównywalność danych, analizowano jedynie spółki niebędące instytucjami finansowymi ani funduszami. Próba badana obejmowała spółki dokonujące przejęć w latach 2006–2011. Próbę porównawczą stanowiły spółki niedokonujące przejęć. Wykorzystując nieparametryczne testy U Manna-Whitneya, nie stwierdzono istotnych statystycznie różnic w rentowności spółek przejmujących i nieprzejmujących oraz nie stwierdzono istotnych statystycznie różnic względnych zmian rentowności spółek przejmujących i nieprzejmujących. Z analizy statystyk opisowych, tj. średnich i median ROE, ROA, P/E oraz MV/BV, wynika, że teoria synergii nie znajduje potwierdzenia w warunkach polskiego rynku kapitałowego. Obserwowane w badaniu gorsze wyniki finansowe w spółkach dokonujących przejęć mogą wskazywać na prawdziwość teorii zarozumialstwa i nadmiernego optymizmu. Oznaczać to może, że podejmowane przez spółki giełdowe przejęcia nie prowadzą do wzrostu wartości dla akcjonariuszy tych spółek.

Słowa kluczowe: fuzje i przejęcia, rynek kapitałowy, GPW w Warszawie, rentowność, stopa zwrotu z kapitału, stopa zwrotu z aktywów, wskaźnik cena/zysk, wskaźnik wartość rynkowa do wartości księgowej.