Capital markets and performance of strategic corporate M&A – an investigation of value drivers

Veronika Vinogradova
National Research University Higher School of Economics, HSE University, Moscow, Russian Federation

Received 21 June 2020
Revised 15 October 2020
13 December 2020
2 February 2021
Accepted 3 February 2021

Abstract

Purpose – The paper investigates the market performance of strategic acquisitions for growth in the fifth and sixth merger waves and outlines the major determinants that affect the performance of acquiring companies in these most complex and most challenging corporate transactions.

Design/methodology/approach – To perform the quantitative analysis a unique data sample was built out of acquisitions performed in the 5th and 6th merger waves with an only single purpose – strategic growth. Their performance was first analyzed using the method of market-based event study. In addition, the impact of several non-accounting determinants identified through a thorough literature review was tested using univariate/multivariate regression analysis.

Findings – The new findings of the study state that strategic acquisitions for growth created more value for acquiring companies if they were completed internationally and involved an acquisition of a middle-sized company. Moreover, the acquisition of targets in the less related industries (2-SIC) led to stronger performance of acquirers, especially in the international settings.

Research limitations/implications – The study suggests additional directions for future research. The future analysis can investigate the post-merger acquisition performance of strategic acquirers and can focus on additional financial (accounting) determinants in the evaluation of performance. This perspective can not only address the limitations imposed by the assumption of efficient capital markets but also provide additional insights.

Practical implications – The results of current study have important implications for executives performing M&A for growth. They show that the market reaction to M&A announcement can be at least partially anticipated and help managers to plan their strategic moves based on a defined set of variables.

Social implications – The study contributes to the sustainable, value-creating growth dynamics and encourages Executives to "lead for value."

Originality/value – (1) In contrast to the existing studies that do not differentiate between the transaction rationale in their analysis, this paper focuses explicitly only on those acquisitions that have strategic growth as their primary objective and responses therefore, to the problem stated by Halpern (1983). This approach helps to mitigate the distortion of results and make a reliable assessment of the strategic move. (2) The results of quantitative analysis also outline that acquisition of mid-sized targets and larger degree of diversification (2-SIC, international focus) code were associated with higher value creation.

Keywords M&A, Value creation, Shareholder value, Corporate growth, Strategic financial decision making

Paper type Research paper

The author thank to all who contributed to this paper with their feedback and helpful comments. Special thanks go to author's colleagues as well as to the participants of the EFMA conference in Amsterdam and World Finance Conference in New York. This paper was prepared as a part of author's PhD dissertation and partially during author's stay as a visiting PhD student at Columbia University. All mistakes are author's.

European Journal of Management and Business Economics
Vol. 30 No. 3, 2021
pp. 357-385
Emerald Publishing Limited
e-ISSN: 2444-8494
p-ISSN: 2444-8451
DOI 10.1108/EJMBE-06-2020-0168

1. Introduction

The topic of corporate M&A has experienced a prolific research throughout last decades (e.g., Kaneko *et al.*, 2020; Tao *et al.*, 2019; Arikan and Stulz, 2016; Campbell *et al.*, 2016; Demijan *et al.*, 2015). Indeed, the high interest of academia can be explained by a steep return of the corporate world to merger activity in the last years and increasing volume of transactions. At the same time, numerous empirical financial studies (e.g., Wangerin, 2019; Malmendier *et al.*, 2018; Mortal and Schill, 2015; Di Guili, 2013; Alexandris *et al.*, 2012; Martynova and Renneboog, 2011) and newly developed theories (Arikan and Stulz, 2016; Martin, 2016; Hackbarth and Morellac, 2008; Margsiri *et al.*, 2008) try to describe and to analyze the rationale behind mergers and their performance, contribute to better understanding of different corporate strategies but provide rather vague results. It is not surprisingly that some researchers claim that the field of M&A develops into a "theory of single cases" (Halpern, 1983) rather than organized knowledge on how to grow externally. The only fact that remains stable is that M&A is often the most effective way to grow a company. This trend strengthens with the increasing size of the firm – the larger companies get, the more they rely on M&A to grow (Rehm *et al.*, 2012). As a result of response to the increasing expectations of shareholders and fast-changing environment, the complexity, goals and focus of corporate deals are also changing. So, the most of transactions announced over the last years relied on growth and enhancement of strategic advantage, compared to restructuring and seizing cost synergies. Innovation, disruption and the need for growth were also the major contributors to the M&A activity in 2019. Simultaneously, the awareness of CEOs of transaction performance has increased. Most of them focus on the revision of business structure and additional value created and prefer quality to quantity, improving their discipline in creating value (JPMorgan, 2019; Cogman, 2014).

Despite this remarkable growth in value and transaction activity, the empirical research provides almost no evidence on strategic transactions – the existing academic studies analyze M&A performance without differentiating between the rationales for the deal. Recent most influential empirical studies focused on the analysis of the transaction in the fifth merger wave (e.g., Martynova and Renneboog, 2011; Alexandris *et al.*, 2012, 2010; Dutta *et al.*, 2013; Koričan *et al.*, 2014). It was particularly characterized through international expansion and motivated by overvaluation of the acquirers and management overconfidence. As a result, it was marked by overpayment and significant value destruction for the acquiring firms (e.g., Alexandris *et al.*, 2010). Also the analyses of the sixth merger wave report the value destruction on a large scale. Higher cash balances and lower optimism of investors explain these results (Alexandris *et al.*, 2012). Further studies analyzing the recent development are devoted to the previous collaboration of participants (He *at al.*, 2020), the role of managerial incentives (Hillier *et al.*, 2020), structure of the board (Tao *et al.*, 2019), industry development (Ahern and Harford, 2014), Keil and Laamanen (2011) and the number of bidders (Akdogu, 2011). All of the mentioned studies look, however, at transactions of a specific wave in general and focus on the analysis of the trend without differentiating between the rationales behind the decision in favor of acquisition, which may distort the results considerably (Halpern, 1983). The present paper aims to address this shortcoming and investigates exclusively strategic acquisitions for growth.

The major purpose of this paper is to carry out the in-depth analysis of the value created by acquiring companies participating in *strategic acquisitions for growth*. In my previous publications I developed and explicitly outlined the major differences between this type of transactions and other types, such as takeovers, restructuring acquisitions, etc. To achieve my objective, I build a sample of strategic acquirers performing transactions worldwide between 2000 and 2010 (fifth and sixth merger wave). I estimate abnormal returns of acquiring companies around the transaction announcement and investigate the performance determinants. To make this study comparable to the existing empirical capital market-based studies in M&A, I focus only on non-financial (exogenous) determinants. I also examine the differences in national and international transactions. In comparison to national acquisitions,

which are mostly associated with assets growth or responses to industry shocks (e.g., Keil and Laamanen, 2011; Koričan *et al.*, 2014), international transactions are expected to create new business opportunities and are generally considered to be a strategic move (Danbolt and Maciver, 2012; Francis *et al.*, 2008). I investigate whether and to what extend the international diversification influences the anticipated profitability of transaction.

The study contributes to the existing research in three ways. First, it addresses the most urgent issue of strategic growth and concerns of Halpern (1983) and focuses solely on friendly strategic acquisitions with the intent of growth, excluding any other aims for transaction from the side of acquiring company. As a result, it helps better understand the impact of chosen determinants on the success of growth strategy. Second, it contributes to the empirical financial studies on mergers in the 5th and 6th merger waves and empirically investigates and outlines the major non-financial value drivers of success in strategic transactions for growth of this period. It also extends them through the analysis of difference in returns' performance of acquirers in US and European markets, taking into consideration different capital market- and corporate governance structures in both regions. Third, it contributes to the academic discussion about the role of international expansion in strategic growth and shows whether exogenous (e.g., method of payment, focus, etc.) variables have different impact on national and international acquirers. In the nutshell, it aims to give answers to following questions: Does the performance of acquiring companies in strategic acquisitions for growth differ from previous general studies? Can the impact of non-financial variables on the transaction performance be empirically confirmed? What are the major factors influencing the value created for the shareholders of acquiring companies?

The remainder of the paper is structured as following. Section 2 is devoted to the definition of non-financial determinants in M&A and offers a short overview of the existent literature and major drivers. Section 3 outlines shortly the data sample and methodology applied. Section 4 presents the results of empirical analysis of overall performance of acquirers around the day of announcement. Section 5 divides the data sample into sub-groups and analyzes the impact of chosen variables on the investment reaction and stock returns of acquirers. Section 6 shows the results of regression analysis. Section 7 concludes.

2. Value creation and major value drivers in strategic M&A

The existing empirical studies outline a variety of factors influencing the success of transactions. Among the most important ones are usually mentioned transaction currency, deal size, strategic relatedness of transaction participants, economic factors, market structure, number of competitors in the market, personal/psychological characteristics of CEO, etc.

Without doubt, the most influential and most widely analyzed determinant is *method of payment*. The earlier studies (e.g., Ben-David *et al.*, 2015; Martynova and Renneboog, 2011) stated that transactions that are financed with cash showed superior or at least less negative performance in both short- and long-term. This means of payment has remained the most favorable also in the recent years, even though the latest academic studies highlight the changing trends in the transaction currency and the increasing number of mixed deals. According to Boone *et al.* (2014), the fraction of mixed payments has tripled since 2000 from 10% to 30%, while fraction of stock payments was around 60% before the turn of the century and has decreased to less than 20% during the last decade. The cash payments contributed less than 25% in 1990s but have doubled to more than 50% in the recent years. Huang *et al.* (2016) investigate the changes in M&A payment trends in cross-border transactions and also confirm that the usage of cash as transaction currency has significantly decreased, which helps the acquirers to avoid overpayment but at the same time, leads to a lower probability of deal completion.

Another important determinant is the *size* of transaction. Acquirers of smaller targets do not only spend less, they also create more value. So, Bayazitova *et al.* (2012) states that large

acquisitions are mostly driven by the managerial motives and weak corporate governance and therefore destroy more value than they create. Another statement with concern of the target size is increased complexity of the combined company and difficulty to achieve planned synergies (Alexandries *et al.*, 2012). This is also confirmed by empirical studies. Oswal and Goel (2020), outline a strong negative relationship between the deal size in terms of price paid and bidder's returns around the announcement of transaction and in the days following it. Dell'Acqua *et al.* (2018) confirm these findings for both developed and emerging markets outlining a significant positive relationship between relative size of bidder and target and abnormal returns of acquiring company.

The decision about the industrial and geographic *diversification or focus,* or relatedness, has an important impact on the overall performance of acquiring company as well. The resource-based theory of the firm presents the "relatedness hypothesis," saying that M&A between strategically related firms create the highest returns for the acquiring company because the participants are able to achieve higher synergies. Focused transactions are generally priced better than industrial diversification and earn higher returns also in the long-run. Meggison *et al.* (2004), state that focus-decreasing (FD) mergers result in significantly negative long-term performance, presented through over 18% loss in stockholders' wealth and 9% loss in value as well as significant declines in operating cash flows in the post-merger years. Lim and Lee (2016) investigate the effect of industry relatedness on cross-border acquisition completion and conclude that transactions with higher degree of relatedness between acquiring and target company lead to more success. Cefis *et al.* (2020) outline, however, the curvilinear inverted – U relationship between the relatedness and post-acquisition operating performance. Internal R&D experience of acquirers and size of target help to achieve the right balance between the novelty and exploitation of synergies. However, a strong deviation from an optimal level of relatedness leads to increased rigidity and poorer performance. *International diversification* is one of the essential decisions to be made in strategic acquisitions for growth. It is clear that companies pursuing international growth strategy encounter often a variety of challenges, for instance, differences in financial, accounting, legal systems (Bris and Cabolis, 2008) as well as cultural and language differences (Weber *et al.*, 2011). However, although cross-border acquisitions are likely to be more costly and complex to execute, Danbolt and Maciver (2012) claim that abnormal returns of both targets and bidders are significantly higher in cross-border transactions compared to domestic ones. In their study of UK companies, the authors identified the cross-border effect of 10.1% points for targets and 1.5% points for bidders. Adnan (2018) compared the short-term abnormal returns for national and international transactions performed by UK companies. The research results show that domestic acquirers earned significant positive returns around the announcement, however, their post-event performance turned negative. International transactions experienced slightly positive returns around the announcement, which improved even further in the post-event period although the results were insignificant.

Overall *macroeconomic conditions* influence strongly the performance of bidding companies. The neoclassical economic theory says that any external shock – economic, technical or regulatory – can transform the industries and lead to the creation of merger waves (Harford, 2005). In the economically weak years strong companies use the opportunity to strengthen their position through M&A. The relationship between the macroeconomic variables and merger activity is described for instance by Madura *et al.* (2012), who claim that industry growth and capital liquidity affect the demand for target firms and explain the variation in takeover premiums. Cerrato *et al.* (2016), investigate how the economic crisis influences the merger activity in Italy in the period 2007–2010. Their results show that economic downturn leads to a lower number of non-related and cross-border acquisitions. Firms prefer to focus on their core business and do not diversify in new geographical and industrial markets. Nevertheless, the authors claim that cross-border acquisition have a

positive impact on short-term accounting performance of acquirers, even though it is weaker than in non-crisis times.

If someone investigates the capital market reaction to M&A, it is logically to assume that specifics of *capital market* in different countries themselves can cause differences in market reaction to M&A transactions. Bagella *et al.* (2005), present the differences between European and US financial markets. Differences in risk, dividend policies, and expected growth rates influence the investors' sentiment and their expectations about the transaction in different ways. Active investors in US market are usually well-informed and build their expectations based on the fundamental values of the firm, which they are able to calculate and to identify whether the stock is over- or undervalued. At the same time, in less developed and more risky markets with lack of prohibition on insider trading and limited availability of mutual funds, investors are less informed and show the behavior of "noise, liquidity or near-rational" traders. A large number of institutional investors and activists increase the transparency of US/UK markets and lead to the conclusions that they are better informed and can assess the M&A strategy of bidding company easier.

Apart from economic variables, there are a number of other factors that can play an important role in M&A performance. Akdogu (2011), outlines the importance of competitions among bidders and their number for the agreeing on transaction premium – the acquirers do often overpay, just in order not to lose a valuable target to competitors. It is intuitively understandable that the bids with less bidding companies earn, as a result, significantly higher returns and experience better performance (Magi Tarasovich, 2014). Another factor is based on the behavioral considerations. Ferris *et al.* (2013), show that CEO overconfidence is an important determinant in the evaluation of M&A activity and influence the number of offers made, frequencies of diversifying and non-diversifying transactions and method of payment.

The outlined factors are the result of general analysis of multiple empirical financial studies and do not always prevail in all data samples analyzed. The impact of these factors on the performance of strategic acquisitions has not been analyzed so far and is a major goal of this paper. Based on the results from previous academic studies, I have chosen six most important variables (structure of capital markets, macroeconomic situation, international diversification, size of transaction, method of payment, industrial diversification) to test their significance for the value creation by acquiring firms in strategic acquisitions for growth. With the focus on the unlocking value in the transaction, I look exclusively at a set of economic factors and those that are under management control. A short summary of the key exogenous determinants analyzed in the paper is presented in Table 1.

The major research questions of this study are: do non-financial variables impact the performance of strategic transactions and can this impact be empirically confirmed? What are the major factors influencing the value creation of the shareholders of acquiring companies?

3. Data sample and methodology applied

The data sample of strategic acquisitions for growth was built using Thomson Reuters One Banker SDC, Bloomberg and Lexis/Nexis databases and includes international public companies that undertook at least one transaction with strategic growth intent (as verified by Thomson Reuters One and MergerStat) in the period from 2000 till 2010 and whose financial data was available in Worldscope and DataStream database. The data sample includes the transactions from 5th and 6th merger waves for two major reasons. First, these two merger waves were characterized by strong focus on growth, which perfectly suits the goal of the paper. Second, this period is well studied in the literature, which allows good comparison of results with previous studies. The identified acquisitions were completed both nationally and internationally and include all industries apart from financial services and real estate. None of the target was acquired in a hostile way.

Factor	Key empirical findings	Example of studies
Means of payment	Cash acquirers earn better returns than stock acquirers	Martynova and Renneboog (2011): bidders who pay in cash or use at least mixed means of payment earn higher abnormal returns. Targets which were paid in cash experienced higher increase in share price Ben-David *et al.* (2015): strongly mis- or overvalued acquirers are significantly more likely to use stock financing. These deals earn lower long-run stock returns and long-run operating performance compared to cash acquirers
Size of transaction	Acquirers of smaller targets create more value	Bayazitova *et al.* (2012) : mega-mergers destroy value for acquirers. Value destruction is driven by managerial motives and weak corporate governance Dell'Acqua *et al.* (2018): there is a significant positive relationship between the relative size of bidder and target and abnormal returns of acquiring company in both developed and emerging countries
Industrial focus/ diversification	Focused acquirers earn in the long-run higher returns	Lim and Lee (2016): transactions with higher degree of relatedness between acquiring and target company lead to more success in cross-border acquisitions Cefis *et al.* (2020): unrelated acquisition can enhance post-acquisition innovative performance up to a certain point (curvilinear inverted -U relationship), but after that point it leads to rigidities
Geographical diversification	Cross-border acquisitions create more value	Danbolt and Maciver (2012): abnormal returns of both targets and bidders are significantly higher in cross-border transactions compared to domestic ones Adnan (2018): international acquirers experience positive returns around the announcement and improve this performance in the post-event period
Macroeconomic situation	Macroeconomic shocks drive merger waves and influence transaction terms	Madura *et al.* (2012): macroeconomic factors (industry growth and capital liquidity) influence demand for target firms and explain the variation in takeover premiums over time Cerrato *et al.* (2016): economic downturn leads to a lower number of non-related and cross-border acquisitions
Capital market structure	Specifics of capital market cause differences in market reaction to M&A transactions	Bagella *et al.* (2005): differences in risk, dividend policies, and expected growth rates influence the investors' sentiment and their expectations to the transaction Martynova and Renneboog (2011): the authors outline the necessity to evaluate separately the UK and Continental Europe transactions due to capital market specifics

Table 1.
Overview of the major determinants presented in the recent literature

To measure market reaction on the announcement a standard event-study methodology was applied. Following the market-adjusted approach for daily returns (Brown and Warner, 1980), the pre-announcement shareholder returns were calculated for the estimation period starting 181 trading days and ending 20 days before the announcement. All OLS-regression models were controlled for autocorrelation using the Durbin–Watson statistic and multi-collinearity using tolerances intervals for individual variables. The expected returns were approximated by the use of returns of the proxy market portfolio (R_{mt}) on each event day t. The market portfolio selection took into account the geographical distribution of the firms and the individual stock price performance was measured in comparison to the most appropriate principal local index. For calculation of $R_{\mathrm{mt,}}$ national Morgan Stanley Capital International ("MSCI") Standard Market Index for each security was used as the market return proxy for acquirers in the sample. Following the study of Cybo-Ottone and Murgia (2000), also the DataStream Regional Industrial Index was applied, however, the results did not show any significant differences in calculated returns except of companies from energy sector, where it was used as a major return proxy. The event date is the day the public is first informed of the transaction, according to Thomson One SDC. These dates were also crosschecked using the MergerStat database.

The abnormal returns of stock around the announcement are calculated as a difference between the expected stock return R_{jt} and actual stock return R_{it} in each day in the event window as shown in the following formula:

$$AR_{jt} = R_{jt} - R_i \tag{1}$$

where

AR_{jt} = abnormal return of security j on the day t

R_{jt} = expected return, calculated using OLS regression

R_{it} = actual returns

To take into consideration the cross-sectional dependence as well as event clustering and an increase in variance over the event period in the next step, excess returns were standardized and afterwards tested by means of an adjusted z-statistic according to the method introduced by Mikkelson and Partch (1986). The actual standardized abnormal returns were calculated for each of the firms in the sample for every day during the event window.

To make results comparable to other event studies the cumulative abnormal returns were computed for different event-windows within (−10;10) interval and presented for both a short-term event window of two days (0;1) and a longer one (−1;10). The longer post-event windows are used to adjust the results for possible time lags in the capital markets and delayed market reaction to the transaction announcement. The average abnormal return for event day t and cumulative abnormal returns for event window T were calculated as follows:

$$AR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \tag{2}$$

where

AR_t = average abnormal returns on the day t (t is a day in the event window)

N = number of analyzed securities

t = point of time to analyze, t T

AR_{it} = abnormal returns of a security i on the day t (t is a day in the event window)

Cumulative abnormal returns (CAR) for any interval (t_1; t_2) during the event window T were calculated as follows:

$$\mathrm{CAR}_{[t_1,t_2]} = \sum_{t=t_1}^{t_2} AR_t \tag{3}$$

where

$\mathrm{CAR}_{[t_1,t_2]}$ = cumulative average abnormal returns in the period (t_1,t_2)

t = point of time to analyze, $t \notin T$

AR_{jt} = average abnormal returns on the day t (t is a day in the event window)

Tests of statistical significance are based on standardized prediction errors, similar to the method applied by Ismail and Davidson (2005). In order to assess whether the means of two paired subsamples X and Y within the univariate analysis of various determinants of transaction success are statistically different from each other, t-statistics following Beitel *et al.* (2004), were used. Under the null hypothesis that there are no differences in the abnormal returns between the analyzed subsamples, t-statistics follow a student-t distribution. As this study is focused on the evaluation of the performance of acquiring companies, no abnormal returns for the shareholders of the target companies were calculated and no conclusion was drawn on the combined creation and distribution of shareholder value in the transactions.

In addition to calculation of abnormal returns, I perform the univariate analysis with mean-difference test and relate the abnormal returns of acquiring companies to the chosen variables investigating their impact on the acquirers' abnormal returns. For this reason, I divide the entire data sample into several sub-samples according to the key determinants identified in the previous section, which are then analyzed individually and compared to each other. Additionally to the entire data sample, the analyses were performed for national and international acquirers separately. Following sections describe the results.

4. Results of the capital market based event study

The cumulative abnormal returns (CAR) for shareholders of acquiring companies for the entire data sample are presented in Table 2. Consistent with the majority of previous studies, shareholders of acquiring companies in strategic acquisitions for growth suffered negative returns on the announcement day as well as in the short period of time around it. The negative market reaction remains constant through all the analyzed time intervals, however the losses are the largest on the announcement day and in the shortest event window (−1;1). The CAR of acquiring companies in these intervals are −0.757% and −0.515% respectively. Although there are some acquirers who experienced positive market reaction, the number of those with negative share price development is relatively higher for all event windows, with the largest difference between the positive and negative results on the day of announcement with 36 and 65 acquirers respectively.

While on the announcement day the majority of acquiring companies generated significant negative returns, in the event window (−1;1) this number improves slightly and is reflected in higher values of CAR. Nevertheless, the number of acquirers with negative CAR remains almost two-third of the total data sample. At the same time, the CAR for the event period (−1;1) are largely scattered, varying in a broad range from −5.17% to +4.56%. Figure 1 illustrates the distribution of CARs for the event window (−1;1).

The positive cumulative abnormal returns are distributed between the maximum value of +4.560% and the minimum value of +0.014%. The mean is almost twice as high as the median, which suggests a strong difference in values at the upper- and lower end. The value

Event window	CAR(%)	Pos. (*N*)	Neg. (*N*)	*Z*-statistics	*p*-value
Panel A: Before the announcement					
(−10;−1)	−0.077	52	49	−0.772	0.22006
(−5;−1)	−0.110	50	51	−1.108	0.13393
(−3;−1)	−0.052	50	51	−0.521	0.30118
Panel B: On the day of announcement					
(0;0)	−0.757***	36	65	−7.610	<0.00000
(0;1)	−0.608***	43	58	−6.111	<0.00000
Panel C: After the announcement					
(1;3)	−0.068	52	49	−0.685	0.24667
(1;5)	−0.013	54	47	−0.134	0.44670
(1;10)	−0.055	47	54	−0.551	0.29081
Panel D: Around the announcement					
(−10;10)	−0.256***	43	58	−2.573	0.01069
(−5;5)	−0.312***	41	60	−3.132	0.00175
(−3;3)	−0.365***	42	59	−3.666	0.00024
(−1;1)	−0.515***	41	60	−5.179	<0.00000

Note(s): This table shows the cumulative abnormal returns for 101 acquirers during the period from 2000 till 2010. Cumulative abnormal returns are calculated employing the standard market model, using an estimation period of 180 trading days prior to the event window [−20, 20] and the Morgan Stanley Regional Industrial Index to measure market returns. Reported *t*-statistic is based on the two-tailed *t*-test. *, ** and *** denote the statistical significance at 10%, 5% and 1% level, respectively

Table 2. Cumulative standardized abnormal returns for different event windows

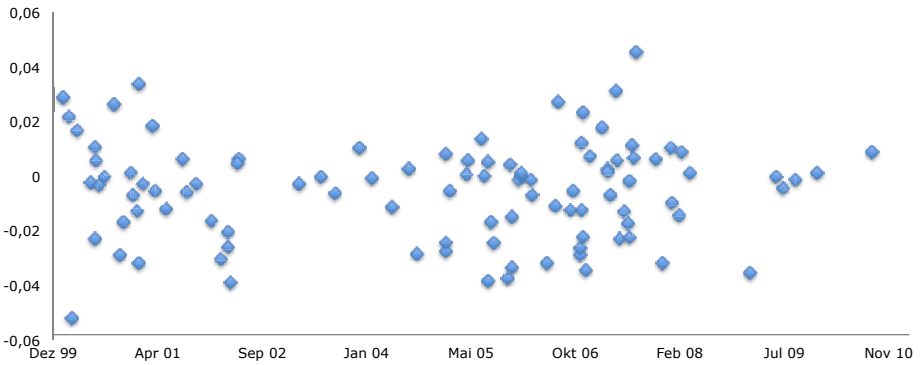

Figure 1. AR for each transaction within (−1;1) event window

for standard deviation is indeed relatively high with 1.075%. Similar results can be found for the negative values. The lowest value is −5.172%, while the maximum value is −0.008%. The mean and median values here are however much closer, although standard deviation remains pretty high with 1.281%. Figure 1 outlines that positive values for CAR are almost evenly divided through the analyzed merger waves in the time period from 2000 to 2010.

The statistical distribution of cumulative abnormal returns for the short (0;1) and a long (−1;10) event window are presented in Table 3.

Although the number of acquiring companies that earned positive and negative CAR in these both event windows is equal, the CAR improved in the longer event window with the values of −0.608% and −0.278%, respectively, which are significant at 1% level. The numbers confirm that the standard deviation in the event-window (−1;10) is lower and

therefore the performance of acquiring companies is more homogenous compared to the shortest event window (0;1).

Extending the length of the pre- and post-announcement periods yields less negative returns. It is striking that the CAR have very close values in the event windows (−5;5) and (−1;5) as well as (−10;10) and (−1;10). The most important changes in CAR happen on the day of the announcement and the following day. CAR of the acquirers in the event windows following the announcement with the values of −0.068% in (1;3) and −0.013% in (1;5) do not differ significantly from 0. Similar results show CAR in the event windows before the announcement. Looking at the performance of acquiring companies in the longer event windows, it can be stated that it improves significantly, so in the event windows (−10;10) and (−1;10) acquirers earn −0.256% and −0.278%, respectively. The difference in the number of companies with positive versus negative returns is here the lowest with 43 vs. 58 acquirers respectively.

These results support the semi-efficient market hypothesis and importance of considering both a short-term event window and some additional days around the announcement for a thorough evaluation of results. For this reason, univariate analysis of the abnormal returns presents results for two different event-windows. First, for the shortest event widow (0;1), where the CAR show statistically significant results and which is commonly used in the financial studies, which allows comparison of results with the prior academic research, and second, for (−1;10) in order to adjust for any lags in the market reaction. The consideration of additional event windows did not bring any additional significant explanatory power. In case there are noteworthy significant results for other event windows, they are mentioned in the analysis explicitly.

5. Results of the analysis of different sub-samples

5.1 Geographical diversification vs. focus

To analyze the impact of geographical diversification, the sample was divided into two groups according to their strategy and a binary variable was built to reflect whether a transaction was national or international. Using this classification, 72 national and 29 international transactions were identified and examined. Table 4 reports the results for both individual sub-samples, their mean-difference test and their statistics of significance. Additional event-widows are shown to consider statistically significant results around the announcement day and to reflect the development of CAR in the longer event-windows.

It is striking that acquirers pursuing national acquisitions underperformed acquirers pursuing international acquisitions in the short period of time around the announcement day. Their abnormal returns in short event windows do not significantly differentiate from zero. For the event windows (−1;1) and (0;0) in the sample this difference in performance is almost three times as large, with CAR of −0.650%/−0.182% and −0.904%/−0.393%, respectively. While the *t*-statistic is significant for the results in all event windows that include the announcement day for national acquirers, it is significant only for the event windows (0;0),

Table 3. Statistical distribution of CAR for the key event windows

	Event window (0;1)		Event window (−1;10)	
(*N* = 101)	Positive CAR(%)	Negative CAR(%)	Positive CAR(%)	Negative CAR(%)
N (absolute)	43	58	43	58
Maximum	6.443	−5.240	2.688	−3.749
Minimum	0.014	−0.015	0.008	−0.015
Mean	1.167	−1.924	0.753	−1,043
Median	0.644	−1.558	0.753	−0.964
Std. deviation	1.328	1.478	0.580	0.811

Table 4.
CAR in national vs. international transactions

Event window	National (*N*) (72)	Pos	Neg	*Z*-statistic	*p*-value	International (*N*) (29)	Pos	Neg	*Z*-statistic	*p*-value	Difference (Nat-Int)	*t*-statistic	*p*-value
Panel A: Before the announcement													
(−10;−1)	−0.053	37	35	−0.449	(0.327)	−0.136	15	14	−0.732	(0.232)	0.083	0.352	(0.726)
(−5;−1)	−0.030	37	35	−0.251	(0.401)	−0.311**	13	16	−1.672	(0.047)	0.281	1.237	(0.219)
(−3;−1)	0.033	36	36	0.278	(0.609)	−0.262*	14	15	−1.410	(0.079)	0.295	1.250	(0.214)
Panel B: On the day of announcement													
(0)	−0.904***	23	49	−7.670	(0.000)	−0.393**	13	16	−2.117	(0.034)	−0.511*	−1.677	(0.097)
(0;1)	−0.796***	29	43	−7.750	(0.000)	−0.143	14	15	−0.769	(0.442)	−0.653**	−2.050	(0.043)
Panel C: After the announcement													
(1;3)	−0.115	39	33	−0.972	(0.166)	0.047	13	16	0.253	(0.600)	−0.162	−0.615	(0.540)
(1;5)	−0.054	39	33	−0.461	(0.322)	0.089	15	14	0.476	(0.683)	−0.143	−0.561	(0.576)
(1;10)	−0.015	36	36	−0.127	(0.449)	−0.154	11	18	−0.828	(0.204)	0.139	0.607	(0.545)
Panel D: Around the announcement													
(−10;10)	−0.244**	31	41	−2.071	(0.039)	−0.286	12	17	−1.538	(0.124)	0.042	0.175	(0.861)
(−5;5)	−0.329***	27	45	−2.729	(0.005)	−0.268	14	15	−1.445	(0.148)	−0.061	−0.247	(0.805)
(−3;3)	−0.395***	31	41	−3.353	(0.001)	−0.289	11	18	−1.557	(0.119)	−0.106	−0.409	(0.683)
(−1;1)	−0.650***	25	47	−5.512	(0.000)	−0.182	16	13	−0.982	(0.326)	−0.468	−1.579	(0.118)

Note(s): The Table shows the standardized cumulative abnormal returns of acquiring companies pursuing national vs. international transactions. The CARs are calculated employing the standard market model, using an estimation period of 181 trading days prior to the event window (−20;20) and the Morgan Stanley Regional Industrial Index to measure market returns. The reported *t*-statistic is based on the two-tailed *t*-test. *denotes significance at 10% **denotes significance at 5% ***denotes significance at 1%

(−5;−1) and (−3;−1) for international acquirers. This means that CAR of acquirers in cross-border transactions increase when the information becomes public. In the event windows following the announcement, CAR are even positive with +0.047% and +0.089% in the event windows (1;3) and (1;5), respectively. The *t*-statistic for mean-difference test shows statistically significant explanatory power for the event windows (0;0) and (0;1) at the 10 and 5% level, respectively. Following these findings, it can be concluded that in the time period analyzed international expansion through strategic acquisition for growth was considered more value-creating than acquisitions in the domestic market. However, with the extending length of event windows, CAR for both national and international acquirers show almost equal values with 0.275% and −0.265% in the event-window (−10;10), respectively. One possible explanation of the strong underperformance of national acquirers in the short- and middle-term event-windows is general developments in 5th–6th merger waves. The acquirers of this period focused on geographical diversification and believed that international deals represent the best opportunity for business risk reduction and future growth. It is not surprising that these strategies were also considered the best choice during the financial crisis of 2008. These findings are in line with studies of Adnan (2018), Alexandris *et al.* (2010).

5.2 Structure of capital markets: US vs. Europe

Despite the high importance of international diversification and its strong impact on the abnormal returns of acquirers, the home capital markets of bidders and their structure can influence the abnormal returns around the acquisitions announcement. To analyze the influence of this factor more thoroughly, the data sample was divided into two sub-samples with 72 American acquirers (listed on NASDAQ or NYSE) and 25 European acquires (listed on other exchanges inside Europe). The Japanese acquirers were excluded from this analysis. CAR are summarized separately for two subgroups in different event-windows in Table 5.

The results show that on the announcement day American acquirers experienced twice as high decrease in their share price compared to their European peers. These results remain almost unchanged throughout all event- windows analyzed with only a slight improvement in the long-term event windows (−10;10). CAR of European acquirers are −0.477% on the announcement day (0), with −0.499% in the event window (−1;1) and −0.189% in the event window (−10;10), showing the worst performance in the observed values only on the day of announcement.

Contrary to that, the returns of American acquirers are the lowest on the day of announcement and during the short-event window with −0.864% and −0.543% for (0;0) and (−1;1), respectively but gradually improve with the length of the window and are −0.390% and −0.299% for the event window (−3;3) and (−10;10), respectively. Compared to their European peers, their values vary strongly with the length of event-window, representing the reaction of investors on the new information that becomes available. Again, the days of the announcement (0) and (0;1) have the largest impact on returns. All abnormal returns of American acquirers in these short event-windows, including are statistically significant with the highest significance level (1%) on the day of announcement and up to five days around it. This indicates the difference in both the efficiency of capital markets and investors sentiments.

Taking into consideration a strong difference between the reaction of shareholders on national and international transactions, the impact of geographical diversification was also tested separately for European and American acquirers. Both European and American shareholders considered international diversification more value-creating. CAR of acquiring companies for both markets are strongly negative for national transactions in two-day event window (0;1) with −0.829% and −1.251% for US and European markets, respectively. These values, however, improve in both markets in longer event-windows and are positive in the

Table 5.
CAR for US/EU acquirers

Event window	US market				EU market			Difference		
	All	National (1)	International (2)	Difference (1)–(2)	All	National (1)	International (2)	Difference (1)–(2)	(AllUS-AllEU)	*t*-statistic
N	72	61	11		25	7	18			
Panel A: Before the announcement										
(−10;−1)	−0.100 (0.394)	−0.103 (0.421)	−0.086 (0.773)	−0.017 (0.961)	0.014 (0.946)	0.475 (0.209)	−0.166 (0.481)	0.641 (0.221)	−0.114	−0.460 (0.646)
(−5;−1)	−0.081 (0.491)	−0.061 (0.638)	−0.197 (0.514)	0.136 (0.695)	−0.136 (0.496)	0.491 (0.194)	−0.380 (0.107)	0.871 (0.068)*	0.055	0.227 (0.821)
(−3;−1)	0.036 (0.760)	0.033 (0.796)	0.053 (0.861)	−0.020 (0.955)	−0.264 (0.187)	0.225 (0.553)	−0.454*** (0.054)	0.679 (0.189)	0.300	1.192 (0.236)
Panel B: On the day of announcement										
(0)	−0.864*** (>0.000)	−0.981*** (>0.000)	−0.219 (−0.728)	−0.762 (0.108)	−0.477** (0.017)	−0.421 (0.197)	−0.499** (0.034)	0.078 (0.898)	−0.387	−1.188 (0.238)
(0;1)	−0.711*** (>0.000)	−0.829*** (>0.000)	−0.062 (0.836)	−0.767*** (0.097)	−0.489** (0.015)	−1.251*** (0.001)	−0.192 (0.416)	−1.059 (0.172)	−0.222	−0.658 (0.512)
Panel C: After the announcement										
(1;3)	−0.134 (0.257)	−0.116 (0.364)	−0.231 (0.444)	0.115 (0.743)	0.020 (0.922)	−0.488 (0.197)	0.217 (0.358)	−0.705 (0.309)	−0.154	−0.562 (0.575)
(1;5)	−0.070 (0.551)	−0.095 (0.456)	0.069 (0.820)	−0.164 (0.642)	−0.019 (0.924)	−0.326 (0.388)	0.101 (0.670)	−0.427 (0.506)	−0.051	−0.191 (0.849)
(1;10)	−0.060 (0.612)	−0.059 (0.648)	−0.067 (0.826)	0.008 (0.981)	−0.137 (0.495)	0.045 (0.905)	−0.207 (0.379)	0.252 (0.630)	0.077	0.316 (0.753)
Panel D: Around the announcement										
(−10;10)	−0.299** (0.011)	−0.325** (0.011)	−0.154 (0.611)	−0.171 (0.613)	−0.189 (0.345)	0.267 (0.480)	−0.367 (0.120)	0.634 (0.268)	−0.110	−0.441 (0.660)
(−5;5)	−0.363*** (0.002)	−0.401*** (0.002)	−0.153 (0.613)	−0.248 (0.497)	−0.249 (0.214)	−0.016 (0.967)	−0.339 (0.150)	0.323 (0.559)	−0.114	−0.441 (0.660)
(−3;3)	−0.390*** (0.001)	−0.425*** (0.001)	−0.200 (0.508)	−0.225 (0.558)	−0.340* (0.089)	−0.331 (0.381)	−0.344 (0.144)	0.013 (0.983)	−0.050	−0.187 (0.852)
(−1;1)	−0.543*** (>0.000)	−0.670*** (>0.000)	0.158 (0.601)	−0.828* (0.060)	−0.499** (0.013)	−0.776** (0.040)	−0.390* (0.098)	−0.386 (0.571)	−0.044	−0.139 (0.890)

Note(s): The Table shows the standardized cumulative abnormal returns of acquiring companies according to their international diversification strategy and home capital market. The CARs are calculated employing the standard market model, using an estimation period of 181 trading days prior to the event window (−20;20) and the Morgan Stanley Regional Industrial Index to measure market returns. The reported *t*-statistic is based on the two- tailed *t*-test. *, **, *** denote 10%, 5% and 1% respectively

event-windows before the acquisition announcement. The acquirers in international transactions perform much better in the event window (0;1), showing the CAR of −0.062% and −0.192% for US and European market, respectively. Their performance in both markets improves strongly after the acquisition announcement, so in the event-window (1;5) the values are positive with +0.069% and +0.101% for US and European markets, respectively. Nevertheless, international acquirers in EU market strongly underperformed on the days preceding the transaction announcement. The mean-difference test shows significant results for American acquirers in the event-window (0;1) at 10% level.

5.3 Transaction volume

To analyze the difference in the abnormal returns of acquirers according to the transaction volume, the entire data sample was divided into three groups – large transactions with volume over US$5 billion, middle-sized transactions with volume US$1-5 billion and small transactions with volume <US$1 billion. The summary of analysis is presented in Table 6.

The results show that acquirers of middle-sized targets created the largest value for shareholders of acquiring companies. CAR for both short-term and long-term event-windows are positive with +0.066% and +0.033%, respectively. The acquisitions of large targets were the least value-creating. Here, CAR for the short-term event window (0;1) are strongly negative with −1.708%. This number improves slightly in the long-term event-window (−1;10) but still remains negative with −0.847%. The mean-difference test shows significant results at 1% level.

The performance in large transactions remains negative for both national and international acquirers, even though the national acquirers strongly underperform. Both sub-groups earn negative CAR with −2.112% and −0.719% for the event window (0;1), respectively. The returns of national acquirers stay significantly negative also in the long-term event-window (−1;10) with −1.105%, which are significant at 1% level. The middle-sized acquisitions bring insignificantly negative CAR of −0.053% for national acquirers in the event window (0;1), but increase considerably in the long-term event-window (−1;10) to the positive value of +0.263%. CAR of the international acquirers show an opposite development. The returns are positive in the event-window (0;1) with +0.296% and significantly negative in the event window (−1;10) with −0.411%. Small transactions bring less value than mid-sized ones for both sub-samples. The returns are quite similar for the event-window (0;1) with −0.441% and −0.421%, respectively and improve inconsiderably in the event-window (−1;10) to −0.148% and −0.040%, respectively.

These results support the statement that investors react cautiously to large deals that are mostly paid with stock and are often too complex to be managed properly and to realize the synergies planned. Being a subject to overpayment, mega-deals are often understood by investors as too risky to be successful and this reaction is reflected in the share price development on the day of announcement. These findings are in line with Bayazitova *et al.*, (2012), Dell'Acqua *et al.* (2018).

5.4 Method of payment

To analyze the impact of method of payment on value created for shareholders of acquiring companies the data sample was divided into three groups according to the chosen form of payment. The results are presented in Table 7 and show that for 56% of transactions in the sample the major transaction currency was cash.

Among them, 42% were international deals. The lowest number of transactions in the data sample was financed with stock (19%). The remaining acquirers (25%) decided in favor of the combined method of payment. Almost all of them were firms pursuing national acquisitions.

Event window	Large (1) CAR (%)	Large (1) Z-statistic (*p*-value)	Middle-sized (2) CAR (%)	Middle-sized (2) Z-statistic (*p*-value)	Small (3) CAR (%)	Small (3) Z-statistic (*p*-value)	(1)–(2) (*p*-value)	Mean-difference test (1)–(3) (*p*-value)	(2)–(3) (*p*-value)
Panel A: All Transactions									
(0;1)	−1.708***	−5.569 (>0.000)	0.066	0.436 (0.669)	−0.437	−2.230 (0.129)	−1.774*** (>0.000)	−1.271*** (0.010)	0.503** (0.025)
(−1;10)	−0.847***	−4.175 (>0.000)	0.033	0.222 (0.588)	−0.127	−0.648 (0.258)	−0.880** (0.014)	−0.720* (0.078)	0.160 (0.505)
(*N*)	(31)		(44)		(26)				
Panel B National									
(0;1)	−2.112***	−5.999 (>0.000)	−0.053	0.286 (0.613)	−0.441	−2.021 (0.216)	−2.059*** (>0.000)	−1.671*** (0.001)	0.388*** (0.008)
(−1;10)	−1.105***	−4.583 (>0.000)	0.263	1.419 (0.922)	−0.148	−0.677 (0.249)	−1.368*** (0.003)	−0.957** (0.038)	0.411 (0.131)
(*N*)	(22)		(29)		(21)				
Panel C: International									
(0;1)	−0.719**	−2.156 (0.016)	0.296	1.145 (0.874)	−0.421	−0.942 (0.173)	−1.015* (0.074)	−0.298 (0.667)	0.717 (0.251)
(−1;10)	−0.216	−0.648 (0.258)	−0.411*	−1.593 (0.056)	−0.040	−0.089 (0.465)	0.195 (0.611)	−0.176 (0.714)	−0.371 (0.469)
(*N*)	(9)		(15)		(5)				

Note(s): The Table shows the standardized cumulative abnormal returns of acquiring companies according to the size of transaction. The CARs are calculated employing the standard market model, using an estimation period of 181 trading days prior to the event window (−20;20) and Morgan Stanley Regional Industrial Index to measure market returns. The reported *t*-statistic is based on the two-tailed *t*-test, *p*-values are presented in parentheses below the statistics-values. *denotes significance at 10% **denotes significance at 5% ***denotes significance at 1%

Table 6.
CAR according to the size of transaction

Table 7.
CAR according to the method of payment

Event window	Cash (1) CAR (%)	Cash (1) *Z*-statistic (*p*-value)	Stock (2) CAR (%)	Stock (2) *Z*-statistic (*p*-value)	Combo (3) CAR (%)	Combo (3) *Z*-statistic (*p*-value)	Mean-difference test (1)–(2) (*p*-value)	Mean-difference test (1)–(3) (*p*-value)	Mean-difference test (2)–(3) (*p*-value)
Panel A: All Transactions									
(0;1)	−0.273***	−2.027 (0.021)	−0.976***	−4.363 (>0.000)	−1.033***	−5.270 (>0.000)	0.703* (0.072)	0.760** (0.033)	0.057 (0.896)
(–1 ;10)	−0.070	−0.522 (0.301)	−0.664***	−2.971 (0.001)	−0.420***	−2.143 (0.016)	0.594** (0.033)	0.350 (0.168)	−0.244 (0.493)
(*N*)	(55)		(20)		(26)				
Panel B: National									
(0;1)	−0.493***	−2.788 (0.003)	−0.961***	−3.964 (>0.000)	−1.094***	−5.246 (>0.000)	0.468 (0.264)	0.601 (0.116)	0.133 (0.653)
(−1;10)	0.022	0.124 (0.549)	−0.699***	−2.883 (0.002)	−0.373**	−1.790 (0.037)	0.721*** (0.000)	0.395*** (0.006)	−0.326* (0.092)
(*N*)	(32)		(17)		(23)				
Panel C: international									
(0;1)	0.032	0.154 (0.561)	−1.056**	−1.829 (0.034)	−0.570	−0.988 (0.162)	1.088 (0.307)	0.602 (0.563)	−0.486 (0.820)
(−1;10)	−0.199	−0.952 (0.171)	−0.467	−0.809 (0.209)	−0.782*	−1.354 (0.088)	0.268 (0.698)	0.583 (0.409)	0.315 (0.819)
(*N*)	(23)		(3)		(3)				

Note(s): The table shows the standardized cumulative abnormal returns of acquiring companies according to the method of payment. The CARs are calculated employing the standard market model, using an estimation period of 181 trading days prior to the event window (−20;20) and Morgan Stanley Regional Industrial Index to measure market returns. The reported *t*-statistic is based on the two-tailed *t*-test, *p*-values are presented in parentheses below the statistics-values
*denotes significance at 10% **denotes significance at 5% ***denotes significance at 1%

From the results received I can conclude that in line with the existing research, acquirers who paid for their transactions in cash strongly outperformed those who paid with stock or used mixed method of payment. Their CAR in the event-window (0;1) were about four times higher than those of the firms that paid with stock with −0.273% and −0.976%, respectively. The acquirers of international targets experienced even slightly positive returns in the event-window (0;1) with CAR of +0.032%. For the event-window (−1;10) the results of national acquirers are even better. Here, the cash-payers show the performance that is much better than the performance of stock-payers with CAR of +0.022% and −0.699%, respectively. The returns of international acquirers become slightly negative with −0.199%.

The acquirers using the combined method of payment seem to create the least value and to experience the lowest abnormal returns through both event-windows analyzed. Their CAR for the entire data sample are −1,033% in the event-window (0;1) and are about seventy times lower than CAR of cash-payers and slightly lower than those of stock-payers. In the international acquisitions, mixed payments were valued better than stock payments. CAR for the event-window (0;1) are −0.570% and −1.056%, respectively. For the event-window (−1;10) the results improve slightly for national acquirers. Those who used the mixed payment performed two times better than those who used stock with −0.373% and −0.699%, respectively. The mean-difference test is significant for the entire data sample in both event-windows for the group cash-payers vs. stock-payers with the values of 10 and 5% level, respectively. For the group cash-payers vs. combo-payers it shows significant results for the event window (0;1) at 5% level. The mean-difference test for the national sub-group is also significant at the 1% for the long-term event-window. These results strongly support the finding of previous research (e.g., Boone *et al.*, 2014; Ben-David *et al.*, 2015) saying that decision to pay in cash influences positively the reaction of investors for both national and international deals.

5.5 Industrial diversification vs. focus

Contradictorily to the known statement that investors do not value conglomerate acquisitions, the results of the analysis show that for the entire data sample acquisitions of non-related targets destroy less value than acquisitions of related targets. CAR for the entire data sample in the event -window (0;1) are −0.377% and −0.648%, respectively. These results improve even further in the days following the announcement. So, for the event window (−1;10) the returns are +0.135% and −0.350%, respectively. However, these results seem to be completely different for national and international acquirers. Table 8 summarizes the key findings.

National acquirers of the national non-related targets underperformed in the event-windows (0;1) compared to acquirers of related targets with −0.950% and −0.771%, respectively and experienced the lowest CAR in the data sample in this event-window. The values improve almost three times for the event-window (−1;10) for diversifying companies that outperform their peers participating in related acquisitions. CAR for the event-window (−1;10) are −0.067% and −0.308%, respectively. Contrarily, acquirers of international non-related targets show the best positive CAR in both event-windows with +0.768% and +0.540%, respectively. Therefore, they strongly outperform those acquirers who purchase international targets in related industries. Here, the abnormal returns are negative with the value of −0.333% for the event-window (0;1). The mean-difference test for international sub-group is significant for both event-windows at 10% level. These findings allow conclusion that future benefits from simultaneous geographic and industrial diversification outweigh those proposed only by single synergy hypothesis. The number of analyzed transactions is however too low to draw a general conclusion and requires further investigation.

Event window	Related (1) CAR (%)	Related (1) *Z*-statistic (*p*-value)	Non-related (2) CAR (%)	Non-related (2) *Z*-statistic (*p*-value)	Mean-difference test (1)–(2)	Mean-difference test *t*-test	Mean-difference test *p*-value
Panel A: All Transactions							
(0;1)	−0.648***	−5.798 (>0.000)	−0.377*	−1.461 (0.072)	−0.271	−1.040	0.301
(−1; 10)	−0.350***	−4.159 (>0.000)	0.135	0.523 (0.700)	−0.485***	−2.815	0.006
(*N*)	(87)		(14)				
Panel B: National							
(0;1)	−0.771***	−5.891 (>0.000)	−0.950***	−3.004 (0.001)	0.179	1.104	0.273
(−1;10)	−0.308***	−3.447 (0.000)	−0.067***	−2.642 (0.004)	−0.241	−1.003	0.319
(*N*)	(62)		(10)				
Panel C: international							
(0;1)	−0.333*	−1.630 (0.052)	0.768	1.718 (0.957)	−1.101*	−1.730	0.095
(−1;10)	−0.456***	−2.333 (0.010)	0.540	2.644 (0.996)	−0.996*	−1.729	0.095
(*N*)	(25)		(4)				

Note(s): The Table shows the standardized cumulative abnormal returns of acquiring companies according to the industrial diversification. The CARs are calculated employing the standard market model, using an estimation period of 181 trading days prior to the event window (−20;20) and Morgan Stanley Regional industrial index to measure market returns. The reported *t*-statistic is based on the two-tailed *t*-test, *p*-values are presented in parentheses below the statistics-values. *denotes significance at 10% **denotes significance at 5% ***denotes significance at 1%

Table 8.
CAR according the international diversification

However, taking a closer look at the related acquisitions and splitting them according to their 2, 3-, and 4-digit SIC-code relatedness brings slightly different results, which are summarized in Table 9.

All panels show the worst performance for acquirers of closely related targets (4-digit SIC-code relatedness). CAR for the entire sample are −0.950% and −0.601% for event windows (0;1) and (−1;10), respectively. These results are the lowest for national acquirers with −1.125% and −0.675%, respectively and significant at 1% level. In the international transactions returns are similar, with −0.315% and −0.347% for event window (0;1) and (−1;10), respectively. With the decreasing relatedness of transaction participants the performance of acquiring companies improves constantly and is the best for the acquisitions of 2-SIC targets with −0.511% for national and +0.105% for international transactions in the event-window (0;1). This trend remains for national acquirers in the event-window (−1;10), where CAR increase to positive +0.136% for the national acquirers but have an opposite development for the international acquirers, where CAR deteriorate to −0.416%. The mean-difference test shows significant results for national acquirers. These findings imply that lower focus was generally associated by investors with higher value-creation, even though this was realized by investors in the days following the announcement, especially for national transactions.

5.6 Economic situation and merger waves

Taking into consideration strong economic changes during the analyzed period, the entire data sample was divided into three time periods that represent different economic circumstances and therefore expectations of investors. While the first sub-period (from 2000 till 2004) is the time of the fifth merger wave and the beginning of the sixth merger wave with its peak in the mid-2000s, the second sub-period of the analysis (from 2005 till 2007) represents the peak of the sixth merger wave and belongs to the time when deals had rather modest positive effect for their shareholders with the dramatically higher P/E ratios of this

Event window	4-SIC(1) CAR (%)	4-SIC(1) Z-statistic (*p*-value)	3-SIC (2) CAR (%)	3-SIC (2) Z-statistic (*p*-value)	2-SIC (3) CAR (%)	2-SIC (3) Z-statistic (*p*-value)	Mean-difference test (1)–(2) (*p*-value)	Mean-difference test (1)–(3) (*p*-value)	(2)–(3) (*p*-value)
Panel A: All Transactions									
(−0;1)	−0.950***	−5.839 (>0.000)	−0.770***	−2,880(0.002)	−0.251	−1.095 (0.137)	−0.180 (0.482)	−0.699** (0.016)	−0.519 (0.292)
(−1 ;10)	−0.601***	−3.800 (>0.000)	−0.300	−1.124 (0.131)	−0.096	−0.419 (0.338)	−0.301** (0.036)	−0.505* (0.010)	−0.204 (0.507)
(*N*)	(40)		(14)		(19)				
Panel B: National									
(−0;1)	−1.125***	−5.992 (>0.000)	−0.830***	−2.491 (0.006)	−0.511**	−1.694 (0.045)	−0.295 (0.324)	−0.614* (0.077)	−0.319 (0.607)
(−1 ; 10)	−0.675***	−4.554 (>0.000)	−0.238	−0.708 (0.239)	0.136	−0.615 (0.269)	−0.437** (0.033)	−0.811*** (0.001)	−0.374 (0.392)
(*N*)	(31)		(9)		(11)				
Panel C: International									
(−0;1)	−0.315	−0.944 (0.173)	−0.661*	−1.477 (0.070)	0.105	0.298 (0.617)	0.346 (0.738)	−0.420 (0.688)	−0.766 (0.559)
(−1; 10)	−0.347**	−1.657 (0.049)	−0.413	−0.792 (0.214)	−0.416	−0.145 (0.442)	0.066 (0.902)	0.069 (0.898)	0.003 (0.995)
(*N*)	(9)		(5)		(8)				

Note(s): The Table shows the standardized cumulative abnormal returns of acquiring companies according to the degree of industrial diversification. The CARs are calculated employing the standard market model, using an estimation period of 181 trading days prior to the event window (−20;20) and Morgan Stanley Regional Industrial Index to measure market returns. The reported *t*-statistic is based on the two-tailed *t*-test, *p*-values are presented in parentheses below the statistics-values
*denotes significance at 10% **denotes significance at 5% ***denotes significance at 1%

Table 9.
CAR according to the SIC-code

period. However, both the fifth and the sixth merger waves are considered to be the "global merger waves" when the key strategic reason for transactions was external growth. This development was interrupted by the global economic crisis starting in 2008, which has completely changed the existing M&A landscape. Due to the weak global economic situation, profitability challenges and lack of financing the M&A activity decreased strongly. Only those companies that had large amounts of cash available were able to pursue further acquisitions. They were the winners of crisis that managed to grow under the tough economic conditions and to expand their business on favorable terms. The period 2008–2010 is the third sub-sample in the analysis. The results are summarized in Table 10.

Examining the cumulative abnormal returns of acquirers for the entire data sample reveals that the end of the 5th and the beginning of the 6th wave was the period when the acquiring companies performed best. Even though the entire sample experiences negative returns of −0.397% in the short event-window (0;1), national acquirers could achieve the highest results with returns of −0.031% in the event-window (−1;10). The least value was created in the sixth merger wave as well as in the time of economic recession following the financial crisis of 2008. In both time periods acquiring companies suffered the worst results with significant abnormal returns of −0.626% and −1.293% in the short event period (0;1), respectively. These findings are in line with Alexandris *et al.* (2010) who report that despite the good economic conditions and decisive approach of CEOs, the acquisitions of the 6th merger wave largely destroyed value. The end of the 5th and the beginning of the 6th wave were the period when acquiring companies performed best.

Nevertheless, if I take a closer look into different sub-samples, I can recognize striking differences between national and international acquirers. In the period of sixth merger wave (between 2005 and 2007), national acquirers performed better in the longer event-window. Here, CAR are −0.284% compared to the relatively worse performance of international acquirers with −0.446%. For the short event-window however, international acquirers outperformed national with CAR of −0.200% compared to −0.761% of national ones. In the time period between 2008 and 2010 national acquirers earned the worst CAR in both event-windows with −1.630% and −0.910%, respectively. The international acquirers however, strongly outperformed with positive results of +0.224% and +0.484% for the event windows (0;1) and (−1;10), respectively The number of companies in this sub-sample is however not large enough to draw statistically significant conclusions. Additional analyses are needed to analyze this relationship.

6. Results of regression analysis

6.1 Description of independent variables

The results of univariate analysis outline the difference in performance of acquiring companies with different characteristics of transactions. The present section aims to reassess these results through OLS-regression analysis as well as to explore which of the effect documented in the previous section dominates in a multivariate framework.

The regression analysis focuses only on those factors that are under management control and can be influenced/adjusted by executives. Method of payment, industrial and international diversification are presented as binary dummy variables, the relative size of target is a nominal variable calculated as a relationship between logarithm of total acquirers assets and target assets one year prior to announcement. The proposed variables adjust for high premiums paid which is included in the transaction volume and give more precise information about the impact of size on abnormal returns of acquirers. The definition of independent variables and results of correlation analysis are reported in Tables 11 and 12.

Event window	2000–2004 (1) CAR (%)	2000–2004 (1) Z-statistic (p-value)	2005–2007 (2) CAR (%)	2005–2007 (2) Z-statistic (p-value)	2008–2010 (3) CAR (%)	2008–2010 (3) Z-statistic (p-value)	Mean-difference test (1)–(2) (p-value)	Mean-difference test (1)–(3) (p-value)	Mean-difference test (2)–(3) (p-value)
Panel A: All Transactions									
(0;1)	−0.397***	−2.511 (0.006)	−0.626***	−4.428 (>0.000)	−1.293***	−4.288 (>0.000)	0.229 (0.185)	0.896*** (0.008)	0.667*** (0.002)
(−1;10)	−0.118	−0.745 (0.228)	−0.323**	−2.283 (0.011)	−0.657***	−2.178 (0.015)	0.205 (0.129)	0.539 (0.183)	0.334 (0.147)
(*N*)	(40)		(50)		(11)				
Panel B : National									
(0;1)	−0.548***	−2.739 (0.003)	−0.761***	−4.690 (>0.000)	−1.630***	−4.890 (>0.000)	0.213 (0.492)	1.082* (0.096)	0.869*** (0.002)
(−1;10)	−0.031	−0.157 (0.438)	−0.284**	−1.751 (0.040)	−0.910***	−2.731 (0.003)	0.253 (0.163)	0.879*** (0.007)	0.626** (0.020)
(*N*)	(25)		(38)		(9)				
Panel C: International									
(0;1)	−0.146	−0.565 (0.286)	−0.200	−0.693 (0.244)	0.224	0.316 (0.624)	0.054 (0.877)	−0.370 (0.637)	−0.424 (0.436)
(−1;10)	−0.262	−1.014 (0.155)	−0.446*	−1.546 (0.061)	0.484	0.684 (0.753)	0.184 (0.365)	−0.746 (0.162)	−0.930** (0.030)
(*N*)	(15)		(12)		(2)				

Note(s): The table shows the standardized cumulative abnormal returns of acquiring companies according to the economic situation, The CARs are calculated employing the standard market model, using an estimation period of 181 trading days prior to the event window (−20;20) and Morgan Stanley Regional Industrial Index to measure market returns. The reported *t*-statistic is based on the two-tailed *t*-test, *p*-values are presented in parentheses below the statistics-values

*denotes significance at 10%

**denotes significance at 5%

***denotes significance at 1%

Table 10.
CAR according to the economic situation

6.2 Results of OLS-regression analysis

I first analyze the impact of single variables on the cumulative abnormal returns of acquiring companies for a short two- day-event-window (0;1) and a long (−1;10) event-window. The results of analysis are summarized in Table 13.

Generally, the results of single regressions confirm the findings from the univariate analysis. Two variables – method of payment and relative size of target to acquirer – show statistically significant impact on the performance of acquirers. The *F*-statistic for the method of payment is 4,628 with adjusted R^2 of 3.50% and coefficient of 0.767, which are statistically significant at 5% level. The results for the relative size are close to the first variable, being statistically significant at 5% level with *F*-statistic equivalent to 4,464, adjusted R^2 of 3.40% and coefficient of −3,743. These results remain significant at 5% also in a longer event-window (−1;10). The international diversification does not show strong impact on the abnormal returns of acquirers in either of two analyzed event windows. The results for both regressions remain insignificant with adjusted R^2 of around 0%. The impact of industrial diversification increases to a statistically significant level in a longer event window (−1;10), where the regression values are 3,689 for *F*-statistic and 0.463 for coefficient with significance at 10%. The results from a shorter event window remain negative with adjusted R^2 of 1.1%.

6.3 Results of multiple regression analysis

In the next step, I investigate which variables have the strongest impact in multivariate contest. For this reason, I perform multivariate regression analysis. Taking into consideration the correlation between international diversification and method of payment shown in Table 13 and in order to rule out the possibility that the results are driven by multicollinearity amongst the control variables, I re-examine all the regression models excluding one of the control variables at a time. The results of analysis are presented in Table 14.

Table 11. Description of variables

Variable	Abbreviation	Definition
Method of payment	METHODP	Binary dummy variable with 1 = for payment in cash and 0 = stock or mixed method of payment
Industrial diversification	INDDIV	Binary dummy variable with 1 = for non-related transactions (0 or 1- SIC are equivalent) and 0 = related transactions (2 or more SIC- numbers are equivalent
International diversification	INTDIV	Binary dummy variable with 1 = for international transactions and 0 = for national transactions
Relative size of target to acquirer	LN_RSIZE	Absolute variable, calculated as a natural logarithm of relationship of Total Assets (WC02999) of target divided through Total Assets of acquirer

Table 12. Pearson correlation of independent variables

	Method of payment	Industrial diversification	LN_RelativeSize	International diversification
Method of payment		0.122	−0.238	0.317
(Sign. 2-tailed)		(0.223)	(0.017)	(0.001)
Industrial diversification			−0.119	−0.051
(Sign. 2-tailed)			(0.239)	(0.614)
LN_RelativeSize				−0.084
(Sign. 2-tailed)				(0.407)

	(0;1)						(−1;10)					
	METHODP		INDDIV	INTDIV	LN_RSIZE		METHODP		INDDIV	INTDIV	LN_RSIZE	
Intercept	−0.933***	−3.546	−0.677***	−0.650***	−3.038	2.721*	1.761	−0.526***	−3.164	−0.412***	−3.112	−0.275**	−2.023	1.646*	1.685
		(0.001)	−3.200		(0.003)		(0.081)		(0.002)		(0.002)		(0.046)		(0.095)
METHOP	0.767***	2.151						0.456**	2.023						
		(0.034)							(0.046)						
INDDIV			0.583	1.451						0.483*	1.921				
				(0.150)							(0.058)				
INTDIV					1.171							−0.012	−0.048		
				0.467	(0.244)								(0.962)		
LN_RSIZE						−3.743***	−2.113							−2.224**	−1.986
							(0.037)								(0.050)
N	101		101	101		100		101		101		101		100	
Adj. R in %	3.50%**		1.10%	0.40%		3.40%**		3.00%**		2.60%*		0		2.90%**	
F-statistic	4.628		2.104	1.371		4.464		4.092		3.689		0.002		3.944	
p-value	0.034		0.150	0.244		0.037		0.046		0.058		0.962		0.05	

Note(s): The table reports results of OLS-regressions presenting the relationship between the cumulative abnormal returns of acquiring companies (CAR) and independent variables - method of payment (METHODP), industrial diversification (INDDIV), international diversification (INTDIV) and relative size of target to acquirer (LN_RSIZE). The description of variables is presented in Table 11

*Significance at 10% level, using two-tailed test

**Significance at 5% level, using two-tailed test

***Significance at 1% level, using two-tailed test

Table 13.
Results of OLS-regression analysis

Table 14.
Results of multiple regression analysis

	(0;1)				(−1;10)			
	Regression 1	*t*-value (*p*-value)	Regression 2	*t*-value (*p*-value)	Regression 1	*t*-value *p* (*p*-value)	Regression 2	*t*-value (*p*-value)
Intercept	1.508	0.914 (0.363)	2.086	1.313 (0.192)	0.841	0.810 (0.429)	1.353	1.349 (0.181)
METHODP	0.574	1.557 (0.123)			0.330	1.421 (0.159)		
INDDIV	0.435	1.087 (0.280)	0.522	1.300 (0.197)	0.398	1.578 (0.118)	0.433*	1.707 (0.091)
INTDIV			0.416	1.039 (0.301)			−0.043	−0.169 (0.866)
LN_RSIZE	−2.841	−1.567 (0.120)	−3.313*	−1.856 (0.067)	−1.628	−1.428 (0.157)	−2.012*	−1.785 (0.077)
N	100		100		100		100	
Adj. *R* in %	5.30%**		4.00%*		5.80%**		3.80%*	
F-statistic	2.852		2.376		3.033		2.321	
p-value	0.041		0.075		0.033		0.08	

Note(s): The table reports results of multiple OLS-regression analysis presenting the relationship between the cumulative abnormal returns of acquiring companies (CAR) and independent variables – method of payment (METHODP), industrial diversification (INDDIV), international diversification (INTDIV) and relative size of target to acquirer (LN_RSIZE). The description of variables is presented in Table 11

*Significance at 10% level, using two-tailed test **Significance at 5% level, using two-tailed test ***Significance at 1% level, using two-tailed test

Overall, I can conclude that most of the results from the multivariate regression are consistent with univariate analysis findings. Two variables – method of payment and relative size of target to acquirer – remain statistically significant in all performed regressions as well as in those when they are applied independently. The first regression model is statistically significant at 5% level in the event window (0;1) with F-value of 2,852 and adjusted R^2 of 5.30%. It has similar results also for the event-window (−1;10). The model that excludes method of payment but contains international diversification is statistically significant at 10% with F-value of 2,376 and adjusted R^2 of 4.00%. It shows also similar outcome in the longer event-window of (−1;10). These findings stay therefore in line with the existing academic research (e.g. Martynova/Renneboog, 2011; Bayazitova *et al.*, 2012; Boone *et al.*, 2014). Industrial diversification, which shows no statistically significant results in the short event-window (0;1) but has a stronger impact in a longer event-window (−1;10) with coefficient of 0.433 and significance at 10% level, outlines the strategy of acquiring smaller companies in the non-related industries. International diversification does not show significant results in either of the regression models for analyzed event windows, despite the difference in absolute numbers presented in the univariate analysis on the days around the announcement.

7. Conclusions

The goal of this paper was to identify the key determinants and to analyze how they influence the performance of acquiring companies participating in *strategic acquisitions for growth* during the 5th and 6th merger waves. For this reason, I built a data sample that contains purely strategic acquisitions for growth, identified six variables based on the literature review and tested their contribution to value creation of acquirers, using event-study method, comparative statistics with mean-difference tests and OLS-regression analysis.

Overall, the study shows systematic variations in performance of acquiring companies as a result of impact of analyzed factors. In line with existing academic research, the acquirers in the data sample earn negative abnormal returns around the transaction announcement. The results are statistically significant for all event-windows around the announcement, but are the lowest on the day of announcement and in the two-day event-window with −0.757% and −0.608%, respectively. A number of non-financial variables show significantly explanatory power in explaining these outcomes. Broadly, they can be distinguished between those that are under management control and those that are not. Among the first group, the structure of capital markets and economic situation around the acquisition influence the performance of acquirers, which is in line with existing academic research. The US acquirers experience stronger reaction of shareholders on deal announcement than EU companies, which expresses the difference in corporate governance and strategies in both markets. These results are similar to the findings of Martynova and Renneboog (2011), and extend the study. The study also proves that macroeconomic situation around the announcement impacts the acquirers' value creation. Contrary to the Cerrate *et al.* (2016), however, the results show that strategic acquisitions performed during the "challenging" years experienced positive reaction of investors.

The study presents also a range of influential variables, which are under management control. First, the study shows that investors react more positively to the international diversification than national transactions. This certainly can be explained with the focus of the 5th and 6th merger waves on geographical expansion as well as the fact that weak economic situation in the USA and Europe during the financial crises in 2008–2010 pushed acquirers to look for business opportunities abroad to diversify their risks. These findings are in line with studies of Alexandris *et al.* (2012), Danbolt and Maciver (2012). Second variable with statistically significant explanatory power is the method of payment. Those

acquirers that paid for their acquisitions in cash performed significantly better than those which paid with stock. Contrary to Dutta *et al.* (2013), cash was also the method of payment in 80% of international transactions in the data sample. The acquirers in such transactions achieved relatively better returns than in transactions paid in stock. These results strongly support existing research (Martynova and Renneboog, 2011; Ben-David *et al.*, 2015) and confirm that decision to pay in cash influences positively the reaction of investors for both national and international deals. Third, acquirers pursuing middle-sized transactions outperformed their peers that participated in large- or small-sized transactions. These results support the statement (Bayazitova *et al.*, 2012) that investors react cautiously to the large deals, which are mostly paid with stock and are often too complex to realize the synergies planned. Being a subject to overpayment, mega-deals are often understood by investors as too risky to be successful, which is reflected in the share price development on the day of announcement. Another factor that has impact on investors' reaction is relatedness of acquirers and targets. Acquirers of less-related targets (2-SIC), especially in international acquisitions, performed better. These results contradict the findings of Lim and Lee (2016), however, should be evaluated with caution because of a small number of international un-related transactions in the sample. Additional analysis of this determinant can shed more light on its impact.

The results of current study have important implications for executives performing M&A for growth. They show that the market reaction to M&A announcement can be at least partially anticipated and help managers to plan their strategic moves based on a defined set of variables. Even though the extend of market reaction for European and US companies may differ, the impact of variables remains stable independently of the market structure. The results outline that strong performance of acquirers before the acquisition expressed through their ability to pay in cash, financial discipline (acquisition of medium-sized targets) and the right degree of diversification can increase the value a firm creates through strategic transactions. The ability to choose right variables and create the right strategic mix helps executives make sound value-based decisions and improves overall value of acquiring company.

The existing study suggest s additional directions for future research. The future analysis can investigate the post-merger acquisition performance of strategic acquirers and focus on additional financial (accounting) determinants in the evaluation of performance. This perspective can not only address the limitations imposed by the assumption of efficient capital markets, but also provide additional insights into the value creation dynamics.

References

Adnan, A. (2018), "Home vs. cross-border takeovers: is there any difference in investor perception?", *European Financial and Accounting Journal*, Vol. 13 No. 2, pp. 59-84.

Ahern, K.R. and Harford, J. (2014), "The importance of industry links in merger waves", *The Journal Finance*, Vol. 69 No. 2, pp. 527-576.

Akdoğu, E. (2011), "Value-maximizing managers, value-increasing mergers and overbidding", *Journal of Financial and Quantitative Analysis*, Vol. 46 No. 1, pp. 83-110.

Alexandridis, G., Petmezas, D. and Travlos, N. (2010), "Gains from mergers and acquisitions around the world: new evidence", *Financial Management*, Blackwell Publishing, Vol. 39 No. 4, pp. 1671-1695.

Alexandris, G., Mavrovitis, Ch.F. and Travlos, N. (2012), "How have M&As changed? Evidence from the sixth merger wave", *The European Journal of Finance*, Vol. 18 No. 8, pp. 663-688.

Arikan, A.M. and Stulz, R.M. (2016), "Corporate acquisitions, diversification and the firm's life cycle", *Journal of Finance*, Vol. 71 No. 1, pp. 139-194.

Bagella, M., Becchetti, L. and Adriani, F. (2005), "Observed and 'fundamental' price-earning ratios: a comparative analysis of high-tech stock evaluation in the US and in Europe", *Journal of International Money and Finance*, Vol. 24, pp. 549-581.

Bayazitova, D., Kahl, M. and Valkanov, R. (2012), "Value creation estimates beyond announcement returns: mega-mergers versus other merger", working paper, Said Business School, University of Oxford.

Beitel, P., Schiereck, D. and Wahrenburg, M. (2004), "Explaining M&A success in European banks", *European Financial Management*, Vol. 10 No. 1, pp. 109-139.

Ben-David, I., Drake, M.S. and Roulstone, D.T. (2015), "Acquirer valuation and acquisition decisions: identifying mispricing using short interest", *Journal of Financial and Quantitative Analysis*, Vol. 50, pp. 1-32.

Boone, A.L., Lie, E. and Yixin, L. (2014), "Trends and determinants of the method of payment in M&As", *Journal of Corporate Finance*, Vol. 27, pp. 296-304.

Bris, A. and Cabolis, C. (2008), "The value of investor protection: firm evidence from cross-border mergers", *Review of Financial Studies*, Vol. 21 No. 2, pp. 605-648.

Brown, S.J. and Warner, J.B. (1980), "Measuring security price performance", *Journal of Financial Economics*, Vol. 8 No. 3, pp. 205-258.

Campbell, J.T., Sirmon, D.G. and Schijven, M. (2016), "Fuzzy logic and market: a configurational approach to investor perceptions of acquisition announcements", *Academy of Management Journal*, Vol. 59 No. 1, pp. 163-187.

Cefis, E., Marsili, O. and Rigamonti, D. (2020), "In and out of balance: industry relatedness, learning capabilities and post-acquisition innovative performance", *Journal of Management Studies*, Vol. 57 No. 2, pp. 210-245.

Cerrato, D., Todd, A. and Depperu, D. (2016), "Economic crisis, acquisitions and firm performance", *Long Range Planning*, Vol. 49 No. 2, pp. 171-185.

Cogman, D. (2014), "Global M&A: fewer deals, better quality", *McKinsey on Finance*, No. 50, Spring 2014, pp. 23-25.

Cybo-Ottone, A. and Murgia, M. (2000), "Mergers and shareholder wealth in European banking", *Journal of Banking and Finance*, Vol. 24 No. 6, pp. 831-859.

Damijan, J., Kostevc, C. and Rojec, M. (2015), "Growing lemons or cherries? Pre- and post-acquisition performance of foreign-acquired firms in new EU member states", *World Economy*, Vol. 38 No. 4, pp. 751-772.

Danbolt, J. and Maciver, G. (2012), "Cross-border versus domestic acquisitions and the impact on shareholder wealth", *Journal of Business Finance and Accounting*, Vol. 39 Nos 7-8, pp. 1028-1067.

Dell'Acqua, A., Etro, L., Piva, M. and Teti, E. (2018), "Investor protection and value creation in cross-border M&As by emerging economies", *Journal of International Financial Management and Accounting*, Vol. 29 No. 1, pp. 83-100.

Di Giuli, A. (2013), "The effect of stock misvaluation and investment opportunities on the method of payment in mergers", *Journal of Corporate Finance*, Vol. 21, pp. 196-215.

Dutta, S., Saadi, S. and Zhu, P.C. (2013), "Does payment method matter in cross-border acquisitions?", *International Review of Economics and Finance*, Vol. 25, pp. 91-107.

Ferris, S.P., Narayanan, J. and Sabherwal, S. (2013), "CEO overconfidence and international merger and acquisition activity", *Journal of Financial and Quantitative Analysis*, Vol. 48 No. 1, pp. 137-164.

Francis, B.B., Hasan, I. and Sun, X. (2008), "Financial market integration and the value of global diversification: evidence for US acquirers in cross-border mergers and acquisitions", *Journal of Banking and Finance*, Vol. 32 No. 8, pp. 1522-1540.

Hackbarth, D. and Morellec, E. (2008), "Stock returns in mergers and acquisitions", *The Journal of Finance*, Vol. 63 No. 3, pp. 1213-1252.

Halpern, P. (1983), "Corporate acquisitions: a theory of special cases? A review of event studies applied to acquisitions", *Journal of Finance*, Vol. 38 No. 2, pp. 297-317.

Harford, J. (2005), "What drives merger waves?", *Journal of Financial Economics*, Vol. 77 No. 3, pp. 529-560.

He, Z., Yu, H. and Du, L. (2020), "Cohabitation before marriage: do prior alliances enhance post-merger performance?", *Review of Quantitative Finance and Accounting*, Vol. 54 No. 4, pp. 1315-1349.

Hillier, D., McColgan, P. and Tsekeris, A. (2020), "Value creation around merger waves: the role of managerial compensation", *Journal of Business Finance and Accounting*, Vol. 47 Nos 1/2, pp. 132-162.

Huang, P., Officer, M.S. and Powell, R. (2016), "Method of payment and risk mitigation in cross-border mergers and acquisitions", *Journal of Corporate Finance*, Vol. 40, pp. 216-234.

Ismail, A. and Davidson, I. (2005), "Further analysis of mergers and shareholder wealth effects in European banking", *Applied Financial Economics*, Vol. 15 No. 1, pp. 13-30.

JPMorgan (2019), "Global M&A outlook: unlocking value in a dynamic market", available at: https://www.jpmorgan.com/jpmpdf/1320746694177.pdf.

Kaneko, K., Kashiwazaki, R. and Takeda, T. (2020), "Does Japanese business group membership improve post-merger performance?", *International Advances in Economic Research*, Vol. 26, pp. 45-57.

Keil, T. and Laamanen, T. (2011), "When rivals merge, think before you follow suit", *Harvard Business Review*, Vol. 89 No. 12, pp. 25-27.

Koričan, M., Barac, Z. and Jelavić (2014), "Impact of related acquisition strategy on bidding company performance", *Journal of Economic and Social Studies*, Vol. 4 No. 2, pp. 31-51.

Lim, M.-H. and Lee, J.-H. (2016), "The effect of industry relatedness and takeover motives on cross-border acquisition completion", *Journal of Business Research*, Vol. 69 No. 11, pp. 4787-4792.

Madura, J., Ngo, T. and Viale, A.M. (2012), "Why do merger premiums vary across industries and over time?", *The Quarterly Review of Economics and Finance*, Vol. 52 No. 1, pp. 49-62.

Magi Tarasovich, B. (2014), "The impact of mergers and acquisition premiums on financial performance", *Journal of Theoretical Accounting Research*, Vol. 10 No. 1, pp. 1-39.

Malmendier, U., Moretti, E. and Peters, F.S. (2018), "Winning by losing: evidence on the long-run effects of mergers", *Review of Financial Studies*, Vol. 31 No. 8, pp. 3212-3264.

Margsiri, W., Mello, A.S. and Ruckes, M.E. (2008), *Review of Finance*, Vol. 12 No. 4, pp. 635-671.

Martin, R.L. (2016), "M&A: the one thing you need to get right", *Harvard Business Review*, Vol. 94 No. 6, pp. 42-48.

Martynova, M. and Renneboog, L. (2011), "The performance of the European market for corporate control: evidence from the fifth takeover wave", *European Financial Management*, Vol. 17 No. 2, pp. 208-259.

Megginson, W.L., Morgan, A. and Nail, L. (2004), "The determinants of positive long-term performance in strategic mergers: corporate focus and cash", *Journal of Banking and Finance*, Vol. 28 No. 3, pp. 523-553.

Mikkelson, W.H. and Partch, M.M. (1986), "Valuation effects of security offerings and the issuance process", *Journal of Financial Economics*, Vol. 1 Nos 1/2, pp. 31-60.

Mortal, S. and Schill, M.J. (2015), "Post-Acquisitions returns of stock deals: evidence of the pervasiveness of the assets growth effect", *Journal of Financial and Quantitative Analysis*, Vol. 50 No. 3, pp. 477-507.

Oswal, S. and Goel, K. (2020), "The impact of mergers and acquisition announcements on acquirer's share price: an analytical study using random effects", *Journal of Applied Economics*, Vol. 19 No. 3, pp. 7-25.

Rehm, W., Uhlaner, R. and West, A. (2012), "Taking a longer-term look at M&A value creation", *McKinsey Quarterly*, January, 2012, available at: http://www.mckinsey.com/insights/corporate_finance/taking_a_longer-term_look_at_m_and_a_value_creation.

Tao, Q., Li, H., Wu, Q., Zhang, T. and Zhu, Y. (2019), "The dark side of board network centrality: evidence from merger performance", *Journal of Business Research*, Vol. 104, pp. 215-232.

Wangerin, D. (2019), "M&A due diligence, post-acquisition performance and financial reporting for business combinations", *Contemporary Accounting Research*, Vol. 36 No. 1, pp. 2344-2378.

Weber, Y., Shlomo, Y.T. and Arie, R. (2011), "«A model of the influence of culture on integration approaches and international mergers and acquisitions performance»", *International Studies of Management and Organisation*, Vol. 41 No. 3, pp. 9-24.

Further reading

Vinogradova, V. (2015), "Grow externally, but do your homework: the impact of pre-event operating performance on the transaction outcome", in Wollersheim, J. and Welpe, I. (Eds), *Forum Mergers and Acquisitions 2014*, Springer Gabler, pp. 219-241.

Corresponding author

Veronika Vinogradova can be contacted at: vvinogradova@hse.ru