DO CHINESE M&A ACTIVITIES CREATE SHAREHOLDER VALUE IN THE SHORT RUN? EVIDENCE FROM CHINESE-GERMAN CROSS-BORDER TAKEOVERS

Jing Wang *, Michel Charifzadeh **, Tim Alexander Herberger ***

* ESB Business School, Reutlingen University, Reutlingen, Germany
** Corresponding author, ESB Business School, Reutlingen University, Reutlingen, Germany
Contact details: ESB Business School, Reutlingen University, Alteburgstraße 150, D-72762 Reutlingen, Germany
*** Chair of Entrepreneurship, Finance and Digitalization, Andrássy University, Budapest, Hungary


Abstract

Our paper investigates the response of acquiring firms' stock returns around the announcement date in cross-border mergers and acquisitions (M&A) between listed Chinese acquirers and German targets. We apply an event study methodology to examine the shareholder value effect based on a sample of M&A deals over the most recent period of 2012-2018. We apply a market model event study based on the argumentation of Brown and Warner (1985) and use short-term observation periods according to Andrade, Mitchell, and Stafford (2001) as well as Hackbarth and Morellec (2008). The results indicate that the announcement of M&A involving German targets results in a positive cumulative abnormal return of on average 2.18% for Chinese acquirers' shareholders in a five-day symmetric event window. Furthermore, we found slight indications of possible information leakage prior to the formal announcement. Although it shows that the size of acquiring firms is not necessarily correlated with the positive abnormal returns in the short run, this study suggests that Chinese acquirers' shareholders gain higher abnormal returns when the German targets are non-listed companies.

Keywords: Investment Banking, Merger & Acquisition, Cross-Border Takeovers, Value Creation


Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

Acknowledgements: This research project is financially supported by the Andrássy University as well as the ESB Business School.

1. INTRODUCTION

Mergers and acquisitions (M&A) is a combination of two firms to generate more value as a whole instead of operating as separate entities (Chakrabarti, 2001). With the increasing popularity of international business activities worldwide, the number of M&A involving firms from different countries has been fast growing in recent years. Different from the previous cross-border M&A phenomenon, which is dominated by developed economies, the growing importance of emerging economies in cross-border M&A deals in recent years is receiving wide attention. As one of the largest emerging economies in the world, China recently witnessed a surging number of Chinese M&A activities outside its
Do Chinese M&A activities really create shareholder value? To find the answer to this question, the current study extends cross-border M&A cases of Chinese bidders and German targets. Our research is meaningful and contributes to the literature with regards to three aspects. First, it is important to note the change in public opinion on Chinese overseas takeovers over the past few years. Although most investors were once optimistic about the presence of Chinese firms in global M&A, a part of the Chinese acquirers are increasingly questioned in recent times for “overpaying” when acquiring mature firms in developed economies (The Economist, 2017). It is risky to pay a too high premium in M&A transactions (Chatterjee & Hambrick, 2011). The potential influence that the perceived “overpayment” can have on the stock market reaction is not well captured by the existing research. This study fills this void by conducting quantitative tests and qualitative analyses based on the most recent deal data, especially for the period after the release of the “Made in China 2025” initiative and the perceived “overpayment” period. Furthermore, this aspect should also be considered against the background that in a political as well as social dimension, the influence of (governmental-controlled) Chinese companies are viewed with certain skepticism. They may be accompanied by populist statements, e.g., in the media of the country of the target, expressing both nationalistic as well as protectionist tendencies. Third, with our study, we contribute to the research field of cross-border M&A between companies in emerging markets and high-tech companies in developed economies. Buckley, Clegg, Cross, Liu, Voss, and Zheng (2007) concluded that Chinese firms tend to be conservative in terms of overseas acquisitions and seek for target companies that share similar economic and cultural backgrounds. However, nowadays Chinese companies acquire foreign firms not mainly for acquiring natural resources or cost savings but for long-run strategic reasons with implications for further stakeholders (e.g., employees). One important way to achieve this goal is to acquire mature companies in developed economies. Thus, Germany becomes a representative target country for Chinese companies because of the high-tech knowledge, highly qualified employees, and the abundance of patents German companies own.

The objective is to analyze the shareholder value creation in the short run and detect the possible listing effect and size effect in M&A deals between Chinese acquirers and German targets. This paper applies the most accepted method of measurement, the adjustment of stock prices attributed to the M&A announcement (Masulis, Wang, & Xie, 2007). Our results indicate that M&A deals between Chinese acquirers and German targets generate positive and significant returns for shareholders of acquiring companies around the announcement date. Additionally, the evidence is provided for the listing effect that Chinese acquirers targeting listed German companies earn on average lower returns than those targeting unlisted German firms. However, no statistical evidence is found supporting the size effect hypothesis. Our results are also particularly interesting against the background of the expansion strategies of Chinese companies. Chinese buyers under direct governmental control are potentially viewed critically in the target
countries. This is expressed, for example, in the recent trade conflict between the US and China, the Chinese efforts to establish a new “Silk Road”, or the awarding of tenders for major infrastructure projects to Chinese companies (including Huawei in the 5G sector). From an economic perspective, such skepticism towards Chinese investors seems inappropriate, as our results show that added values for shareholders can be created by Chinese investors in the short run, and thus other stakeholder groups (e.g., employees) of the target companies may also benefit indirectly in the long run.

Our paper is organized as follows. Section 2 will introduce the prior related studies in this field. Section 3 will present the data and methodology. The results and analysis will be conducted in Section 4. Section 5 concludes our paper.

2. LITERATURE REVIEW

As one of the most frequently discussed empirical questions is the impact of M&A transactions and whether they create value. Most researchers conducted experiments to investigate the abnormal returns (AR) on stocks gained by shareholders around the M&A announcement. Although most researchers suggest that the combined AR of M&A deals are generally positive (Bradley, Desai, & Kim, 1988; Servaes, 1991; Kaplan & Weisbach, 1992; Mulherin & Boone, 2000; Carow, Heron, & Saxton, 2004; Rahim, Ahmad, Ahmad, & Rahim, 2014), the results separated for targets and acquirers are often not the same.

On the one hand, most studies agreed that M&A deals do create value for target firm shareholders. Jensen and Ruback (1983), for example, suggest that the M&A announcement generates around 20% to 30% cumulative abnormal positive gains for target shareholders. This result is consistent with some later studies (Franks, Harris, & Titman, 1991; Jarrell & Poulsen, 1989; Mulherin & Boone, 2000; Smith & Kim, 1994). While M&A deals mostly create value for target shareholders, Danbolt (2004) argues that the target firm shareholders experience higher AR in cross-border M&A activities than in domestic M&A activities.

On the other hand, there are ambiguous findings on the value creation for shareholders of acquiring firms. Some researchers suggest that M&A deals do create value for acquiring firms shareholders. Markides and Ittner (1994) examined 276 cross-border M&A deals involving US bidding companies over the period of 1975-1988 and found that international M&A activities create value for the acquiring firms’ shareholders. This conclusion is consistent with a group of previous research results over different time spans (Bradley, 2002; Jarrell & Poulsen, 1989; Kummer & Hoffmeister, 1978). Later on, Fee and Thomas (2004) examined 554 US M&A transactions between 1980 to 1997 and concluded there are positive AR for acquirers. However, it can be observed from the studies that the reported positive cumulative abnormal returns (CAR) decreased from a range of 3%-5% for transactions before the 1980s to 0%-2% for transactions post after the 1980s.

However, a majority of studies report zero or negative returns to acquirers. For example, Firth (1980) provided evidence to support that the shareholders of acquirers suffered from share price losses in the UK. A subsequent study by Asquith (1983) supported these results and reported the same for acquirers regardless of the time horizon. This is in line with studies by Dodd (1980) and Malatesta (1983). Sudarsanam, Holl, and Salami (1996) found a negative CAR of -4% for acquiring firm shareholders at the announcement date. In sum, various studies employing different sample sizes suggest that shareholders of acquirers experience negative returns (Campa & Hernando, 2004; Conn, Cosh, Guest, & Hughes, 2005; Hackbarth & Morellec, 2008; Healy, Palepu, & Ruback, 1992; Alexandridis, Mavrovitís, & Travlos, 2012).

Additionally, other scholars have emphasized that the different nature of firms and deal characteristics involved in M&A transactions determine differences in value creation. For instance, Travlos (1987) found that it creates a much higher average CAR for acquirers when the payment is in cash instead of stocks, which is confirmed by other researchers (Chang, 1998; Draper & Paudyal, 2006). Meanwhile, the listing effect is widely accepted, which indicates that generally, the acquiring firms’ shareholders achieve zero or negative CAR around the announcement date when the target is listed, while the CAR is positive when the targets are not listed (Chang, 1998; Faccio, Mcconnell, & Stolin, 2006; Fuller, Netter, & Stegemoller, 2002). Furthermore, the size effect suggests that the shareholders from smaller size acquirers tend to gain more from the M&A announcement than shareholders of acquiring firms with high market capitalization, but the listing effect always outweighs the size effect (Faccio et al., 2006; Moeller, Schlingemann, & Stulz, 2004). Sheen (2014) and Fan (2013) found that horizontal M&A creates more value because of the synergy effect and improved efficiency. Besides, the availability of prior acquisition experience is another key in shareholder value creation (Zollo, 2009).

In contrast to firms from the US, which have adopted strategic M&A for over 100 years, firms from emerging economies only began to conduct M&A in the 1980s at the earliest. Therefore, the academic discussion so far mainly focuses on M&A transactions in developed economies and the number of studies on M&A in developing economies is much smaller. Prior researches on M&A activities involving emerging economies largely focus on the phenomenon that firms from developed economies acquire targets in emerging markets. For example, Arik and Kutan’s (2015) study contains a sample of 1648 M&A deals between 1997 to 2013 in which they found that there is a significant positive abnormal return of 5.17% for target firms’ stocks, with this abnormal return increasing after the financial crisis in 2008.

However, the increasing number of M&A acquisitions from emerging economies suggests the need to examine these deals, which differ from those in developed economies in terms of regulation transparency and investment opportunities (Chakrabarti, 2001). In fact, there are only a few studies focusing on acquirers from emerging economies and targets from developed economies. Gubbi, Aulakh, Ray, Sarkar, and Chittoor (2010) conducted an event study of 425 overseas M&A activities by Indian firms and found evidence that these activities create value for shareholders of Indian acquiring firms. Some later studies also confirmed these findings (Kalghatgi & Badi, 2013; Ranju & Mallikarjunappa, 2018). In contrast, Chari,
Ouimet, and Tesar (2010) found that acquirers from emerging economies realize statistically significant negative CAR when the targets are from developed economies because investors have concerns about the limited experience of buyers from emerging economies in executing the cross-border acquisition. This result is also consistent with the findings of Aybar and Ficici (2009).

With regard to China, Du and Boateng (2015) suggest that the Chinese market perceives cross-border M&A announcements as a positive signal, and investors, in general, react positively. Moreover, the involvement of the government adds a significant positive influence on value creation. This is consistent with previous studies (Bhagat, Malhotra, & Zhu, 2011; Chi et al., 2011; Nicholson & Salaber, 2013). More recently, Li et al. (2016) conducted an event study on a sample of 367 overseas transactions by Chinese listed acquirers between 2000 and 2011. They concluded that these overseas acquisitions bring about a stock price rise of 2-4% for the acquirer’s shareholders, and the greater the cultural distance between China and the target firm’s country, the less value the transaction has created. The study argues that investors would assume more problems with managing cultural differences (Li et al., 2016). But the degree of foreignness between two firms could be reduced through the improved institutional environment and financial market development in China (Rabbiosi, Elia, & Bertoni, 2012). Besides, Chi et al. (2011) found that listed firms with political advantages tend to earn more value from M&A while Chen and Young (2010) concluded that the government ownership of Chinese firms discourages investors concerning cross-border M&A. Song, Tippett, and Vivian (2017) compare Chinese M&A with eastern M&A and show that Chinese acquirers have positive abnormal returns especially in contrast to western acquirers. Their sample covers 279 Chinese acquiring firms from 1990 until 2008.

Regarding the M&A transactions between Germany and China, most researchers examined the critical success factors to improve post-M&A performance. For example, Cheng and Seeger (2011) analyze cultural differences and communication issues. Klossek, Linke, and Nippa (2012) investigate management strategies to mitigate the liability of foreignness. However, Fuchs and Schalljio (2016) found that German managers showed great interest and a warm welcome to Chinese acquirers at the beginning of the post-M&A phase, but later they tended to distance themselves from the new owners because of the challenge of professional ethics. Another frequently examined aspect is the motivation of both sides for the transaction: Chinese firms are looking for German technological knowledge and brand reputation, while German small- or medium-sized firms are seeking capital to grow faster (Knoerich, 2010). Besides the motive of seeking capital, being acquired by Chinese firms facilitates access to the Chinese market, since German firms find it time-consuming to enter the Chinese market given the competitive environment and big cultural differences (Erel, Jang, & Weisbach, 2015). Different from the conventional opinion that firms from emerging economies absorb useful knowledge from firms in developed countries, Haasis, Liefner, and Garg (2018) suggest that Chinese firms organize knowledge transfer through conducting M&A activities in the German industrial sector, but the knowledge transfer after the acquisition is carried out reciprocally.

With regard to Chinese firms, the influence of the Chinese government is another important motive (Tan & Ai, 2010). Other factors such as the image and reliability of German targets are also important to the investment decision of Chinese firms (Wellner, 2018). Wellner (2018) also concludes that M&A between Chinese acquirers and German targets tends to be mutually beneficial and he suggests that the M&A wave between the two countries will continue.

To conclude, while there is a plethora of finance literature on M&A in developed countries, the increasing number of M&A activities from emerging economies has not yet been researched as thoroughly. Moreover, the findings are inconclusive with respect to the question of whether the transactions create value only for the target or also for the acquirer shareholders. Concerning M&A activities in developing markets in general and Chinese takeovers in particular, there is only limited literature focusing on the value creation of shareholders. Specifically, there is no study for China and Germany covering the more recent period from 2012 to 2018, which marks the peak of cross-border M&A activities by Chinese firms. Studies investigating Chinese-German transactions often analyze different aspects such as post-merger integration, cultural differences, or political influence. Thus, this is the first study of its kind contributing to M&A literature by analyzing the value creation of recent transactions involving Chinese acquirers and German targets.

3. DATA AND METHODOLOGY

The dataset of cross-border M&A transactions involving Chinese listed acquirers and German targets over the years 2012-2018 is collected from the Bloomberg database. This time period is selected for two reasons. First, the significant rise of M&A transactions between the two countries in the recent 7 years provides more data to conduct the research and it demonstrates a peak in M&A activity between the two countries, driven by the “Made in China 2025” initiative. Figure 1 exhibits the number of deals for the 10 years from 2009-2018. The number has soared since 2012 and peaked in 2016. In the recent 5 years of 2014-2018, the number of M&A deals between Chinese acquirers and German targets has more than doubled compared to the period of 2009-2013.

Second, our study covers a recent period in which Chinese buyers are said to have paid too high purchase prices in developed economies (The Economist, 2017). This period of “overpayment” could reveal new results in stock price reactions following M&A announcements.
Regarding the industry distribution of German targets, the manufacturing sector is particularly popular for Chinese acquirers. Figure 2 exhibits the distribution of industries in our sample. The number of deals involving German target firms in automobile parts manufacturing accounts for more than one-fifth of the total deal number (23%) while the targets in machinery manufacturing account for another 12%. Besides, around 12% of the targets come from the solar energy and photovoltaic industry.

Meanwhile, there is another 8% of targets in the recycling sector and 6% are in the plastic industry. China has long been the largest importer of waste plastics for western countries (Brooks, Wang, & Jambeck, 2018). The Chinese government has been stressing the importance of building its own waste recycling system by incorporating waste recycling into people’s daily life in recent years. A plastic import ban has been introduced in July 2017 to stop the import of solid waste from foreign countries (Brooks et al., 2018). Therefore, more Chinese firms may find the potential of this industry attractive and may show particular interest in German targets in this field.

Comparing to the share of targets in manufacturing, energy, and recycling industries, the deal number in other service industries such as financial services and retail industries is limited. However, due to the limited sample size, the industry factor is not selected as a control variable in this study.

Figure 2. Industry breakdown of German targets

Note: Distribution of the industries in percent among the German target firms in the period from 2009-2018. The selection of the transactions meets the criteria outlined in Section 3. For instance, 23% of German target firms that were acquired by Chinese stock-listed companies between 2009 and 2018 are in the automotive parts manufacturing sector.
Additionally, we collected detailed information about each M&A deal, including the announcement date, announced total value, payment type, deal description, and the acquirer market capitalization from the Bloomberg database. The historical stock prices together with the market index information (Shanghai Composite Index and Shenzhen Component Index) were collected from Yahoo finance. Closing prices used are adjusted for dividends. The M&A transactions were selected using the following criteria:

1. All M&A transactions involve Chinese acquirers and German targets.
2. The M&A transaction must be announced between January 1, 2012, and December 31, 2018, and the deal status is completed.
3. Both companies involved in the transaction are non-financial firms.
4. The acquiring firm from China must have its shares traded on the Shanghai Stock Exchange or Shenzhen Stock Exchange and was listed at least one and a half years before the M&A announcement date.
5. In case an acquirer is involved in more than one transaction in a year, we keep only the first M&A deal.
6. The acquirer has no trading suspension that lasts more than 7 days around the M&A announcement.

The reason to exclude more than one M&A deal from the same Chinese acquirer in the same year is to eliminate a possible influence from the earlier M&A announcement in the estimation and event window. There are in total 58 M&A transactions that fulfill the criteria above. However, only 51 deals remained after filtering the deals for undisclosed acquirer names and incomplete historical stock prices (especially when listed firms applied for suspending their share trading around M&A announcements).

At first glance, the data set may appear to be quite small and therefore allow only a few robustness tests but on the basis of the intersubjectively comprehensible selection criteria mentioned above, it is a comprehensive data set on Chinese M&A activities in one of the world’s largest economies. Despite the individual case study (Germany), this allows for generalizable conclusions in the context of Chinese M&A-activities.

There are mainly two approaches to examine the value creation of M&A according to the current literature: event studies and accounting studies. The event study method is a typical forward-looking measure of value creation because it examines the stock market reaction. The accounting study method examines the returns from reported financial statements, thus being a backward-looking measure. A common downside of this approach is that different reporting practices and accounting standards are applied in different firms and countries, which makes studies about cross-border M&A more difficult and less straight-forward. Besides, the relatively low quality of the accounting information released by Chinese listed companies could not provide a solid basis for this research.

Hence, the event study methodology is employed to conduct the quantitative analysis in this paper. The event study method was firstly proposed by Fama, Fischer, Jensen, and Roll (1969), and it is widely employed and recognized in capital market research with over 500 articles published in major finance journals during 1974-2000 (Kothari & Warner, 2007). The methodology seeks to assess the adjustment of stock prices in response to a specific event, which in this case is the M&A announcement. It requires a measure of the AR regarding the M&A announcement. The AR is the difference between the actual realized return and the "normal return". The actual realized return can be obtained from historical stock prices. The normal return refers to the expected return of the stock in the absence of the M&A announcement. This study employs the most widely used model – the market model - to estimate the normal return. Brown and Warner (1985) commented on the market model that "methodologies based on the OLS market model and using standard parametric tests are well specified under a variety of conditions" (p. 25), and that there is no evidence that more complicated methodologies convey any benefit after analyzing the simulated data. Moreover, Armitage (1995) reports that there is no other model besides the market model that has both continuous experimental evidence and theoretical support. This statement is also supported by Dyckman, Philbrick, and Stephans’s (1984), and Cable and Holland’s (2010) studies. The equation below specifies the market model:

\[ R_t = \alpha + \beta \times R_{mt} + \epsilon \]  

where \( R_t \) and \( R_{mt} \) indicate the firm-specific stock return and the market return while \( \alpha \) and \( \beta \) are the two parameters that determine the linear relationship between firm-specific return and overall market return. The residual \( \epsilon \) is the error term, and the expected value of \( \epsilon \) is assumed to be 0 in the market model (Corrado, 2011). Therefore, the normal return of the stock for the event date is:

\[ E_r = \alpha + \beta \times R_{mt} \]  

Hence, the AR for the firm on the event date is:

\[ AR_t = R_t - E_r \]  

When analysing the impact of an event over a period, computing the CAR is a predominant method applied in short-run event studies. CAR is simply the sum of the AR over the event window and is described below with \([t_1, t_2]\) = event window.

The "Average Abnormal Return (AAR)\(\text{(XE "AAR" \(\downarrow\) "Average Abnormal Return")}\) is the mean AR at a specific day for all companies while the average cumulative abnormal return (ACAR\(\text{(XE "ACAR" \(\downarrow\) "Average Cumulative Abnormal Return")}\) is the mean CAR over the event window for all companies in the sample:

\[ CAR(t_1, t_2) = \sum_{t_1}^{t_2} AR_t \]  

\[ AAR_t = \frac{1}{N} \sum_{t=1}^{N} AR_t \]  

\[ ACAR(t_1, t_2) = \frac{1}{N} \sum_{t=1}^{N} CAR(t_1, t_2) \]
More specifically, the event study was conducted in three steps in this paper. The first step was to define the event date and the event window. The exact event date for each firm is the announcement date of the M&A deal. If the announcement date is not a trading day, the next trading day after the announcement is determined to be the event date. \( T [0] \) denotes the event date in this paper. We choose event windows of 2 days \( [0, +1] \), 5 days \( [-2, +2] \), and 11 days \( [-5, +5] \) to examine the short-term effect of the event. The event date together with the days after the announcement are included to capture the wealth effect of the announcement because the market response to the announcement could last for several days (Aggarwal & Chen, 1985). Besides, the event window contains several days prior to the announcement to detect possible information leakage.

We chose short-term event windows because many researchers suggest that the most reliable evidence to prove the value creation of M&A deals comes from short-term event studies (Andrade et al., 2001; Hackbarth & Morellec, 2008). Longer event windows are not optimal because more days included in the event window may increase the distraction and influence from other events (Mackinlay, 1997). Additionally, the abnormal return error term is smaller and the corresponding calculation is more accurate in short-term studies than in long-term studies (Kothari & Warner, 2007).

The normal return for each firm involved was estimated by the return over 250 days prior to the event. The estimation window of 250 days is widely chosen in event studies because it is approximately the number of trading days in a calendar year (Corrado, 2011). However, the event window itself is not included in the estimation window to prevent the normal return model from being influenced by the event announcement and possible information leakage. Therefore, the end date of the estimation window is 21 days prior to the event date \( T [-270, -21] \) and the event windows are \( T [0, +1] \), \( T [-2, +2] \), and \( T [-5, +5] \).

The second step was to compute the parameters of the normal return and to estimate the AR and CAR. \( \alpha \) and \( \beta \) were determined by the actual realized stock return and market return over the estimation period \( [-270, -21] \). The Shanghai Composite Index and Shenzhen Component Index are the proxy for the market index. The market model is used to compute AR, AAR, CAR, and ACAR. Additionally, \( t \)-tests were conducted to test whether the CAR and ACAR are significantly different from 0. Additionally, the Wilcoxon signed-rank test is used to examine the significance of the median CAR.

Third, a regression analysis was performed on the dependent variable \( \text{CAR} [-2, +2] \) and other independent variables (acquirer size, listed target) to find out if there is any size effect or listing effect.

4. RESULTS AND ANALYSIS

Figure 3 shows the acquirers’ size distribution in this sample. 84% of the Chinese acquirers are small to medium-sized listed firms (market capitalization is less than 5 billion dollars).

Figure 3. Size distribution of Chinese buyers

Note: Size distribution of Chinese acquirers in the sample (in $US dollars). Large-cap firms with more than 5 billion $US dollars market capitalization represent only 16% of the sample.

Regarding the announced deal value exhibited in Figure 4, all announced deal volumes are less than 500 million dollars except the acquisition of Kuka by the Chinese Midea Group.
Figure 4. Announced M&A total value in the sample

Note: The figure shows all transactions in the sample, measured by deal value. Some of the Chinese acquirers conducted more than one transaction in the sample period. Only one transaction by the Chinese Midea group exceeded the volume of 200 million US dollars.

Table 1 shows the result of the CAR for the three chosen event windows. The CAR [0, +1] has a positive mean of 1.49%, which suggests a positive and significant (p-value < 0.1) return for a two-day period around the announcement date. It indicates that the stock market reacts positively to the M&A deals between Chinese acquirers and German targets. The M&A announcement is regarded as good news for investors in China and investors have high expectations for the post-M&A growth of the acquiring firm. This result contradicts several study results from developed economies, which suggest a neutral or negative wealth effect of acquirers (Hackbarth & Morellec, 2008; Alexandridis et al., 2017), but it supports several findings from emerging markets (Li et al., 2016). However, the ACAR of this study is lower than in the study by Li et al. (2016) who suggest a range of 2-4% over a comparable 2-day event window.

In order to detect a possible information leakage before the formal M&A announcement, we apply two longer event windows of 5 and 11 days in the analysis. Both mean and median CAR of the 5-day-event window are significantly positive. The mean CAR [-2, +2] is 2.18%, with significance at the 99% level while the median is at 1.42% and statistically significant according to the Wilcoxon signed-rank test. The average CAR [-2, +2] is bigger than the CAR [0, +1], which indicates the possibility of information leakage shortly before the event date. As for the 11-day event window, the mean CAR is positive but not statistically significant. Overall, the test results support the existence of a possible information leakage before the M&A announcement date.

Table 1. CAR for selected event windows

<table>
<thead>
<tr>
<th>Window</th>
<th>Median (%)</th>
<th>Mean (%)</th>
<th>t-statistic</th>
<th>Wilcoxon’s statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>[0, +1]</td>
<td>1.43</td>
<td>1.49</td>
<td>2.3**</td>
<td>0.012**</td>
</tr>
<tr>
<td>[-2, +2]</td>
<td>1.42</td>
<td>2.18</td>
<td>3.17***</td>
<td>0.001***</td>
</tr>
<tr>
<td>[-5, +5]</td>
<td>0.44</td>
<td>1.21</td>
<td>1.15</td>
<td>0.125</td>
</tr>
</tbody>
</table>

Note: *, **, *** indicate the significance at 10%, 5%, 1% level of confidence respectively.

Looking at all companies in the sample, Figure 5 illustrates the fluctuation of AAR over the period of 20 days before the official announcement date and 5 days after the announcement date. A clear upward movement of the AAR around 3 days before the announcement is captured in the graph and indicates a high likelihood of information leakage. This supports the same conclusion drawn from the CAR in different event windows.
Figure 5. AAR for Chinese buyers

Note: AAR for Chinese acquirers for the event window [-20, 5]. The chart shows the fluctuations of the AAR for all firms in the sample in the respective period and suggests information leakages.

In contrast to the majority of study results in developed economies, reporting either negative or neutral wealth effects from M&A transactions for acquirers’ shareholders, cross-border M&A activities between German targets and Chinese buyers do create value for Chinese acquirers. Thus, investors believe that M&A activities involving German targets could improve the future performance of Chinese acquirers and create value for the company. We suggest the following reasons for these results. First, a prudent selection of target firms helps to build investors’ confidence. “Made in Germany” has long been a popular label worldwide, and acquiring German firms also means acquiring reliable brands, advanced technologies, and competitive advantages in global markets for investors. More specifically, Chinese acquirers tend to choose German firms that they are familiar with, including competitors or complementary businesses to lower risk and related costs. When qualified complementary resources and capabilities are being acquired, shareholders from acquiring firms are likely to benefit from the value creation. For example, as a leading manufacturer of automotive safety systems, Ningbo Joyson Electronic Corporation acquired TechniSat Digital GmbH in 2016. TechniSat Digital GmbH is an exact complement to Joyson and the acquisition helps both firms to achieve vertical integration and synergies (Yang, Chen, & Tang, 2019). Prior to this acquisition, Ningbo Joyson successfully acquired Preh GmbH in 2012, IMA Automation Amberg GmbH, and Quin GmbH in 2014. All of these German automotive firms are complementary firms to Ningbo Joyson. In contrast to such complementary transactions, M&A in developed economies is often characterized by similarities between buyers and targets in terms of markets, industries, and institutional environment. This could explain the rather poor shareholder returns of acquiring firms in developed economies (Brouthers & Hennart, 2007). Alexandridis et al. (2017) attribute their recent positive findings for US buyers to a superior strategic fit of the targets and the fact that they tended to expand more in emerging markets.

Second, the support of the Chinese government in overseas takeovers in combination with the financing arrangements of Chinese takeovers are another key to the promising outlook for investors. Previous studies suggest that acquiring companies tend to prefer cash financed deals to stock financed deals if the bidder management expects to preserve management control over the target (Shleifer & Vishny, 2003). It is worth noting that all M&A transactions in the sample are all-cash deals, regardless of the size of the acquiring firm and the announced deal value. This could be rooted in the strict regulations of the China Securities Regulatory Commission. Although cross-border share-swaps are not prohibited by the commission per se, it has hardly approved any cross-border share-swap requests from Chinese firms until now. Moreover, Jensen (1986) suggests that all-cash financing in an M&A transaction indicates that the management of the acquiring firm is confident about abundant cash flows of the target and a promising integration phase. Alexandridis et al. (2017) note that all-cash deals typically generate higher AR than share-swap deals.

Optimistic prospects on the part of the management may also come from strong financing capabilities. According to the guidelines released in 2015 by the China Banking Regulatory Commission on risk management of M&A debt financing by commercial banks, the loan term for M&A deals was increased from five years to seven years and the maximum loan amount increased from 50% of the transaction value to 60% (China Banking Regulatory Commission, 2015). These new regulations provided Chinese firms with a better financing environment to conduct overseas M&A activities. The mean debt-to-equity ratio of Chinese acquiring firms is 68% in this sample, which is much higher than the average debt-to-equity ratio of the German targets (41%). Regardless of the high debt-to-equity ratio, the less complicated and easier

![Figure 5](image-url)
process of obtaining bank loans for Chinese takeovers allows higher leverage and helps to prevent them from capital constraints.

However, investors’ confidence in these listed Chinese buyers does not only depend on the company itself, but also on the supporting power behind the listed companies. It is estimated that more than 50% of Chinese listed companies are state-owned enterprises or have been transformed from state-owned enterprises and still have partial state ownership (Ma, 2017). The state-owned part of listed companies enjoys a series of special government subsidies regarding cross-border M&A activities and therefore has a lower risk and higher chances of providing investors superior performance in the future.

The observed positive AR may be further explained by the particular characteristics of the German targets. The vast majority of target companies of Chinese investors in Germany are concentrated in small listed companies in Germany, which are probably less visible to the public and therefore less likely to be in the focus of non-professional investors. It could be a strategy of the Chinese acquirers to target explicitly such so-called “hidden champions”, in order to avoid attention and publicity on the stock market as much as possible during a takeover. The existing and typically more sophisticated shareholders of such less visible target companies tend to look at the fundamentals of such deals rather than following a negative − potentially politically motivated − reporting. Hence, this may help to prevent targeted counter-campaigns against Chinese investors and avoid protectionist news campaigns.

We control for the size effect and the listing effect in this study to investigate the impact of the buyers’ size or a listing of the target on our results. The bigger the acquiring firms the more resources and capacities are available for financing and managing post-M&A integration. However, larger firms also face greater challenges from regulatory requirements related to cross-border acquisitions, less flexibility, and more complex processes to complete the transaction. We use the market capitalization of the Chinese firms as the proxy for firm size (SIZE). The dependent variable is the acquiring firm’s CAR over the event window of 5 days. Table 2 shows the regression output from the two variables. The coefficient suggests a positive effect of company size, but the p-value indicates that the correlation is not statistically significant.

### Table 2. Regression output for size and listing

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard error</th>
<th>t-statistics</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.021***</td>
<td>0.0031</td>
<td>6.827</td>
<td>0.000</td>
</tr>
<tr>
<td>SIZE</td>
<td>1.875</td>
<td>2.362E-08</td>
<td>0.753</td>
<td>0.453</td>
</tr>
<tr>
<td>LISTED</td>
<td>-0.0233**</td>
<td>0.0231</td>
<td>-1.007</td>
<td>0.327</td>
</tr>
</tbody>
</table>

Note: *, **, *** indicate the significance at 10%, 5%, 1% level of confidence respectively.

To investigate the existence of a listing effect, a binary independent variable is generated (LISTED). The privately-owned targets are coded as 1, while public targets are coded as 0. The negative coefficient of -0.0233 is significant at the 95% confidence level and indicates that acquirers who target listed German firms earn on average 2.33% less CAR around the M&A announcement date than those who target private firms. This result is in alignment with studies in the US and Australian acquisitions (Faccio et al., 2006; Fuller et al., 2002, Alexandridis et al., 2017). To further examine the listing effect in our sample, we compute the mean CAR of all listed targets and all unlisted targets.

### Table 3. Comparison of ACAR for listing variable

<table>
<thead>
<tr>
<th></th>
<th>ACAR (%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unlisted targets</td>
<td>2.41***</td>
<td>0.0012</td>
</tr>
<tr>
<td>Listed targets</td>
<td>0.079</td>
<td>0.2261</td>
</tr>
</tbody>
</table>

Note: *, **, *** indicate the significance at 10%, 5%, 1% level of confidence respectively.

The ACAR of Chinese acquirers targeting unlisted German firms is 2.41% and significantly greater than zero at the 1% level. In contrast, the ACAR for acquirers of listed targets is slightly positive, but it is not statistically different from zero. Overall, based on the observed data, it can be concluded that the listing effect on Chinese acquirers' stocks does exist and acquirers targeting private German firms tend to generate bigger short-term wealth effects for their shareholders.

Among other reasons that have been well documented in prior M&A literature (Faccio et al., 2006; Fuller et al., 2002), one possible reason for this result in the context of this study is the institutional environment that is involved when acquiring public firms. Regulatory obstacles heightened media attention, and in some cases political involvement on the part of the target may slow down the acquisition process, increase deal premia, and reduce the overall probability of success, thus contributing to lower acquirer returns.

Additionally, the fungibility of listed companies could play a role for a listing effect. Unlike listed companies that trade their shares publicly, unlisted companies cannot be bought or sold on the stock exchange (Fuller et al., 2002). This liquidity advantage makes the investment in listed firms more attractive and shareholders of listed firms might require a premium for selling their shares. This could result in lower AR for bidders' shareholders.

### 5. Conclusion

Do Chinese M&A activities really create shareholder value? This study on short-term stock price performance regarding completed cross-border M&A deals between Chinese acquirers and German targets suggests that investors from listed Chinese acquiring firms benefit from on average 2.18% stock price rise around the M&A announcement. In contrast to recent comments about Chinese
companies buying foreign targets at overpaid prices, the positive short-term wealth effect proves that investors react positively to cross-border M&A activities with German targets. Consequently, overseas acquisitions with German companies prove to be a wise strategy for Chinese firms. Additionally, the special corporate ownership situation (government ownership) in China ensures relatively strong financial support from institutional sources. High leverage in takeover transactions, facilitated by commercial banks and strong governmental support provides Chinese acquiring companies an advantage when conducting overseas M&A activities.

Furthermore, the average CAR over the 5 and 11 days event windows are also examined to assess the existence of a possible information leakage prior to the M&A announcement. We find indications that support the hypothesis of a likely information leakage on a slightly statistical level. Moreover, while there is no indication that the size of Chinese acquirers influences the shareholder returns, we find evidence for a listing effect in the study, which suggests a higher CAR for acquirers' shareholders when targets are private German firms. Although this study indicates a positive wealth effect of cross-border M&A activities between China and Germany, we believe our results are only one piece of the puzzle in this research area. There are some limitations to the study. First, studies concentrating on M&A activities between the two countries naturally exhibit a limited sample size in most cases. Therefore, our sample size is relatively small due to a constitutional and limited number of deals for investigation in the context of the Chinese-German M&A market. As we will see more transactions in the future, studies could use a larger sample. Additionally, more independent variables could be tested in a cross-sectional regression analysis if the sample data is complete. For example, the effect of the participation of investment banks in the M&A deal in their role as financial intermediaries, the acquisition experience of acquirers, competition of the bidding, intervention from German authorities, and leadership characteristics could be further examined in future researches. Second, although the short-term stock reaction is considered as a reliable measure for the wealth effect, a potential sample bias may exist in this short-term event study by excluding unlisted Chinese acquirers.

Our findings of the short-term shareholder wealth effects of Chinese-German takeovers provide several practical implications. Regarding Chinese acquirers and investors, there are two important implications. First, in order to meet investors' high expectations of M&A deals, the management of the acquiring firms must take measures to implement the anticipated positive wealth effects, e.g., by realizing synergies. Second, being aware of both the firm-specific characteristics and the institutional environment is of great importance to successfully create shareholder value. In particular, acquirers need to take the listing effect into account when making M&A decisions and selecting German targets. Additionally, the industry and the institutional environment should be considered before trying to acquire German firms. For example, in contrast to the optimism among investors in China, public fear arose in Germany after several large high-tech firms were taken over by Chinese firms. Especially the 3.5 billion euro acquisition of the German robotics maker Kuka by the Chinese electrical appliance manufacturer Midea attracted the attention of politicians and the public. There is a growing concern in China that the German government could interfere in M&A activities between the two countries to prevent the acquisition of important intellectual property, which causes uncertainties to future M&A activities and investors' expectations. Therefore, employing M&A activities as a value creation strategy requires a deeper understanding of all the above-mentioned factors to achieve an effective execution.

As regards the implications for German companies, it is likely that these medium-sized German targets that are planning to explore the Chinese market and are in need of capital could benefit from cross-border transactions with Chinese acquirers in the short run. From an economic perspective, skepticism towards Chinese investors based on nationalistic as well as protectionist tendencies seems inappropriate, as our results show that added value for the shareholders can be created by Chinese investors at least in the short run and thus also indirectly potentially benefit other stakeholder groups (e.g., employees) of the target company in the long run. However, it is still unclear whether the M&A activities of Chinese acquirers are attracting strategic investors with long-term perspectives or whether they are rather used by Chinese firms to rapidly gain technological know-how. This requires further research on the post-M&A long-term wealth effects.

REFERENCES


