# WHEN GOOD THINGS TURN BAD: EVIDENCE FROM G-7 SERIAL ACQUIRER BIDDING

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## ABSTRACT

*This study investigates the impact of acquirer bidding experience on acquiring abnormal returns based on empirical evidence from a large sample of 10,880 bidders making 23,852 deals from G-7 countries. Both event study and regressions analysis have been used to examine the impact of acquirer bidding experience on acquirer returns. The findings show that "single acquirers" achieve higher returns, with a cumulative average abnormal return (CAAR) of 3.354%, but this number tends to decrease with increasing numbers of previous bids. In addition, the results of the bivariate analysis demonstrate that a single acquisition alone generates greater abnormal returns than those which are part of a series of acquisitions, with very robust results even after accounting for additional heterogeneity in payment method, target status and country/industry diversification. The findings of the multivariate analysis also confirm that serial acquirers are associated with significantly lower abnormal returns. This evidence conflicts with the notion that more experience with mergers and acquisitions (M&As) will correspond to improve target valuation and thus lead to more profitable agreements. In contrast, my findings imply that shareholder wealth is destroyed by serial acquirers, which suggests that the goal of maximising firm value is not always the sole motivation for engaging in M&A activities.*

**Keywords:** Mergers and acquisitions, acquirer bidding experience, learning-by-doing theory, hubris theory, event study

## INTRODUCTION

In the last 40 years, modern finance theory has provided a number of models to explain why companies choose to engage in mergers and acquisitions (M&A) activity. Acquiring companies may wish to increase market power by eliminating potential competition, or it may reflect efforts to improve corporate efficiency or a reaction to deregulation. Other potential aims include diversification or empire building, which is occasionally linked to managerial hubris. Empirical research on the topic has demonstrated that various types of merger activity can be attributed to all these goals, though certain theories seem to correspond more than others to particular time periods. The investigation of M&A activity has garnered a great deal of attention in both the financial and industrial sectors, and the motivation for this interest is clear. A merger is one of the most significant and expensive transactions an individual corporation can undertake, and at an aggregate level, M&As constitute an important means through which resources are distributed both across industries and within a single sector. At a macroeconomic level, furthermore, it has been noted that mergers are influential in propagating technological change (Jovanovic & Rousseau, 2002).

A great deal of research attention has been devoted to M&A activity. One line of study focuses on the tendency of mergers to either improve or destroy shareholder wealth. These studies typically use event study methodology to examine market reactions to M&A announcements (e.g., Faccio, McConnell, & Stolin, 2006; Jain & Sunderman, 2014; Jaffe, Jindra, Pedersen, & Voetmann, 2015; Mat Rahim & Ali, 2016; Bhabra & Hossain, 2017; Amewu & Alagidede, 2018; Tanna & Yousef, 2019; Mohil, Patro, & Nayyar, 2019; Tanna, Yousef, & Nnadi, 2020). However, potential conclusions regarding the general impacts of merger activity on shareholder wealth are far from clear. Although a basic trend has been noted suggesting that target firms tend to experience positive abnormal returns, the evidence with respect to acquiring companies has been less conclusive. In addition, much of the research undertaken to date has focused on the United States (e.g., Fuller, Netter, & Stegemoller, 2002; Ismail, 2008; Cummins & Xie, 2009; Akbulut & Matsusaka, 2010; Jaffe et al., 2015) and Europe (e.g., Faccio et al., 2006; Kuipers, Miller, & Patel, 2009; Pasioura, Gaganis, Zopounidis, Nnadi, & Tanna, 2013; Raj & Uddin, 2013; Tanna, Urio, & Yousef, 2020). The wealth effects of M&A activity in G-7 countries remain underexplored, and similarly, no prior studies have made use of a combined sample of announcement return data for G-7 countries.

A few key questions also remain unanswered. The most crucial of these is: Does bidding experience actually improve bidder returns, and if so, is the

winning acquirer more typically a single or serial acquirer? This study examines, for the first time, whether M&A deals by serial acquirers are received more favourably by the market than those of single acquirers in G-7 countries using a large sample of 23,852 deals.

This study contributes to the existing body of literature in four keyways. First, this is the first study to analyse the implications of acquirer bidding experience on acquirer returns in G-7 countries. Second, while some previous empirical studies have taken cross-border acquisitions into account in their sample, they have used only a cross border dummy variable to control for international targets. This study, by contrast, introduces determinants specific to international acquisitions in order to extend the analysis to include cross-border transactions, such as macroeconomic and target-country characteristics and controlling for deal-, firm-, and country-level factors. Third, this research bridges the fields of globalisation and international finance by controlling for institutional variables such as legal institutional quality and investor protection in the target country. Last but not least, most of the previous research has utilised only small or medium-sized samples. This study's large sample size of 23,852 bid announcements along with relevant country-, firm-, and deal-level data make it one of the most comprehensive studies to date for its focus area of G-7 countries.

I find that acquirers' shareholders earn 1.42% abnormal returns and that single acquirers out-performed serial acquirers by 2.06%, with the main difference in the abnormal returns between single and serial acquirers significant at a level of 1%. These results are robust with respect to model choice as well as various deal-, firm-, and country-level factors. Several robustness checks were performed, demonstrating that single acquirers remained in the lead. Stock deals were shown to produce higher returns than cash deals for single acquirers but lower returns than cash deals for serial acquirers. Diversified transactions, whether cross-industry or cross- country, were shown to produce higher returns than non-diversified deals for both single and serial acquirers, and acquiring non-public targets was shown to generate higher abnormal returns than acquiring public targets.

Abnormal returns for single acquirers were 3.35% and significant at a 1% level, while serial acquirers remained significantly positive through the fourth deal (0.747%) but negative through the seventh deal (–0.113%). These findings demonstrate that single acquirers continually generate higher returns than their more experienced counterparts, and this is consistent with hubris theory. Thus, it seems that managers who engage in serial acquisitions tend to be either poor managers with excessive free cash flow or good managers

when it comes to evaluating potential synergy between companies. The learning-by-doing theory holds that serial acquirers ought to increase their ability to engage in profitable mergers as they move up the learning curve. However, if the pattern of acquisitions is not backed up by a fundamental logic and reflects instead a simple race against peers to acquire as many companies as possible, such acquiring firms are unlikely to experience significant benefits to their overall performance. Moreover, companies subject to hubristic management will most likely see their value decrease as the market apprehends shrinking margins and cash flows in connection with increasing size. Serial acquirers may thus exemplify behaviour involving poor utilisation of discretionary funds.

## BIDDER EXPERIENCE: WHY DOES IT MATTER? RELEVANT THEORETICAL HYPOTHESES

An investigation of the serial acquirers issue could shed light on the significant increase in the number of serial acquisitions which have been observed in recent years (in this study, more than 55.8% of bidders were serial acquirers, i.e., making more than three acquisitions during the sample period). Previous research on serial acquisitions has shown that serial acquirers under-performed compared to their peers, but various hypotheses suggest that serial acquirers will yield positive returns and that the "learning-by-doing effect" may play an important role in explaining such returns. According to Guest, Cosh, Hughes, & Conn (2004), the bid order effect is positive for acquirers whose first acquisition is unsuccessful. In other words, later deals by the same acquirer lead to better performance than earlier ones, and this finding is consistent with the learning-by-doing hypothesis.

Several key hypotheses relate to the impact of number of acquisitions on bidder performance. These include the learning-by-doing hypothesis, the indigestion hypothesis, the hubris hypothesis, the overvaluation hypothesis, the accounting manipulation hypothesis, and the merger program announcement hypothesis.

According to the learning-by-doing model, returns on acquisitions should increase over time. One iteration of this theory states that both the number and order of acquisitions will impact acquirer performance. The basic concept behind this idea is that a learning curve exists with respect to acquisitions, i.e., more experienced acquirers will be more likely to encounter success than less experienced ones. Other variations of the hypothesis assert that multiple types of learning curve may be involved, depending on the type of acquisition in

question, for example, related vs. unrelated acquisitions, domestic vs. cross-border acquisitions, and public vs. non-public acquisitions. In other words, number of acquisitions alone may be less likely to increase success than having a high number of acquisitions of a similar type. The most commonly-cited example of an acquisition program featuring a refined methodology is that of Cisco.

Serial acquisitions which entail a sequential increase in market power can lead to a corresponding sequential increase in acquirer performance. Kamien and Zang (1993), for example, demonstrate that a series of endogenous mergers may eventually result in monopolisation of the industry. Other related hypotheses assert that serial acquisitions will not improve the shareholder wealth of acquirers. According to the indigestion hypothesis, for example, a short time period between deals will mean that bidding companies may be incapable of successfully integrating subsequent acquisitions, and each successive merger will therefore lead to further reduced performance.

Another way of explaining the under-performance of bidding firms with serial acquisition activity has been suggested by Roll (1986) in the form of the hubris hypothesis, which states that worsening performance may be linked to over-confidence from previous deals resulting in less care being taken with subsequent acquisitions. For example, less attention may be given to the choice of targets, higher prices may be paid for those targets, or greater leverage may be relied upon in order to complete transactions. Thus, this hypothesis predicts that the corresponding decline will be more acute for bidding companies whose first acquisition was highly successful.

According to the overvaluation hypothesis, mergers tend to occur when bidding companies consider themselves in a good financial position, for example, an acquirer may be experiencing high stock prices due to recent good performance or a change in market sentiment. It could also be related to the agency costs which arise in the acquisition of overvalued companies. In such transactions, stock is often used as the medium of exchange, and these acquisitions may be more likely to improve stock price in the short-run but lead to underperformance in the long-run. Recent empirical evidence is consistent with this view (e.g., Ang & Cheng, 2006; Dong, Hirshleifer, Richardson, & Teoh, 2006). Furthermore, Shleifer and Vishny (2003) assert that this applies not only to single acquirers but also serial ones. For example, the market may initially react positively to acquisition activity, but as unrealistic expectations are replaced by a reality in which the original temporary overvaluation declines or vanishes altogether, the ultimate impact may be negative.

The accounting manipulation hypothesis argues that the type of financial information manipulation which is typically associated with merger activity fools the market only temporarily, and the greater the degree of such manipulation, the higher the likelihood of eventual exposure. One explanation for declining performance related to accounting manipulation is the price to earning (PE) game in which the aim is to increase earnings per share (EPS) by acquiring targets with low PE ratios. This strategy, however, can often be considered short-sighted, irrational, and unsustainable in the long-term.

According to the merger program announcement hypothesis, the announcement of an initial acquisition will result in a favourable reaction from the market both to the event itself and to its inclusion in a merger programme. The announcement of a second acquisition will also correspond to some announcement gain, but part of the value has already been discounted in the share price, and this model thus predicts zero impact on the returns associated with later transactions. It makes no estimates regarding the profitability related to additional acquisitions.

## EMPIRICAL EVIDENCE FOR THE SERIAL ACQUIRERS EFFECT

In the last few decades, various studies have examined the profit effect with respect to the general performance impact of single bidders as compared to serial acquirers. Stegmoller (2001), for example, analyses 542 U.S. firms making five or more public, non-public or subsidiary acquisitions between 1990 and 1999, and finds that serial acquirers outperformed comparable firms, with robust evidence regarding payment method and target status. Baker and Limmack (2001) find substantial similar evidence for the U.K.

Schipper and Thompson (1983) show positive abnormal returns for their sample of serial acquirers, and Asquith, Bruner and Mullins Jr. (1983) conclude that most acquirers in their sample were serial bidders, with 45% making four or more bids over the course of the 17-year sample period. These researchers also demonstrated that bidder returns remained positive in the range of 2.5% through the fourth acquisition attempt. Hayward (2002) analyses 214 acquisitions by 120 U.S. companies from six industries from 1990 to 1995 to find a positive correlation between a company's focal acquisition performance and prior acquisitions which were: (i) neither extremely similar nor dissimilar to the focal acquisition, (ii) associated with low levels of loss, and (iii) neither particularly close nor particularly distant temporally from the focal acquisition.

Fuller et al. (2002) investigate the short-term returns of a sample of 539 acquirers which had completed a minimum of five acquisitions. The study concludes that initial bids correlated to significant positive returns while later bids led to insignificant and sometimes negative returns. The researchers assert that a possible explanation for this finding could be that when making a series of quick, successive bids, later deals may be more likely characterised by less efficient negotiation or reduced synergy. On the other hand, Ismail (2008) finds that single acquirers perform better than serial acquirers by 1.66% in normal acquisitions and up to 5% in equity exchange offers. Unlike serial acquirers, single bidders experience lower returns in cash and mixed offers than in equity deals thanks to the high returns associated with the acquisition of non-public targets. Aktas, De Bodt and Roll (2011) demonstrate that declining returns in successive acquisitions correspond to the process of CEO learning. That is, CEOs are likely to consider investor reactions to previous deals in order to adjust their bidding behaviour in subsequent deals. Chao (2018) analyses the impact of the M&A experience on acquirer performance for 889 listed firms in the U.S. over the period of 2001 to 2014 and finds that the acquisition experience has a non-significant effect on acquirer performance.

In summary, some previous empirical evidence implies that serial acquirers outperform single bidders, while other evidence demonstrates that short-term performance following acquisitions may decline with subsequent bids. While several hypotheses exist offering theoretical support for both patterns, the learning-by-doing model has received the most attention. In this research, I investigate the importance of past experience by considering a large sample 23,852 deals from G-7 countries and controlling for various country-, firm-, and deal-specific factors.

## METHODOLOGY

### Hypothesis Testing

This study aims to analyse the impact of acquirer bidding experience on acquirers' abnormal returns. While previous acquisition experience is not considered an essential criterion for success, it may often be the case that unsuccessful acquirers have less bidding experience than their more successful counterparts. This is because firms with prior acquisition attempts have had the opportunity to learn from potential mistakes, which is thought to confer an advantage in subsequent bids (Guest et al., 2004; Chao, 2018). Firms which are considered serial acquirers are able to rely on a great deal of such previous experience and

are thus recognised as having a particular advantage in their acquisition attempts. However, the hubris or over-optimism theory of M&As contrasts with such rational, synergy-based models; it predicts that the increased experience which comes with serial acquisitions may ultimately be more likely to destroy rather than improve shareholder value (Roll, 1986). Thus, the alternative to the null hypothesis in this study corresponds to hubris theory, stating that abnormal returns for serial acquirers will be lower than for single acquirers.

$H_0$: Acquirer bidding experience has a significant positive impact on acquirer returns.

$H_1$: Acquirer bidding experience has a significant negative impact on acquirer.

**Model of Study**

I use cross-sectional cumulative average abnormal return (CAAR) regressions to investigate the influence of acquirer bidding experience on the abnormal returns of acquiring firms. The analysis is simplified through use of a three-day event window in the regression for CAAR ($-1, +1$). However, I use CAARs with varying window lengths in the bivariate analysis and robustness checks. I calculate the abnormal returns corresponding to an announcement by subtracting the expected returns during the event period from the actual returns. Thus, for an acquirer $i$ at time $t$, the equation can be written as follows:

$$AR_{i,t} = r_{i,t} - E(r_{i,t})$$

where $AR_{i,t}$ is the abnormal return for acquirer $i$ at time $t$, $r_{i,t}$ is the actual return for acquirer $i$ at time $t$, and $E(r_{i,t})$ is the expected return for acquirer $i$ at time $t$. The expected return is calculated through the estimation of the market model which specifies the correlation between the acquirers' stock return and the market index return, as follows:

$$E(r_{i,t}) = \alpha + \beta r_{m,t} + \varepsilon_{i,t} \, t = -111, \dots \dots, -11$$

where $r_{m,t}$ is the market return based on an index, and $\alpha_i$ and $\beta_i$ are the parameters of the model.

The data for this study were gathered via DataStream. Given a list of acquirers' stocks, it is possible to obtain time series data for the local index on which each company is listed, and daily market returns were thus calculated using the benchmark local price index for each country (available in DataStream,

code LI). The primary local market index for each G-7 country according to Datastream is as follows: Canada: S&P/TSX, United Kingdom: FTSE ALL SHARE, Italy: FTSE ITALIA, United States: S&P 500 COMPOSITE, Germany: DAX 30, France: SBF 120, and Japan: TOPIX.

Because the learning-by-doing theory stipulates that a learning curve exists with respect to acquisitions (i.e., more experienced acquirers will be more likely to encounter success than less experienced ones), I assume that an acquirer needs at least three to five years to learn from a deal. Moreover, serial acquisitions with multi-bidding experience could also lead to a sequential increase in market power, but such increases also require a minimum of three years. Therefore, I incorporate into the analysis the cumulative total number of completed deals by a given bidder during both a 3-year period and a 5-year period.

In order to check the results for consistency and robustness, I use the following four proxies for acquirer bidding experience:

1. 3-year experience is the cumulative total number of completed deals by a given bidder during a 3-year period.

2. 5-year experience is the cumulative total number of completed deals by a given bidder during a 5-year period.

3. Dummy 3-year experience is a dummy variable equalling 1 if a given bidder has two or more completed deals during the previous 3-year period (i.e., serial acquirer), and 0 otherwise.

4. Dummy 5-year experience is a dummy variable equalling 1 if a given bidder has two or more completed deals over the previous 5-year period (i.e., serial acquirer), and 0 otherwise.

In order to control for deal-, firm-, and country-specific heterogeneity, I include several control variables in the CAAR regressions. The minimum set of control variables incorporated into all regressions includes: transaction value, logarithm of GDP, annual GDP growth, inflation rate, logarithm of foreign direct investment, stocks-traded-to-GDP ratio, target status, method of payment, and geography diversification.

To deepen the robustness analysis, I also add supplementary control variables to test for consistency. These include the following acquirer characteristics: market-to-book ratio, return on assets ratio, and relative acquisition size. Finally, I use additional dummy variables to control for fixed effects based on year, industry, and country. Table 1 presents descriptions of

the variables used in the bivariate and cross-sectional analyses, as well as their sources.

Table 1
*Variable description*

| Variable name | Description and sources |
| --- | --- |
| CAARs | Abnormal returns are calculated the market model; data for daily market share price and index were collected from DataStream. |
| **Deal-specific** | |
| Value of transaction | Log of the total value of the initial offer by the acquirer. (Source: SDC platinum database) |
| 3-year experience | The cumulative total number of completed deals by a given bidder during a 3-year period. (Source: SDC platinum database) |
| 5-year experience | The cumulative number of completed deals by a given bidder during a 5-year period. (Source: SDC platinum database) |
| 3-year experience dummy | Equal to 1 if a given bidder has two or more completed deals during the previous 3-year period. (Source: SDC platinum database) |
| 5-year experience dummy | Equal to 1 if a given bidder has two or more completed deals during the previous 5-year period. (Source: SDC platinum database) |
| Stock payment dummy | Equal to 1 if the target is acquired with common stock. (Source: SDC platinum database) |
| Cash payment dummy | Equal to 1 if the target is acquired with cash. (Source: SDC platinum database) |
| Public target dummy | Equal to 1 if the target is public. (Source: SDC platinum database) |
| Private target dummy | Equal to 1 if the target is private. (Source: SDC platinum database) |
| Industry diversification dummy | Equal to 1 if the acquirer and the target operate in different industries (based on the initial two digits of their four-digit SIC codes). (Source: SDC platinum database) |
| Country diversification dummy | Equal to 1 if the acquirer and the target are located in different countries. (Source: SDC platinum database) |
| **Country-specific** | |
| GDP per capita | Gross domestic product divided by mid-year population of the target country (Source: DataStream) |

(*continued on next page*)

Table 1: (*continued*)

| Variable name | Description and sources |
|---|---|
| Quality of institutional | The quality of institutional proxy divided by the legal institutional quality indicator. (Source: Kuncic, 2014) |
| Investor protection dummy | Equal to 1 if the bidder (target) is located in a country that applies common law (i.e. proxy for investor protection). (Source: SDC platinum database) |
| GDP growth | Annual percentage growth rate of GDP at market prices based on constant local currency. (Source: World Bank Database) |
| Inflation | Annual inflation rate measured by the consumer price index. (Source: World Bank Database) |
| FDI | Foreign direct investment refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. (Source: World Bank Database) |
| Stock traded to GDP ratio | The value of stocks traded is the total number of shares traded multiplied by their respective matching prices. (Source: World Bank Database) |
| **Firm-specific** | |
| Market-to-book ratio | Market share price divided by the book value of the acquiring firm's shares on announcement day. (Source: SDC platinum database) |
| Relative acquisition size | The value of the transaction as a percentage of the acquiring firm's asset value. (Source: SDC platinum database) |
| ROA | Acquirer's return on assets. (Source: SDC platinum database) |

## Sampling and Data Collection

In this study, I analyse the impact of acquirer bidding experience on acquirer abnormal returns based on a sample of 23,852 deals taking place in G-7 countries. The sample was selected based on the availability of data, which were primarily sourced through the Thomson-Reuters SDC database and Datastream. The M&A data include all initial bids announced during the period 1990 to 2012. Deals announced prior to 1990 could not be considered due to lack of share price data. In addition, at the time of data collection, the status of many of the announced deals remained uncertain, and these transactions were thus excluded from the sample.

Thomson-Reuters SDC database was used to compile a list of successful M&A bids by acquirers in G-7 countries over the period 1990 to 2012. Inclusion in the sample required that a given acquisition announcement comply with the following criteria:

1. The acquirer is a public-listed firm traded in a G-7 country.

2. The target is either public, private, or a subsidiary firm.

3. The deal has been completed.

4. The value of the deal is at least USD1 million.

The next step involved carrying out a review of the deals to verify the required criteria by checking the DataStream database for the availability of data with respect to historical acquirers' stock prices and the index prices. In cases where such data were unavailable, the deals were removed from the sample. After all necessary exclusions, the final sample size comprised 23,852 deals.

Table 2 summarises the sample distribution for transaction value across the G-7 countries and across specific deal characteristics. The total combined value of all deals included in the sample was USD10.542 trillion. This massive volume is reflected in the average individual transaction value of the 23,852 deals, which is USD442 million. The U.S. had the highest number of deals, comprising 54% of the total sample and a total combined transaction value of USD6.745 trillion. This is followed by the U.K., with 16.9% of the total volume and a combined transaction value of USD1.369 trillion. Table 2 presents a breakdown of the sampled deals according to: (i) target status (i.e., public, private, or subsidiary), (ii) payment method (i.e., cash only or stock only), and (iii) industry and country diversification. The average deal value for public targets is greater than that for private and subsidiary targets. With respect to payment method, the average deal value is greater for stock deals than for cash transactions, except in Canada and Germany, where the opposite is true. Finally, the average value of same-industry deals is higher than that of diversified deals in all countries.

Table 2
*Comparative sample statistics for all and G-7 countries across various deal characteristics*

| Value of transaction ($mil) | All | Canada | France | Germany | Italy | Japan | The U.K. | The U.S. |
|---|---|---|---|---|---|---|---|---|
| Full sample | | | | | | | | |
| N | 23,852 | 2,611 | 619 | 393 | 241 | 2,979 | 4,037 | 12,972 |
| Mean ($M) | 442 | 179 | 1,242 | 1,125 | 656 | 198 | 339 | 520 |
| Sum ($M) | 10,542,098 | 468,173 | 769,045 | 442,138 | 158,025 | 590,741 | 1,368,831 | 6,745,146 |
| Target public status | | | | | | | | |
| Public | 1,096 | 392 | 2,280 | 2,063 | 3,847 | 563 | 1,288 | 1,169 |
| Private | 71 | 38 | 131 | 305 | 66 | 60 | 37 | 85 |
| Subsidiary | 248 | 97 | 905 | 734 | 215 | 95 | 229 | 296 |
| Payment method | | | | | | | | |
| Cash | 287 | 172 | 644 | 1,145 | 270 | 100 | 204 | 361 |
| Stock | 511 | 148 | 3,358 | 670 | 4,902 | 343 | 759 | 506 |
| Industry diversifications | | | | | | | | |
| Related (same) | 545 | 197 | 1,703 | 1,450 | 852 | 335 | 472 | 594 |
| Unrelated | 306 | 147 | 713 | 685 | 418 | 85 | 210 | 405 |
| Country diversifications | | | | | | | | |
| National | 433 | 167 | 1,241 | 1,002 | 735 | 188 | 197 | 556 |
| Cross-border | 475 | 201 | 1,244 | 1,196 | 514 | 289 | 617 | 299 |

*Note*: All transaction values are in $million.

## EMPIRICAL RESULTS

Several previous studies have used the event study method to analyse the impact of a specific event (e.g. dividends, earnings, or merger announcements) on stock returns (Guan & Ahmad, 2010; Yousef, Patra, & Tanna, 2016). Therefore, I investigate the impact of acquirer bidding experience on acquirer returns using both the event study method and cross-sectional regressions to test the hypotheses stated in the previous section. The empirical strategy for testing these hypotheses focuses initially on bivariate analyses based on non-parametric Spearman's rho test and the parametric Pearson test of CAARs for several different window lengths. Next, I use a multivariate regression analysis to highlight the results returned with a given CAAR window (–1, +1) as the dependent variable, followed by appropriate robustness tests to verify the consistency of the results. Due to the fact that heteroskedasticity was in detected in the cross-section of CAARs, White's (1980) heteroskedasticity-consistent standard errors are used in the reported regressions.

### Bivariate Analysis

Table 3
*Pearson and Spearman's rho correlations for acquirer bidding experience*

| | Pearson correlation | | Spearman's rho | |
|---|---|---|---|---|
| | 5-year experience | 3-year experience | 5-year experience | 3-year experience |
| CAAR(–10,+10) | –0.036*** | –0.028*** | –0.041*** | –0.042*** |
| CAAR(–5,+5) | –0.038*** | –0.032*** | –0.055*** | –0.052*** |
| CAAR(–3,+3) | –0.041*** | –0.035*** | –0.060*** | –0.054*** |
| CAAR(–2,+2) | –0.031*** | –0.023*** | –0.053*** | –0.047*** |
| CAAR(–1,+1) | –0.027*** | –0.018*** | –0.055*** | –0.048*** |

*Note*: The table presents the results of the correlation analyses aiming to test the correlation between acquirers' abnormal returns as measured by CAARs and acquirer bidding experience (3-year and 5-year experience). I have used both non-parametric Spearman's rho test and the parametric Pearson test. *** denotes statistical significance at a level of 1%.

The primary hypothesis tested here is that no correlation exists between the deal-specific abnormal returns of acquirers and previous bidding experience. In this context, bidding experience is denoted by the frequency of previous acquisitions in terms of the cumulative total of completed transactions by a given acquirer during the previous 3-year or 5-year period (3-year experience and 5-year experience). Table 3 presents the results of the correlations between the

CAARs of acquirers (for various window lengths) and previous M&A experience as outlined above for the 3-year and 5-year periods using both Pearson (parametric) and Spearman's rho (nonparametric) correlations. The findings clearly indicate a negative and significant association between previous acquirer bidding experience and abnormal returns.

Several tests are available to evaluate the statistical significance of abnormal returns. To rule out the possibility of the results being driven by outliers in an event study, a non-parametric test is typically used in conjunction with a parametric test. The assumptions about return distributions required by non-parametric tests are not as strict as those required by parametric tests, and Campbell et al. (2010) have asserted that non-parametric generalised sign tests are in fact more powerful than parametric measures. For the sake of robustness, therefore, both a parametric BMP-test and a non-parametric generalised sign test have been conducted in this study's analysis. The results are presented in Table 4.

The means and statistical significance of acquirer CAARs for groups of deals (totalling up to 75 and categorised based on the number of bidders implicated in previous bids) are presented in Table 4. For example, out of the overall sample of 23,852 deals, 6,105 were announced by "single acquirers" making a single bid. In other words, the sample contains a total of 6,105 single bidders making a total of 6,105 acquisitions. At the other extreme, the acquirer Cisco Systems[1] had made the maximum of 75 previous bids. The results clearly demonstrate that the single acquirers in the sample experienced higher returns (i.e., single bidder CAARs averaged 3.354%), but these tended to decrease as the number of previous bids increased. For example, the CAARs for the 2,208 bidders making 4,416 deals (i.e., two deals per bidder) averaged 2.023%, and for the 1,030 bidders making three deals per bidder (i.e., 3,090 deals), average CAARs dropped to 0.821%. This clearly supports the hypothesis that engaging in serial acquisition activity may endanger shareholder wealth.

This finding is consistent with several theoretical models, including hubris theory, indigestion theory, overvaluation theory, accounting manipulation theory, merger program announcement theory, and managerial empire building theory. It runs counter to the prediction that increased acquisition experience leads to improved acquisition decisions based on more astute target valuation. In the present case, I observe a larger contribution from irrational hubris in target valuation. The market may respond negatively, as reflected in negative acquirer returns, if it appears that the true synergy value of a transaction is below the price paid.

Table 4

*Acquirer bidding experience based on number of completed deals by a given bidder*

| X deals | No. of bidder | No. of deals | % of deals | CAARs (%) | p-value | Positive: negative | Positive%: negative% | p-value |
|---|---|---|---|---|---|---|---|---|
| 1 | 6,105 | 6,105 | 25.60 | 3.354 | 0.000*** | 3429: 2676 | 56:44 | 0.000*** |
| 2 | 2,208 | 4,416 | 18.51 | 2.023 | 0.000*** | 2413: 2003 | 55: 45 | 0.000*** |
| 3 | 1,030 | 3,090 | 12.95 | 0.821 | 0.000*** | 1648: 1442 | 53: 47 | 0.001*** |
| 4 | 526 | 2,104 | 8.82 | 0.747 | 0.000*** | 1124: 980 | 53: 47 | 0.001*** |
| 5 | 305 | 1,525 | 6.39 | 0.345 | 0.076* | 773: 752 | 51: 49 | 0.304 |
| 6 | 192 | 1,152 | 4.83 | 0.144 | 0.511 | 559: 593 | 49: 51 | 0.165 |
| 7 | 135 | 945 | 3.96 | −0.113 | 0.627 | 447: 498 | 47: 53 | 0.052* |
| 8 | 87 | 696 | 2.92 | −0.048 | 0.821 | 361: 335 | 52: 48 | 0.172 |
| 9 | 69 | 621 | 2.60 | 0.340 | 0.166 | 331: 290 | 53: 47 | 0.054* |
| 10 | 44 | 440 | 1.84 | −0.179 | 0.469 | 210: 230 | 48: 52 | 0.183 |
| 11 | 39 | 429 | 1.80 | −0.520 | 0.081* | 199: 230 | 46: 54 | 0.074* |
| 12 | 28 | 336 | 1.41 | −0.131 | 0.696 | 159: 177 | 47: 53 | 0.177 |
| 13 | 21 | 273 | 1.14 | 0.370 | 0.233 | 136:137 | 50:50 | 0.500 |
| 14 | 17 | 238 | 1.00 | −1.306 | 0.000*** | 95:143 | 40:60 | 0.001*** |
| 15 | 17 | 255 | 1.07 | −0.265 | 0.480 | 126:129 | 49:51 | 0.450 |
| 16 | 13 | 208 | 0.87 | −0.494 | 0.060* | 85:123 | 41:59 | 0.005*** |
| 17 | 8 | 136 | 0.57 | −0.844 | 0.109 | 58:78 | 43:57 | 0.051* |
| 18 | 8 | 144 | 0.60 | 0.194 | 0.524 | 75:69 | 52:48 | 0.339 |
| 19 | 6 | 114 | 0.48 | −0.338 | 0.367 | 60:54 | 53:47 | 0.320 |
| 20 | 1 | 20 | 0.08 | −2.566 | 0.060* | 9:11 | 45:55 | 0.412 |

Table 4: (*continued*)

| X deals | No. of bidder | No. of deals | % of deals | CAARs (%) | p-value | Positive: negative | Positive%: negative% | p-value |
|---|---|---|---|---|---|---|---|---|
| 21 | 4 | 84 | 0.35 | −1.992 | 0.026** | 32:52 | 38:62 | 0.019** |
| 22 | 4 | 88 | 0.37 | −1.126 | 0.011** | 42:46 | 48:52 | 0.375 |
| 23 | 3 | 69 | 0.29 | 0.052 | 0.930 | 35:34 | 51:49 | 0.500 |
| 24 | 1 | 24 | 0.10 | −0.499 | 0.205 | 9:15 | 38:63 | 0.154 |
| 26 | 1 | 26 | 0.11 | 0.102 | 0.838 | 14:12 | 54:46 | 0.423 |
| 27 | 1 | 27 | 0.11 | −0.564 | 0.235 | 10:17 | 37:63 | 0.124 |
| 30 | 2 | 60 | 0.25 | −1.827 | 0.000*** | 16:44 | 27:73 | 0.000*** |
| 34 | 1 | 34 | 0.14 | 5.933 | 0.059* | 21:13 | 62:38 | 0.115 |
| 36 | 2 | 72 | 0.30 | 8.258 | 0.000*** | 55:17 | 76:24 | 0.000*** |
| 46 | 1 | 46 | 0.19 | −0.018 | 0.965 | 21:25 | 46:54 | 0.329 |
| 75 | 1 | 75 | 0.31 | −0.058 | 0.923 | 40:35 | 53:47 | 0.322 |
| Total | 10,880 | 23,852 | 100 | 1.416 | 0.000 | 12,592: 11,260 | 53: 47 | 0.000 |

*Note:* The table shows the results of the means and statistical significance of CAARs for groups of deals (totalling up to 75) categorised based on the number of acquirer who were implicated in previous bids, where '*X Deals*' is the cumulative number of bids between 1 and 75; '*N# of Bidders*' denotes the total number of bidders for each group of deals with a previous number of *X* deals; and '*N# of Deals*' denotes the total number of deals for each group with a previous number of *X* deals. In order to obtain robust results, one parametric BMP-test and one non-parametric generalized sign test has been conducted. \*\*\*, \*\*, and \* denote statistical significance at the levels of 1%, 5%, and 10%, respectively.

Table 5

*CAARs for all acquirers, single acquirers and serial acquirers based on 5-year experience across different deal characters*

| | 5-year experience | | | | | | |
|---|---|---|---|---|---|---|---|
| | All | | Single | | Serial | | Single-serial |
| | $N$ | CAARs (%) | $N$ | CAARs (%) | $N$ | CAARs (%) | CAARs (%) |
| Full sample | 23,852 | 1.42*** | 12,275 | 2.41*** | 11,577 | 0.36*** | 2.06*** |
| By deal characteristics | | | | | | | |
| Target public status | | | | | | | |
| Public | 7,907 | −0.72*** | 3,528 | −0.13 | 4,379 | −1.20*** | 1.08*** |
| Private | 11,721 | 2.55*** | 6,360 | 3.57*** | 5,361 | 1.35*** | 2.22*** |
| Subsidiary | 4,224 | 2.26*** | 2,387 | 3.09*** | 1,837 | 1.19*** | 1.91*** |
| Payment method | | | | | | | |
| Cash | 6,776 | 0.99*** | 3,142 | 1.35*** | 3,634 | 0.68*** | 0.67*** |
| Stock | 6,795 | 1.82*** | 3,582 | 3.50*** | 3,213 | −0.06 | 3.56 |
| Industry diversifications | | | | | | | |
| Related (same) | 13,586 | 1.01*** | 6,834 | 1.97*** | 6,752 | 0.04 | 1.92*** |
| Unrelated | 10,266 | 1.95*** | 5,441 | 2.98*** | 4,825 | 0.80*** | 2.18*** |
| Country diversifications | | | | | | | |
| National | 18,778 | 1.36*** | 9,791 | 2.36*** | 8,987 | 0.27*** | 2.09*** |
| Cross-border | 5,074 | 1.64*** | 2,484 | 2.64*** | 2,590 | 0.67*** | 1.97*** |

*Note*: The table presents CAARs for all acquirers, single acquirers, and serial acquirers, along with the differences in CAARs between single and serial acquirers. The distribution spans four levels: (1) method of payment, (2) target status, (3) industry diversification (related vs. unrelated), and (4) country diversification (national vs. cross-border). The dummy variable for 5-year experience equals 1 if a given acquirer has completed two or more deals over the preceding 5-year period, and 0 otherwise. The mean difference tests for single and serial bidders utilise the *t*-tests for equality in means assuming unequal variance. *N* denotes the number of transactions in each sub-group, and ***, **, and * designate statistical significance at the levels of 1%, 5%, and 10%, respectively.

It is possible to explain additional heterogeneity in the analysis above by using bidding experience to check for consistency in the findings. Tables 5 and 6 compare the CAARs of acquirers across the variables of bidding experience, payment method, target status, and industry and country diversification. Table 5 presents three-day cumulative abnormal returns, and it can be seen that for the full sample, CAARs averaged 1.42%, which is significant at a level of 1%. It is also shown that single acquirers generated substantially higher returns than

their serial-acquiring counterparts, at 2.41% and 0.36% respectively, with the difference of 2.06% also significant at 1%. Moreover, the results of a robustness check for both 3-year experience and 5-year experience are presented in Tables 4 and 5. Serial acquirers are defined in Table 5 as firms having completed a minimum of two acquisitions in any 3-year window (3-year experience) and in Table 6 as firms having completed the same in any 5-year window (5-year experience). The results are robust across all sub-samples and deal characteristics, and this supports the hypothesis that previous bidding experience reduces the abnormal returns of acquirers, regardless of target status or payment method.

Furthermore, after controlling for various deal-specific characteristics in Tables 5 and 6, it appears that single acquirers outperformed serial acquirers across all sub-samples. In Table 5, the lowest reported return was –1.24% for deals involving the acquisition of public firms by serial bidders. However, with respect to single acquirers, the lowest result was –0.13%, also relating to the acquisition of public companies by serial acquirers. On the other hand, the highest difference in returns was 3.56% for the sub-sample in which stock was used as the payment method. Thus, in contrast to the results for the sample as a whole and those for the serial acquirers sub-sample, and contrary to previous evidence (e.g., Moeller, Schlingemann, & Stulz, 2004), this study found that for single acquirers, stock-based transactions generate substantially higher abnormal returns than cash-based deals.

A closer examination of Tables 5 and 6 show that the abnormal returns of serial acquirers fall consistently below those of single acquirers in all cases. For example, in cross-border deals, single acquirers earned a significant 2.64% abnormal return while serial acquirers earned only 0.67%, with the mean difference (1.79%) significant at a level of 1%.

It can also be observed from Tables 5 and 6 that acquisitions involving private or subsidiary targets correlate to higher returns than do acquisitions of public targets. This result is consistent with previous findings by Chang (1998) and Moeller et al. (2004). The best explanation for this is likely that nonpublic firms are less liquid than public companies, and their valuation thus reflects a liquidity discount which, in turn, leads to higher abnormal returns for acquirers.

Finally, the results presented in Tables 5 and 6 indicate that diversification deals with respect to both industry and country generate higher abnormal returns than non-diversification transactions. For example, it can be seen in Table 6 that

the average abnormal returns for bidders in unrelated deals was 1.95%, compared to 1% in related deals.

Table 6

*CAARs for all acquirers, single acquirers, and serial acquirers based on 3-year experience across different deal characteristics*

| | 3-year experience | | | | | | |
|---|---|---|---|---|---|---|---|
| | All | | Single | | Serial | | Single-serial |
| | $N$ | CAARs (%) | $N$ | CAARs (%) | $N$ | CAARs (%) | CAARs |
| Full sample | 23,852 | 1.42*** | 13,789 | 2.22*** | 10,063 | 0.31*** | 1.91*** |
| By deal characteristics | | | | | | | |
| Target public status | | | | | | | |
| Public | 7,907 | −0.72*** | 4,136 | −0.25* | 3,771 | −1.24*** | 0.99*** |
| Private | 11,721 | 2.55*** | 6,993 | 3.42*** | 4,728 | 1.28*** | 2.14*** |
| Subsidiary | 4,224 | 2.26*** | 2,660 | 2.93*** | 1,564 | 1.13*** | 1.80*** |
| Payment method | | | | | | | |
| Cash | 6,776 | 0.99*** | 3,680 | 1.25*** | 3,096 | 0.68*** | 0.57*** |
| Stock | 6,795 | 1.82*** | 3,875 | 3.25*** | 2,920 | −0.08 | 3.33*** |
| Industry diversifications | | | | | | | |
| Related (same) | 13,586 | 1.01*** | 7,750 | 1.78*** | 5,836 | −0.01 | 1.79*** |
| Unrelated | 10,266 | 1.95*** | 6,039 | 2.79*** | 4,227 | 0.75*** | 2.04*** |
| Country diversifications | | | | | | | |
| National | 18,778 | 1.36*** | 10,898 | 2.17*** | 7,880 | 0.22** | 1.95*** |
| Cross-border | 5,074 | 1.64*** | 2,891 | 2.40*** | 2,183 | 0.62*** | 1.78*** |

**Regression Results**

The results presented in this section supplement the above findings with cross-sectional CAAR regressions involving White's heteroskedasticity-robust standard errors in order to further test the hypotheses of study via the addition of appropriate conditioning variables which may impact acquirer CAARs. As with the bivariate analyses, I run the cross-sectional regressions in a sequential pattern in order to explain the impact of bidding experience on the shareholder returns of acquirers. However, in contrast to the bivariate analyses (which permitted CAARs to be examined using various window lengths), the regression results presented in Table 7 below represent the specific three-day window only

(i.e., CAARs [–1, +1]), while Table 8 uses the 3-day window (CAARs [–1, +1]) in Models 1–4 and the 7-day window (CAARs [–3, +3]) in Models 5–8. Several control variables are also included in the regressions to account for heterogeneity at the deal, firm, and country levels. Finally, in an additional robustness check, I add further control variables to test for consistency in the results.

The results of the regression analysis are presented in Table 7, where acquirers' three-day CAARs (–1, +1) act as the dependent variable. The variable of experience is represented by previous acquisitions in terms of the cumulative total of completed transactions by a given acquirer during the previous 3-year or 5-year period (3-year experience and 5-year experience) and by the corresponding dummy variables defined above (3-year experience dummy and 5-year experience dummy). Each of these is considered individually in the regressions. The included control variables are: transaction value, GDP per capita of the target country, annual GDP growth, inflation rate, logarithm of foreign direct investment, stocks-traded-to-GDP ratio, payment method, target status, and industry and country diversification.

The findings in Table 7 are statistically significant as confirmed by the value of the $F$-statistic. Although the explanatory power indicated the values of $R^2$ and adjusted $R^2$ is generally low, this is consistent with most empirical studies using cross-sectional market data (Baker & Limmack, 2001; Fuller et al., 2002; Guest et al., 2004; Moeller et al., 2004; Faccio et al., 2006; Ismail, 2008). Moreover, the results presented in Table 7 are consistent across all regressions and reveal a significant negative correlation between prior bidding experience and acquirer CAARs. This finding is in line with the results of the bivariate analyses. Furthermore, these results suggest the presence of irrationality in the decisions made by acquirers, as postulated in various hypotheses which predict that managers may be driven less by synergy gains and more by over-optimism or hubris. Roll (1986), for example, suggests that after an initial acquisition is successfully completed, a lack of concern may set in with respect to subsequent transactions due to the over-confidence (hubris) of managers driven by their previous success, and this may lead them to pay higher premiums for successive targets, which in turn may have a negative impact on the firm's abnormal returns. In addition, the merger programme announcement theory predicts that serial acquisitions will correlate negatively to shareholder wealth if such activity is viewed as a long-term strategy.

Table 7
*Regressions analysis for acquirer bidding experience*

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| $N$ | 23,453 | 23,453 | 23,453 | 23,453 | 23,453 | 23,453 | 23,453 | 23,453 |
| $R^2$ | 1.257 | 1.279 | 1.487 | 1.548 | 1.643 | 1.667 | 1.854 | 1.906 |
| Adjusted $R^2$ (%) | 1.214 | 1.237 | 1.445 | 1.506 | 1.585 | 1.608 | 1.795 | 1.848 |
| $F$-test | 25.79 | 27.06 | 28.80 | 28.89 | 22.44 | 23.31 | 24.68 | 24.71 |
| $p$-value (F) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Const | −2.171 | −2.444 | −2.108 | −2.549 | −2.518 | −2.850 | −2.464 | −3.008 |
| | (0.403) | (0.348) | (0.415) | (0.327) | (0.341) | (0.283) | (0.350) | (0.257) |
| Value of trans. | −0.704 | −0.695 | −0.664 | −0.646 | −0.541 | −0.532 | −0.509 | −0.493 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| GDP (target) | −0.304 | −0.295 | −0.353 | −0.351 | −0.284 | −0.271 | −0.318 | −0.292 |
| | (0.341) | (0.355) | (0.267) | (0.269) | (0.407) | (0.430) | (0.354) | (0.395) |
| Inflation | 0.205 | 0.205 | 0.173 | 0.156 | 0.197 | 0.197 | 0.166 | 0.153 |
| | (0.008) | (0.008) | (0.024) | (0.040) | (0.011) | (0.011) | (0.031) | (0.046) |
| GDP growth | 0.038 | 0.044 | 0.046 | 0.060 | 0.033 | 0.041 | 0.041 | 0.054 |
| | (0.679) | (0.628) | (0.612) | (0.517) | (0.715) | (0.656) | (0.657) | (0.553) |
| Stock/GDP | −0.011 | −0.011 | −0.011 | −0.012 | −0.011 | −0.011 | −0.011 | −0.012 |
| | (0.013) | (0.011) | (0.012) | (0.007) | (0.015) | (0.013) | (0.014) | (0.008) |
| FDI | 0.788 | 0.811 | 0.837 | 0.906 | 0.653 | 0.680 | 0.697 | 0.765 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.002) | (0.001) | (0.001) | (0.000) |
| Stock-only | | | | | 0.804 | 0.810 | 0.755 | 0.727 |
| | | | | | (0.002) | (0.002) | (0.004) | (0.005) |
| Private | | | | | 1.427 | 1.424 | 1.396 | 1.382 |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |
| Country div. | | | | | 0.368 | 0.375 | 0.382 | 0.407 |
| | | | | | (0.092) | (0.086) | (0.080) | (0.062) |
| Industry div. | | | | | 0.825 | 0.827 | 0.796 | 0.786 |
| | | | | | (0.000) | (0.000) | (0.000) | (0.000) |
| 3-year experience | −0.158 | | | | −0.193 | | | |
| | (0.000) | | | | (0.000) | | | |
| 5-year experience | | −0.143 | | | | −0.167 | | |
| | | (0.000) | | | | (0.000) | | |
| 3-year experience dummy | | | −1.539 | | | | −1.567 | |
| | | | (0.000) | | | | (0.000) | |

Table 7: (*continued*)

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| 5-year experience dummy |  |  |  | −1.686 (0.000) |  |  |  | −1.690 (0.000) |
| Country effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

*Notes*: The dependent variable is acquirers' 3-day CAARs (–1, +1). The independent variables are as follows: (1) logarithm of transaction values, (2) logarithm of the GDP per capita for the target country, (3) GDP growth for acquirer country, (4) annual inflation rate, (5) logarithm of foreign direct investment (FDI), (6) stocks traded to GDP Ratio, (7) 'stock only' as a dummy variable equal to 1 for stock deals and 0 otherwise, (8) 'private' as a dummy variable equal to 1 if the deal involved a private target, and 0 otherwise, (9) 'country diversification' as a dummy variable equal to 1 if the bidder and the target are located in different countries, (10) 'industry diversification' as a dummy variable equal to 1 if the bidder and the target operate in different industries, (11) 3-year experience as the total cumulative number of completed deals by the same bidder during a 3-year period, (12) 5-year experience as the cumulative number of completed deals by the same bidder during a 5-year period, (13) a 3-year experience dummy variable equal to 1 if a given bidder has completed two or more deals over the previous 3-year period, and (14) a 5-year experience dummy variable equal to 1 if a given bidder has completed two or more deals over the previous 5-year period. White's Heteroskedasticity- robust standard errors estimates are reported with *p*-values shown in parentheses

The findings are also consistent with the free cash flow hypothesis, which postulates a conflict of interest between managers and shareholders that influences managers to put their own interests ahead of maximising shareholder value by optimising free cash flow. This theory thus predicts that managers will see M&A activity as a means to increase their own power and will therefore prefer to invest cash surpluses into acquisitions instead of paying out dividends or instigating share repurchase.

The results in Table 7 further demonstrate a significant positive correlation between the acquisition of private targets and CAARs across all models. When the target is public, however, the impact is negative. These results thus support the idea that the shareholders of acquiring firms benefit from higher returns when a private company is acquired and lower returns when the target is public. This finding was highly robust across all models (see Tables 7, 8, 9, and 10). Several explanations are possible for this positive relationship between acquirer gains and the acquisition of private targets. The acquisition of such targets, for example, is generally less competitive within the market than the acquisition of public firms due to the large amount of available information pertaining to desirable publicly-held companies as compared to private ones. However, the acquisition of public

firms entails higher agency costs given that managers may view such acquisitions as a mean to increase their own prestige and power.

As with the bivariate analysis, deals involving diversification by either country or industry were shown to have a positive influence on acquirer returns. This finding implies that diversification by acquiring companies has a positive impact on shareholder wealth. In other words, targeting a company with a different commercial focus or which is located in another geographical region may give the acquirer a competitive advantage based on the potential transfer of information or skills from the target to the acquirer, such as marketing, patents or technology. In this way, acquiring such targets can improve a bidder's competitive advantage within the market.

The findings presented in Table 7 also demonstrate that target size, as reflected by transaction value, correlates negatively with acquirer returns. A possible reason for this may be that the greater information asymmetry associated with large targets entails more uncertainty with respect to the target's value, leading to negative acquirer returns. It can be seen in Tables 7, 8, 9 and 10 that this relation is significant and robust across all regressions.

Table 8
*Robustness regressions analysis (1)*

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| N | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 |
| $R^2$ (%) | 2.191 | 2.182 | 2.290 | 2.337 | 2.190 | 2.164 | 2.240 | 2.276 |
| Adjusted $R^2$ (%) | 2.067 | 2.058 | 2.166 | 2.213 | 2.066 | 2.041 | 2.116 | 2.152 |
| F-test | 18.78 | 18.90 | 17.70 | 17.99 | 14.90 | 14.92 | 13.85 | 13.89 |
| $P$-value (F) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Const | 1.692 | 1.292 | 2.069 | 1.570 | 0.792 | 0.276 | 1.244 | 0.647 |
|  | (0.601) | (0.691) | (0.521) | (0.627) | (0.857) | (0.950) | (0.777) | (0.883) |
| Value of trans | −0.517 | −0.513 | −0.505 | −0.493 | −0.635 | −0.632 | −0.626 | −0.613 |
|  | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| GDP (target) | −0.762 | −0.745 | −0.796 | −0.762 | −0.944 | −0.923 | −0.985 | −0.944 |
|  | (0.070) | (0.076) | (0.058) | (0.069) | (0.116) | (0.125) | (0.101) | (0.116) |
| Inflation | 0.000 | −0.002 | −0.025 | −0.039 | 0.211 | 0.210 | 0.182 | 0.165 |
|  | (0.999) | (0.989) | (0.826) | (0.730) | (0.119) | (0.123) | (0.179) | (0.221) |
| GDP growth | 0.074 | 0.083 | 0.068 | 0.077 | 0.148 | 0.158 | 0.139 | 0.149 |
|  | (0.539) | (0.494) | (0.572) | (0.526) | (0.325) | (0.293) | (0.353) | (0.320) |
| Stock/GDP | −0.014 | −0.014 | −0.014 | −0.014 | −0.013 | −0.014 | −0.013 | −0.014 |
|  | (0.026) | (0.022) | (0.025) | (0.018) | (0.103) | (0.088) | (0.099) | (0.078) |

Table 8: (*continued*)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| FDI | 0.516 | 0.545 | 0.518 | 0.574 | 0.697 | 0.735 | 0.697 | 0.764 |
| | (0.047) | (0.036) | (0.045) | (0.028) | (0.039) | (0.030) | (0.039) | (0.024) |
| Stock-only | 0.338 | 0.327 | 0.260 | 0.238 | 0.659 | 0.638 | 0.549 | 0.522 |
| | (0.218) | (0.234) | (0.335) | (0.377) | (0.052) | (0.060) | (0.100) | (0.117) |
| Private | 1.305 | 1.295 | 1.267 | 1.248 | 1.280 | 1.264 | 1.226 | 1.203 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Country div. | 0.305 | 0.309 | 0.294 | 0.325 | 0.505 | 0.510 | 0.492 | 0.529 |
| | (0.237) | (0.231) | (0.255) | (0.207) | (0.146) | (0.142) | (0.157) | (0.127) |
| Industry div. | 0.533 | 0.536 | 0.515 | 0.504 | 0.765 | 0.767 | 0.741 | 0.727 |
| | (0.009) | (0.009) | (0.012) | (0.013) | (0.003) | (0.003) | (0.004) | (0.004) |
| 3-year experience | −0.209 | | | | −0.281 | | | |
| | (0.000) | | | | (0.000) | | | |
| 5-year experience | | −0.149 | | | | −0.193 | | |
| | | (0.000) | | | | (0.000) | | |
| 3-year experience dummy | | | −1.215 | | | | −1.458 | |
| | | | (0.000) | | | | (0.000) | |
| 5-year experience dummy | | | | −1.319 | | | | −1.564 |
| | | | | (0.000) | | | | (0.000) |
| Common law | 0.239 | 0.241 | 0.237 | 0.236 | 0.182 | 0.186 | 0.181 | 0.179 |
| | (0.421) | (0.416) | (0.423) | (0.426) | (0.649) | (0.642) | (0.650) | (0.653) |
| ROA | 0.006 | 0.006 | 0.007 | 0.007 | 0.019 | 0.019 | 0.019 | 0.019 |
| | (0,055) | (0.055) | (0.693) | (0.689) | (0.446) | (0.446) | (0.440) | (0.438) |
| M/B ratio | −0.006 | −0.006 | −0.006 | −0.006 | −0.011 | −0.011 | −0.011 | −0.011 |
| | (0.055) | (0.055) | (0.059) | (0.060) | (0.257) | (0.257) | (0.260) | (0.261) |
| Relative acquisition size | 0.014 | 0.014 | 0.014 | 0.013 | 0.033 | 0.033 | 0.032 | 0.032 |
| | (0.014) | (0.014) | (0.0160) | (0.018) | (0.006) | (0.006) | (0.006) | (0.006) |
| Legal ins quality | −0.223 | −0.221 | −0.224 | −0.219 | −0.350 | −0.347 | −0.352 | −0.346 |
| | (0.092) | (0.095) | (0.090) | (0.098) | (0.041) | (0.043) | (0.040) | (0.044) |
| Country effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

*Note*: The dependent variable in Models 1–4 is acquirers' 3-day CAARs (−1, +1), and in Models 5–8, the dependent variable is the 7-day window (−3, +3). The independent variables are the same as in Table 7, with the following additional control variables: (1) a common law proxy for investor protection as a dummy variable equal to 1 if the target is located in a country which applies common law, and 0 otherwise, (2) 'Legal Ins Quality' as the quality of institutional proxy based on the legal institutional quality indicator, (3) ROA as the acquirer's return on assets, (4) M/B as the acquirer's market-to-book ratio, and (5) relative acquisition size. White's Heteroskedasticity-robust standard errors estimates are reported with *p*-values shown in parentheses

Table 9
*Robustness regression analysis (2)*

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| N | 9,523 | 9,523 | 9,523 | 9,523 | 14,010 | 14,010 | 14,010 | 14,010 |
| $R^2$ (%) | 2.770 | 2.766 | 2.871 | 2.924 | 2.248 | 2.238 | 2.344 | 2.389 |
| Adjusted $R^2$ (%) | 2.627 | 2.623 | 2.728 | 2.781 | 2.143 | 2.133 | 2.239 | 2.285 |
| F-test | 16.39 | 16.44 | 15.81 | 16.01 | 21.58 | 21.68 | 20.27 | 20.58 |
| *P*-value (F) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Const | 8.099 | 8.065 | 8.473 | 8.649 | 7.079 | 6.977 | 7.366 | 7.368 |
|  | (0.028) | (0.029) | (0.021) | (0.019) | (0.000) | (0.000) | (0.000) | (0.000) |
| Value of trans | −0.639 | −0.637 | −0.620 | −0.608 | −0.504 | −0.501 | −0.493 | −0.482 |
|  | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| GDP (target) | −0.964 | −0.956 | −1.021 | −1.015 | −0.970 | −0.958 | −1.003 | −0.975 |
|  | (0.234) | (0.238) | (0.206) | (0.208) | (0.025) | (0.027) | (0.020) | (0.023) |
| Stock-only | 0.108 | 0.095 | 0.059 | 0.037 | 0.469 | 0.454 | 0.394 | 0.368 |
|  | (0.769) | (0.796) | (0.871) | (0.918) | (0.092) | (0.102) | (0.151) | (0.179) |
| Private | 1.779 | 1.771 | 1.747 | 1.728 | 1.369 | 1.362 | 1.330 | 1.315 |
|  | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Country div. | −0.100 | −0.106 | −0.112 | −0.093 | 0.369 | 0.373 | 0.368 | 0.405 |
|  | (0.836) | (0.827) | (0.816) | (0.847) | (0.147) | (0.143) | (0.148) | (0.111) |
| Industry div. | 0.942 | 0.944 | 0.915 | 0.888 | 0.517 | 0.519 | 0.502 | 0.490 |
|  | (0.001) | (0.001) | (0.002) | (0.002) | (0.015) | (0.015) | (0.018) | (0.021) |
| 3-year experience | −0.158 (0.000) |  |  |  | −0.195 (0.000) |  |  |  |
| 5-year experience |  | −0.112 (0.000) |  |  |  | −0.138 (0.000) |  |  |
| 3-year experience dummy |  |  | −1.186 (0.000) |  |  |  | −1.172 (0.000) |  |
| 5-year experience dummy |  |  |  | −1.336 (0.000) |  |  |  | −1.275 (0.000) |
| Common law | 0.518 | 0.520 | 0.524 | 0.534 | 0.654 | 0.672 | 0.643 | 0.670 |
|  | (0.433) | (0.431) | (0.428) | (0.418) | (0.008) | (0.006) | (0.009) | (0.006) |
| ROA | −0.043 | −0.043 | −0.042 | −0.041 | 0.007 | 0.007 | 0.007 | 0.007 |
|  | (0.692) | (0.693) | (0.699) | (0.704) | (0.696) | (0.695) | (0.6890) | (0.685) |
| M/B ratio | −0.001 | −0.001 | −0.002 | −0.002 | −0.006 | −0.006 | −0.006 | −0.006 |
|  | (0.985) | (0.984) | (0.974) | (0.967) | (0.059) | (0.059) | (0.063) | (0.065) |
| Relative acquisition size | 0.021 | 0.021 | 0.021 | 0.021 | 0.016 | 0.016 | 0.016 | 0.016 |
|  | (0.015) | (0.015) | (0.017) | (0.018) | (0.021) | (0.0210) | (0.023) | (0.025) |
| Legal ins quality | −0.067 | −0.066 | −0.068 | −0.060 | −0.270 | −0.268 | −0.273 | −0.268 |
|  | (0.738) | (0.743) | (0.733) | (0.764) | (0.051) | (0.053) | (0.049) | (0.053) |

Table 9: (*continued*)

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| Country effect | No | No | No | No | Yes | Yes | Yes | Yes |
| Year effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

*Note*: The dependent variable is acquirers' 3-day CAARs (–1, +1). Models 1–4 use only U.S. acquirers, while Models 5–8 use only non-U.S. acquirers. White's Heteroskedasticity-robust standard errors estimates are reported with *p*-values shown in parentheses.

I also conduct an additional robustness test to evaluate the consistency of the above results by introducing further institutional and firm-specific factors into the regressions. Tables 8 and 9 present the results for five additional control variables. These are: (1) quality of institutional proxy based on the legal institutional quality indicator (Kuncic, 2014), (2) investor protection defined as a dummy variable equal to 1 if the target is located in a country which applies common law, and 0 otherwise, (3) acquiring firm market-to-book ratio; (4) acquiring firm ROA, and (5) relative acquisition size.

In Table 8, the dependent variable in Models 1–4 is the three-day window CAAR (–1, +1), and in Models 5–8, it is the 7-day window CAAR (–3, +3). In Table 9, Models 1–4 include the results for U.S. acquirers only, and Models 5–8 include only non-U.S. acquirers. Additional dummy variables are also included in all regressions to control for fixed effects based on year-related, country-related, and industry-related differences. The results in all tables confirm a robust negative impact of acquirer bidding experience on acquirers' abnormal returns, i.e., serial acquisition/bidding activity appears to have a negative impact on shareholder value. This finding is consistent with hubris theory and with the results presented in Table 7.

To further strengthen the robustness of the study's findings, I have re-estimated the models using ordered logit regressions, with the results presented in Table 10. CAARs thus receive the following discrete values: "0" if the CAAR is lower than the first quartile; "1" if it falls between the first and second quartiles; "2" if it falls between the second and third quartiles; and "3" if it is higher than the third quartile. As noted by Harrington and Shrider (2007), ordered logit regressions are utilised to mitigate the heteroskedasticity problems which often create disturbances in the cross-sectional analysis of abnormal returns.

The results confirm that acquirer bidding experience correlates negatively with acquirer abnormal returns, which is inconsistent with the

learning hypothesis. This result is specific to serial acquirers and is consistent with the over-optimism and hubris hypotheses while contrasting with the rational synergy-based theory of M&As which predicts that increased bidding experience should correlate with improved shareholder value. This finding is also consistent with the agency problem which occurs when acquisition activity is motivated by a managerial desire to prioritise executive wealth above that of shareholders. The agency problem may be responsible for spurring competition between companies, but it cannot be eliminated by this rivalry. Instead, the primary beneficiaries of such competition will be the shareholders of the target firm. Although agency motives can reduce an acquiring firm's shareholder wealth, managers may still engage in acquisition activity as a means to maximise their own value.

Table 10
*Robustness regression analysis (3)*

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| N | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 | 15,034 |
| Log-likelihood | –2,0631 | –2,0632 | –2,0625 | –2,0624 | –2,0680 | –2,0682 | –2,0681 | –2,0681 |
| Akaike criterion | 41,307 | 41,308 | 41,295 | 41,291 | 41,404 | 41,408 | 41,406 | 41,407 |
| Hannan-Quinn | 41,363 | 41,364 | 41,351 | 41,347 | 41,459 | 41,464 | 41,461 | 41,463 |
| Value of trans. | –0.077 | –0.076 | –0.075 | –0.074 | –0.062 | –0.062 | –0.062 | –0.061 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| GDP (target) | –0.089 | –0.086 | –0.095 | –0.090 | –0.055 | –0.052 | –0.059 | –0.055 |
| | (0.183) | (0.195) | (0.155) | (0.177) | (0.443) | (0.466) | (0.410) | (0.445) |
| Inflation | –0.042 | –0.042 | –0.045 | –0.047 | –0.011 | –0.011 | –0.013 | –0.014 |
| | (0.022) | (0.022) | (0.014) | (0.010) | (0.581) | (0.576) | (0.497) | (0.463) |
| GDP growth | 0.001 | 0.002 | 0.001 | 0.002 | 0.003 | 0.004 | 0.002 | 0.003 |
| | (0.952) | (0.909) | (0.960) | (0.922) | (0.897) | (0.847) | (0.923) | (0.895) |
| FDI | 0.067 | 0.071 | 0.069 | 0.076 | 0.092 | 0.096 | 0.092 | 0.097 |
| | (0.127) | (0.108) | (0.119) | (0.085) | (0.044) | (0.035) | (0.043) | (0.032) |
| Stock-only | –0.143 | –0.145 | –0.153 | –0.155 | –0.092 | –0.095 | –0.106 | –0.109 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.013) | (0.011) | (0.004) | (0.003) |
| Private | 0.257 | 0.256 | 0.252 | 0.250 | 0.244 | 0.242 | 0.237 | 0.235 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Country div. | 0.044 | 0.045 | 0.042 | 0.047 | 0.028 | 0.028 | 0.027 | 0.031 |
| | (0.351) | (0.341) | (0.381) | (0.326) | (0.569) | (0.558) | (0.582) | (0.527) |
| Industry div. | 0.014 | 0.014 | 0.012 | 0.010 | 0.044 | 0.044 | 0.042 | 0.040 |
| | (0.656) | (0.645) | (0.703) | (0.739) | (0.154) | (0.152) | (0.174) | (0.185) |
| 3-year experience | –0.025 | | | | –0.032 | | | |
| | (0.000) | | | | (0.000) | | | |

Table 9: (*continued*)

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| 5-year experience |  | −0.018 (0.000) |  |  |  | −0.021 (0.000) |  |  |
| 3-year experience dummy |  |  | −0.158 (0.000) |  |  |  | −0.142 (0.000) |  |
| 5-year experience dummy |  |  |  | −0.169 (0.000) |  |  |  | −0.139 (0.000) |
| Common law | −0.041 (0.442) | −0.040 (0.446) | −0.040 (0.448) | −0.041 (0.442) | −0.089 (0.104) | −0.088 (0.105) | −0.090 (0.100) | −0.090 (0.100) |
| ROA | −0.002 (0.253) | −0.002 (0.252) | −0.002 (0.252) | −0.002 (0.250) | 0.000 (0.578) | 0.000 (0.573) | 0.000 (0.605) | 0.000 (0.612) |
| M/B ratio | −0.006 (0.234) | −0.006 (0.234) | −0.006 (0.229) | −0.006 (0.226) | −0.001 (0.610) | −0.001 (0.610) | −0.001 (0.608) | −0.001 (0.606) |
| Legal ins quality | −0.079 (0.000) | −0.079 (0.000) | −0.080 (0.000) | −0.079 (0.000) | −0.072 (0.002) | −0.072 (0.002) | −0.072 (0.002) | −0.071 (0.002) |
| Country effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effect | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

*Note*: To further strengthen the robustness of the study's findings, I have re-estimated the models using ordered logit regressions. The dependent variable is the CAARs thus receive the following discrete values: "0" if the CAAR is lower than the first quartile; "1" if it falls between the first and second quartiles; "2" if it falls between the second and third quartiles; and "3" if it is higher than the third quartile. The independent variables are the same as in previous tables.

## CONCLUSION

Only a limited number of previous studies have thus far examined the effect of acquirer experience on shareholder wealth in acquiring companies. The results of previous empirical studies are mixed, on one hand, and are inconsistent with several theoretical models on another (i.e., the learning-by-doing, over-valuation, hubris, and merger programme announcement hypotheses). This paper, for the first time, uses an event study methodology and cross-sectional regressions to investigate the impact of acquirer bidding experience on acquirers' abnormal returns using a large sample of 23,852 acquisition deals from G-7 countries. In addition, I perform robustness checks both in the bivariate analysis stage, using different event study windows, and in the CAAR regressions, using various sub-samples, control variables, and White's Heteroskedasticity-robust standard errors to ensure consistent findings.

The results indicate that returns decrease for serial acquirers, with single acquirers tending to experience the highest CAARs. This finding runs contrary to the prediction that experienced bidders will be more adept at target valuation and thus more likely to secure profitable acquisitions. Instead, the findings imply that serial M&A activity may in fact be destructive to shareholder value, and such transactions may therefore be motivated by factors other than that of maximising firm value. Observations such as this can be explained only by the hubris or over-optimism hypotheses, rather than motivation based on potential synergy gains. Hubris theory applies if bidding managers overestimate target value and synergy gains, and over-optimism is relevant in cases where acquiring managers overestimate their own ability to manage the target company, which may also lead them to pay too high a premium.

Finally, the study's results appear to be consistent with the managerialism hypothesis, which asserts that managers may engage in acquisitions in order to garner for themselves the highest possible compensation, even to the detriment of shareholders. According to the managerialism explanation of conglomerate takeovers, management anticipates a positive relationship between firm size and their own compensation, which leads them to pursue takeovers as a means to grow their organisation, even in cases which may prove harmful to shareholder wealth.

With regard to future research, the insights from this study could be extended in several interesting ways. Cross-country differences in regulations could, for example, constitute an important influence on acquirer risk, and further studies could assess the impact of such regulations and corporate governance policies on shareholder returns. In addition, previous studies have tended to describe acquirer bidding solely experience in terms of the number of completed deals by a single bidder within a given time period, and this comprises a somewhat limited perspective. Future research could include additional proxies which would allow acquirer experience to be captured from another angle. For example, managerial experience by board members could enhance the board's capacity for accurate target valuation and thus reduce overspending on such premiums. Such experience can also be quantified in a variety of different ways, such as years of experience, level of education, investment banking experience, or board interlocks between bidding and acquiring firms. Future studies could thus analyse the combined influence of corporate governance and acquirer experience on the abnormal returns of acquiring firms.

**NOTES**

1.  The total transaction value for the 75 completed deals is USD49,069 million.

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