Serial acquisitions: a source of inorganic growth or empire building? A study on the European stock markets spanning 2002-2011

Nga Nguyen

Department of Finance and Statistics

Hanken School of Economics

Helsinki

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HANKEN SCHOOL OF ECONOMICS

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Abstract: This study analyses the abnormal returns that acquiring firms experience around the announcement date of the acquisition, in relations with its previous acquisition experience and its corporate governance. Not only looking at the two explanatory variables separately, I attempt to test their combined effect, to testify whether repeated acquisitions are only good when associating with a strong corporate governance.

The acquisition data employed in this thesis was taken from Thomson ONE database and Datastream (now the two databases are merged), including 1,051 acquisition deals made by public firms covering the period from 2002 to 2011 in the European market. Methodologically, I investigated the cumulative abnormal returns (CARs) of the acquiring firms using Event Study Method, with a robustness check of substituting CARs with ROE to see if the findings still hold true.

The results show that on average, acquisitions yielded positive stock returns to the acquirers in excess of the market return. Moreover, acquisition experiences demonstrate a strong relationship with CARs in some cases, but not all. Corporate governance seems to positively impact stock performance of the firms, and when combining with the experience, there is evidence that a strongly governed firm are associated with better stock performance for acquiring firms. However, there is not much difference between acquirers of the same corporate governance type but different acquisition experiences.

Keywords: acquisitions, experience, corporate governance, acquisition performance, stock returns, abnormal returns, CAAR, CAR, event study

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Author,

Nga Nguyen.

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1 INTRODUCTION

Corporate acquisitions have attracted scholar attention in a couple of past decades, since the acquisitions, if conducted successful, can generate synergies for the acquiring company (the bidder) and the acquired company (the target), in that the post-acquisition values are higher than the sum of the two individual firm values. Some prior empirical studies have shown evidence in which the bidders gained positive post-acquisition returns (Jensen & Ruback, 1983; Langetieg, 1978; Asquith et al., 1983; Mulherin & Boone, 2000). However, more often than not, the larger part of the synergies, if existed, were distributed to the target, while the bidder enjoyed a small portion of the synergies, or even, in many cases, realized a loss.

Despite of the overwhelming evidence of declining performance for bidders, firms continue to acquire new firms for different purposes of expanding to new markets, reducing competition, acquiring technology and know-how of the targets, etc. In the continuous acquiring process of firms, therefore, it is important to determine whether such a frequent activity will generate or destroy values of the acquiring firms, as well as to develop a reference for firms to decide the acquisition strategy they should follow in order to optimize their acquisition returns (Rovit et al., 2003). If multiple acquisitions result in a higher loss, firms need to consider more carefully whether the strategic gains can overcome the financial negative impacts. For instance, several companies in the U.S including Tyco, AutoNation, U.S. Office Products, and AT&T have conducted a massive level of acquisition: between 1995 and 2001 each of them had bought more than 100 firms. History showed that their performance had deteriorated over the period, making them badly lagged their peers' returns. Explaning the negative outcomes to active acquirers, theories of managerial empire building suggested that managers' preference for running large firms could be the motive for their frequent acquisitions (Jensen, 1986; Grossman and Hart, 1988). In contrast, other firms with good governance system seem to grow by acquiring other businesses strategically. Examples include Cisco Systems, BancOne and General Electric (Hayward, 2002; Harvey, 2000). These cases have been documented as the effect of a good corporate governance system on the firm performance in post-acquisition. Majority of empirical studies have also shown a positive relationship between strong acquiring firm's corporate governance and performance in mergers and acquisitions (Bebchuk et al., 2009; Core et al., 2006; Cremers & Nair, 2005).

1.1. Problem setting

What I found most interesting in the topic is the learning behaviour of firms through past successes or failures, in relation to their corporate governance. If a firm has acquired many times in the past, will it learn from the experiences to perform better in the current deal? Will the firm learn more from its past failure or success in acquisitions? How should the learning be captured, over a short or long period of time? Between two companies that both acquired many times in the past, why did one succeed while the other failed? Is this the corporate governance system that makes the difference? This paper searches to understand the effects of previous acquisition experience and corporate governance strength on acquisition performance of acquiring firms. I want to test whether firms with strong corporate governance are likely to acquire more to grow, and firms with weak corporate governance may do so for the purpose of empire building.

1.2. Purposes of the study

The research investigates how returns to acquiring firms can be explained by their previous acquisitions experience and corporate governance system.

1.3. Scope of the study

The paper focuses on publicly available acquisitions conducted from companies in 15 countries in Europe that formed the EU-15 before new member states joined the EU, including Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

With an intention to provide an overview of the recent activities, while ensuring all the announced acquisitions have been completed by the data collection date, the paper investigates the 10-year time period from 2002 to 2011. A prior period of non-acquisition from 1992 to 2001 is used to calculate the number of previous acquisitions conducted by each bidder since it is unreasonable to assume that all the acquisitions conducted in 2002 have no previous acquisitions.

1.4. Limitations of the study

This research only focuses on the acquiring firms, rather than the targets of the acquisitions. The acquisition activeness, corporate governance and acquisition performance of the target firms are therefore not investigated. Previous studies have documented that firms with weak corporate governance systems are more likely to be

the target of acquisitions, however in this paper I want to examine the strength of corporate governance of acquiring firms that influence their investment decision.

The initial intention of the research is to test if the result is robust upon replacing organizational learning by CEO learning. However this has proved to be difficult given the data from Thomson One SDC regarding "acquirer significant individual" is available for only 1% of acquisitions in the total sample, and manual collecting this data has not been possible at least for this seminar essay.

When talking about stock performance, some researchers have concluded that studying the acquisition effects over a longer period of time up to three years is necessary because it more correctly captures the experience of the investors buying the stock of the acquiring firm and holing it for a period of time, while short-term movements in stock prices could be just a market reaction and not necessarily indicates true values of the acquirers. However, this paper only studies the short-term acquisition performance of firms over periods of up to 41 days, while long-term performance is not considered.

1.5. Contributions of the study

With the contradicting results in previous studies, my research aims to provide another insight into the picture, in the market of Europe that has not been researched intensively.

1.6. Structure of the paper

The paper is organized as follows: section 2 talks about necessary concepts and theories related to the topics being studied. Section 3 reviews previous studies about acquisitions, with a focus on acquisition experience and corporate governance. Research hypotheses being studies, as well as how they are motivated, are present in section 4 of the paper. The methodology of the study, including how to measure acquisition performance, experience and corporate governance of a firm, as well as how to control for other factors that can affect the relationship being studies, is presented in section 5. It is followed by section 6 about the database and sample selection method for the research, which give rise to the results in section 7 of the paper. After that, a summary and conclusion will be made in sections 8 of the paper.

2 THEORETICAL FRAMEWORK

2.1. Definitions and concepts in acquisitions

Acquisition is the case when one company (called the acquirer/the bidder) takes a controlling interest in another company (the target), or in a subsidiary or selected assets of the firm (Douma & Schreuder, 2008).

Acquisitions differ from mergers in that in acquisitions, the targets cease to exist and become part of the acquirers, under the acquirers' names; while in mergers two firms join forces to form new business, usually with a new name. However, in practice the two terms are often loosely lumped together. In the scope of this paper, the term used is acquisition, since I require the bidder to retain their name after the deal for the sake of studying their post-announcement performance. Some of the sources and previous researches reviewed in this paper, however, used the term mergers and acquisitions, or sometimes mergers, while referring to the acquisitions.

An acquisition could be perceived as "friendly" or "hostile" depending on how bidder communicates to the target about the proposal and how the board of directors, management and shareholders of the target perceive the acquisition proposal. When the two companies negotiate and cooperate before and during the deal, the transaction is labelled "friendly". However, acquisitions can also be executed following the "confidentiality bubble" where the flow of information is restricted to honor confidentiality agreements. When the target's board does not have prior knowledge about the deal or when it refuses to be acquired, such transaction is called hostile acquisition.

Normally, in acquisitions the bidder is bidder than the target, size-wise. However, there are also transactions where a small company acquired a bigger one. Such circumstances are so-called "reverse takeover". It can also be a reverse merger takeover, or reverse IPO, when a private firm acquires a public one to quickly become public at a normally smaller costs without going through all the lengthy and complicated process of an IPO.

2.2. Acquisition motives

Unlike organic growth and foreign direct investment, acquisitions provide a source of inorganic growth in a shorter period of time. Therefore, there are several motives for the bidders to perform the acquisition, as documented by Trautwein (1990). In reality, given the complexity of acquisitions, there often exists more than one motive behind each deal rather than one single main driver.

If the acquisitions is a rational choice, the motives can be classified into two groups: shareholder benefited motives which aim at creating values for the shareholders of the firm, and manager benefited motives which follow the private interests of managers. Otherwise, acquisitions could be a result of process outcome or macro-economic situation, as presented on table 1 below.

Table 1: Classification of acquisition motives

Type of motives	**Theory**
Acquisitions as rational choice	
Shareholder benefited motives	
• Net gains through synergies	Efficiency theory
• Wealth transfers from customers	Monopoly theory
• Wealth transfer from target	Raider theory
• Net gains through private information	Valuation theory
Manager benefited motives	Empire building
Acquisitions as process outcome	Process theory
Acquisitions as macro-economic phenomenon	Disturbance theory

Source: Trautwein, 1990

2.2.1. Efficiency theory

This theory suggests that firms make acquisition decisions because of the synergies that are expected to be generated by the transaction. In fact, synergies are one of the most important motives that both acquiring and target firms seek out when considering an acquisition (Berkovitch & Narayanan, 1990). Being the outcome of combing resources of bidder and target, synergies could come from economies of scale, economies of scope, and cost reduction thanks to asset reduction (Porter, 1985).

According to Trautwein (1990), there are three types of synergies: financial synergies, operational synergies and managerial synergies. The first type of synergies comes from the lower cost of capital, an enhanced risk profile of the firm after acquisition, or an improvement in company size. Operational synergies helps firms achieve economies of scope when combining different business divisions of bidders and targets. The last type of synergies can benefit bidders by improving the management and planning of the firms.

2.2.2. Monopoly theory

Developed by Edwards (1955), monopoly theory claims that acquisitions are conducted as a way for the firm to gain market power. It could be achieved by acquiring one of its competitors to increase the firm's market share, and is referred to as 'collusive synergies' (Chatterjee, 1986) or 'competitor interrelationships' (Porter, 1985). Through acquisitions, firms could achieve horizontal integration and diversification, and therefore, could cross-subsidize its products, lower the competition and raise the entry barrier for other firms to enter the market (Trauwein, 1990). While some researchers support this theory (Feinberg, 1985), others reject it (Jensen, 1986; Ravenscraft & Scherer, 1987).

2.2.3. Raider theory

This theory mostly applies to the context of a hostile acquisition, that is, a takeover where the bidder goes directly to the target's shareholders or attempting to replace the target's management who does not agree with the acquisition. The bidder in this case is called the raider, who would potentially find undervalued firms to attempt the takeover. The motive of this kind of acquisitions is more often than not, to sell off the assets of the target and transfer the wealth of target to the bidder (Trautwein, 1990; Vos & Kelleher, 2001).

2.2.4. Valuation theory

The theory claims that managers of the target would have better information about the intrinsic value of the target than the market does, and therefore would have a better valuation of the target to offer a purchasing price so that the target is happy and at the same time, the bidder is still able to gain a positive net return from the deal (Ravenscraft & Scherer, 1987). This information could be unique information about the possible synergies generated if the bidder is to acquire the target, or information about

an undervalued firm. This theory, however, contradicts with the Efficient Market Hypothesis and will be discussed in depth in section 2.6 about value creation.

2.2.5. Empire building

In contrast to the previous four theories which list acquisition motives as a source of shareholders' wealth enhancement, the empire building theory contends that managers of the bidding companies could consider acquisitions as a way for them to maximize their own values. By purchasing more companies, managers are increasing the power and position they are having rather than growing the company, and therefore, acquisitions could be a source of value destroying for shareholders of the bidder (Vos & Kelleher, 2001). Empirical studies have shown many evidence that empire building plays a certain role in acquisition decisions (Ravenscraft & Scherer, 1987; Rhoades, 1983).

2.2.6. Process theory

Process theory suggests that acquisitions could be executed without the rational consideration of the firms. Rather, the decisions are made based on the limited and imperfect information that bidder's managers have about the target (Vos & Kelleher, 2001). The limited information, when combining with the managerial overconfidence, can make managers make fast buying decisions, which they would not make if they are rational (Roll, 1986). Besides hubris, other factors such as lack of planning, influences of political factors, different participants involving in the decision making process, and criteria that is not agreed upon, are also sources that drive the acquisition motive.

2.2.7. Disturbance theory

Suggested by Gort's (1969), the acquisition waves are triggered by economic turbulences, which causes people to change their expectations and rise the market's general level of uncertainty. That makes people value the assets incorrectly, and thus, leading to a wave in acquisitions. This theory, however, has not been studied and discussed intensively in literature (Trautwein, 1990).

2.3. Acquisition process

According to Douma & Schreuder (2013), the acquisition process begins by creating the information agreement and equity purchase agreement, with regards to company profile, position, management team, and equity structure. Subsequently, these packages will be distributed to potential acquiring firms, who then conduct due diligence to investigate the financial situation and prospects of the target firm, with possible further documents and support provided by the target. The due diligence helps bidders to decide whether to invest in the target, and the reasonable bid that they should place. According to some studies, due diligence is one of the most important factors determining the success of the acquisitions. They claimed that it is crucial to align the corporate strategy and acquisition strategy for a better fit of the targets' resources to the bidders' (Perry & Herd, 2004; McDonald et al., 2005).

Once the bidders make their official bid, the target considers between different bidders to accept the most favourable offer in terms of purchasing price, method of payment, integration plan, and so on. After consensus about the deal is made between target and bidder, the acquisition announcements are released.

Figure 1: Acquisition process

Source: Douma and Schreuder, 2013

2.4. Financing the acquisition

As a part of the process, the bidder would buy stocks and other assets of the target, in order to gain control over the target company's decision making. An acquisition could be financed by cash offering directly to the target using cash in hand or issuance of debt/equity to raise cash to pay for the transaction. The use of cash on hand, though having advantage of no major transaction costs, is not very plausible especially when the transaction value is relatively high, since companies tend not to keep too much cash in reserves. Issuance of debt/equity to raise cash, on the other hand, involves transaction costs such as underwriting or closing costs in case of debt issuance, and proxy statement preparation costs in case of equity issuance.

Alternatively, bidders could finance the transaction by equity, meaning that the bidder would issue more stock or use treasury shares to offer to shareholders of the target. The former incurs similar transaction costs as discussed above, while the latter could result in brokerage fees in case of share repurchases. On the other hand, stock financing offers the parties with financial flexibility that cash offerings do not allow. There are also other financing options of combining cash and equity methods.

The choice of payment method sometimes is a way for the bidder to signal their value. If the acquisition is financed by cash, most likely the bidder's shares are undervalued. And vice versa. Moreover, different methods of payment also bring different risks to bidder and target. In a cash payment acquisition, the bidder bears the entire risk of overpayment, leading to acquisition premium unmaterialized. In an equity financed transaction, on the contrary, the risk is shared to shareholders of the target as well.

2.5. Value creation through acquisitions

The possible abnormal returns (positive or negative) for bidder generated around the announcement date can be explained by the classic Efficient Market Hypothesis (EMH), which was developed by the American economist Eugene Fama in the 1960s. The hypothesis claims that when the market is efficient, asset prices will fully incorporate all available information. When a stock is undervalued, individual investors with private information will take the chance to buy the stock, and in doing so, pushing stock prices up to its intrinsic value. Therefore, in the long run, it is impossible to beat the market.

There are three forms of EMH: weak, semi-strong and strong forms. In the weak form of EMH, all *past* information is reflected in the price of the asset. Therefore, we cannot analyse past information to predict future stock prices. Additionally, in the long run investors cannot earn excess or abnormal returns based on analyses of historical data. In the semi-strong form, prices incorporate all *publicly* available information including the newly released information to which they instantly change to reflect. In the strong form, all information including *hidden* insider information is fully incorporated in prices.

Applied to this paper, the semi-strong EMH is consistent with the value creation for bidders in post-acquisition. Upon receiving acquisition announcement, market will instantly reflect that information into the stock prices, causing the abnormal returns before announcement date (due to information leakage) and after the date. In fact, results from over 100 studies documented by Elton and Gruber (1987) have shown that typically stock returns seemed to adjust within one or a few days to event announcements, suggesting that markets respond quickly to newly published information (Haleblian & Finkelstein, 1999).

Whether the EMH is true is highly debatable in finance. Empirical evidence has either rejected the EMH or confirmed the weak/semi-strong forms. Opponents of the hypothesis show examples of investors such as Warren Buffett who consistently beats the market over a long period of time. There has been no evidence supporting the strong-form of EMH.

2.6. Organizational learning

My theory of bidders learning from past experience in acquisition is based on the theory of organizational learning, which states that "organizational learning is an iterative, dynamic process in which firms a) engage in experiences, b) draws inferences from them and c) store the inferred material for future experience". It is argued that experience enables companies to quickly identify the problems, and become efficient in solving these clearly identified issues (Levitt and March, 1998; Hayward, 2002). Applied to mergers and acquisitions, the theory predicts that by acquiring more and more firms, the bidder learns from its experience and will be more likely to perform better in the future, using the applications and knowledge it has gained.

According to Argote & Miron-Spektor (2011), the learning process is divided into three stages: i) knowledge creation, which is generated by direct exposure to the subject; ii) knowledge transfer, concerning the mechanism that spreads and implants the experience within the firm, and iii) knowledge retention, concerning the process in which knowledge is stored after being embedded and decayed over time.

Researchers also put learning in the context of the "organizational climate", that is, its structure, technology, culture and values, memory, identity, goals, motivations, tactics, and other features, as well as its competitors, clients and regulators (Argote & Miron-Spektor, 2011). All of those factors can affect the learning curve of the organization.

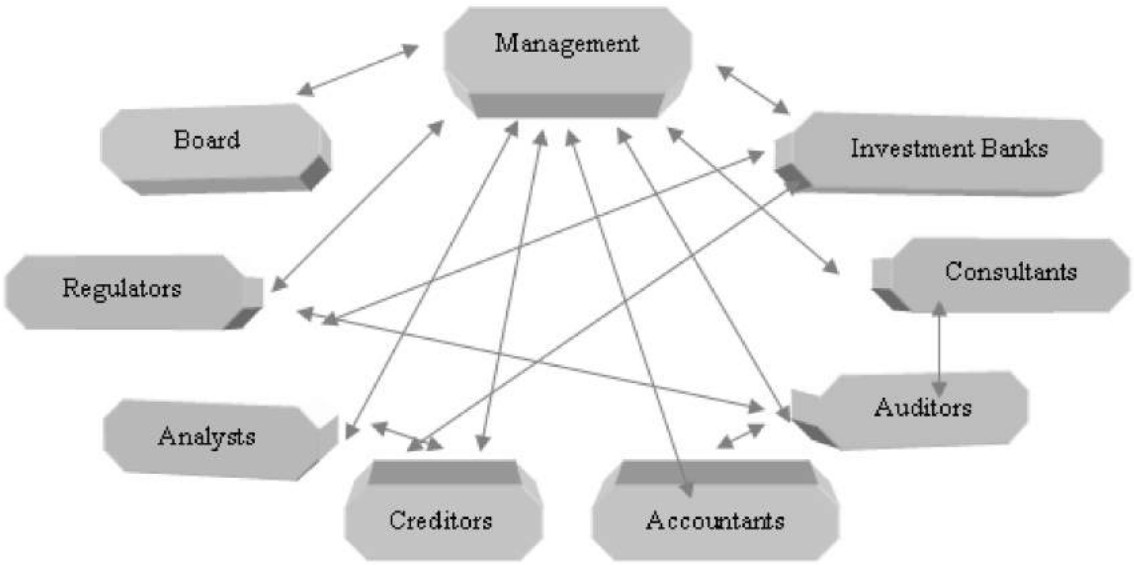
In order to measure the learning, researchers have used multiple ways. Gherardi (2009) measured knowledge as the changes in practices of the subject within a firm over time. Huber (1991) measured knowledge as the development of new information by putting together the information they obtain from other organization units.

The theory of organizational learning has also received some criticisms arguing that experience can sometimes lead to firms drawing the wrong inferences or misapply those inferences, or that learning can become forgotten or trapped (Haleblian and Finkelstein, 1999; Huber, 1991).

2.7. Corporate governance

There are many definitions of corporate governance. According to Gillan & Starks (1998), it is the system of laws, rules, and factors that control the operations at a company. Shailer (2004) defines corporate governance as the mechanism by which companies are directed and controlled. It covers the structures of the firm, as well as the distribution of rights and responsibilities of different stakeholders such as shareholders, board of directors, managers, creditors, regulators, auditors, and other participants. It is the system in which corporate objectives and decisions are made while trying to align the interests of all stakeholders involved, of which the conflicts of interests between shareholders and managers are the most discussed topic. This is known as the principal-agent issue where the principal (the shareholders) hires the agent (the managers) to run the company's operations based on the principal's interest. However, the managers often has different interests and could take action to benefit their own position if the corporate governance is not strong enough to prevent such actions (Lin, 2011).

Figure 2: Interlinking relationships among business participants



Source: Kim et al. (2010)

Corporate governance is a broad framework consisting of external and internal mechanisms. Internal mechanism talks about:

- Board of director, with regards to i) its role in advisoring and monitoring; ii) its structure: board size, its independence, expertises, committees, and CEO/Chair duality; iii) board incentives: ownership and compensation
- Managerial incentives, with regards to i) ownership, ii) compensation, and iii) employment agreement
- Capital structure, including i) debt and ii) equity, which is related to the topic of voting rights
- Bylaw and charter provisions, antitakeover measures
- Internal control systems.

External mechanism concerns about:

- Law and regulation
- Markets, including i) capital markets for debt and equity, ii) market for corporate control, iii) labour market, and iv) product market
- Markets for accounting, financial and legal services, containing i) Accounting and auditing, ii) Directors and officers liability insurance, iii) investment banking, and iv) legal advice.
- Private sources of external oversight, including media and plaintiffs' bar (Gillan, 2006).

One aspect that is worth discussing is the market for corporate control, a phrase invented by Professor Henry Manne in 1965 that is closely related to acquisitions. According to Manne (1965), it is the "role of equity markets in facilitating corporate takeovers". When a company is poorly managed and has a low share price, it is likely to become the target of acquisition by those who believe that they could manage the firm more efficiently. Therefore, when an active market for corporate control is in place, underperforming companies and their managers will be eliminated through acquisitions, while the acquiring companies extract higher values and synergies by putting the target's assets to more efficient use. When such a threat always prevails in the market, firms would have motivation to discipline their corporate governance (Sundaram & Inkpen, 2004).

Another crucial aspect of corporate structure is the board of directors. They are the middlemen who could reconcile the interest conflicts between a small group of key managers and an enormous group of shareholders all over the world. The board needs to make sure the company's activities and financial conditions are reported accurately to shareholders. In order for the board to function efficiently, boards often are structured into board committees: Audit Committee, Compensation Committee, and Nomination Committee (Gillan, 2006). According to Gillan, a "good" board is one which has the right size, and with the right balance of executive and non-executive directors.

As addressed above, the principal-agent problem is repeatedly discussed in corporate governance where managers would act on their own interest instead of shareholders' value maximization. Examples of those value destroying activities are shirking, hiring incompetent friends and relatives, building empires, taking excessive risks to earn larger bonuses, driving the firm towards short beneficial results rather than long-term goals if the manager is about to retire, and so on. In order to mitigate the agency problem, the firm needs to have a good executive compensation package, including base salary and bonus which should tie to the performance of the firm over the year, and stock option to align managers' goals with shareholders' goals. However, it is still controversial whether the incentive options work in practice. Tying the bonus to firm performance may be unreliable as accounting profits can be manipulated. Using stock option incentive could make managers select highly risky business strategies. When incentive compensation seems to be imperfect, shareholders and the board need to put more focus on monitoring.

Auditors, external and internal, are an important part of corporate governance system as well. Internal audits are employees of the firm, whose responsibilities are to supervise the financial and operating procedures of the firm, to verify the accuracy of accounting records and financial reports, to implement certain internal control systems and to detect fraud. External audits, on the contrary, are independent experts who are hired by the shareholders to provide their non-bias opinion on the accuracy and fairness of the financial statements of the firm produced by its managers. External auditors should act on the interest of shareholders, rather than managers.

As auditing, nominating managers, and designing the remuneration package are important, the independence of the Audit Committee, Compensation Committee, and Nomination Committee are strictly required to ensure a strong corporate governance.

3 PREVIOUS RESEARCH

3.1 Overall gains/losses from acquisitions

From a vast sample of 12,023 finished acquisitions made by public firms on the US market from 1980 to 2001, using Event study methodology, Moeller et al (2004) found out that on average, the bidders experienced an abnormal returns in stock prices of 1.102% over three-day period from one day before to one day after the announcement. The median abnormal return is 0.36%. Both returns are statistically significant at 1% level. The authors, therefore, conclude that on average, shareholders of the bidders gain from acquisitions, in terms of stock performance.

The above result is consistent with findings of Fuller et al. (2002). Collecting 3,135 acquisitions made by 539 bidders during the period 1/1/1990 – 31/12/2000 from the US market, their research proved that overall, acquiring firms were gaining a cumulative average abnormal return of 1.77% over a 5-day period. The result did not change when they divided the bids by method of payment. Regardless of how the transactions were financed, they all yielded positive abnormal returns for the acquirers. The gains were especially large for the first bids of the firms where they earned up to 2.74% in excess of the market. From the fifth acquisitions and beyond, they no longer enjoyed such a high abnormal return. At this point onwards, acquiring firms experienced a still-positive-but-declining excessive return of 0.52% only. Likewise, Conn et al. (2004) concluded from their research that the overall abnormal returns for all bidders are positive over a short term horizon.

However, there are conflicting results coming from studies of other researchers. Hayward (2002) studied 422 acquisitions of 100 largest U.S domiciled firms from 1985 to 1995 and found out that acquiring firms are losing from acquisitions. On average, firms on the sample realized a loss of -1%. Capron & Pistre (2002) also show a similar situation where bidders experience an abnormal loss of negative 0.34% over the event window (-20,+1).

3.2 Effect of Acquisition experience

Whether past acquisition experience enhances the performance of future acquisition deals has been a controversial topic. While some scholars contend that announcement returns are on the declining trend as the number of acquisitions increases, others argue that acquirers can actually learn from their past acquisition experiences to perform better in future acquisitions.

Supporting the first viewpoint, study by Hayward (2002) shows that the number of past acquisitions has a negative significant effect on announcement returns when the returns are measured as cumulative abnormal returns (CARs) by event study methodology. However, past acquisition experience plays no role in the success of the bid when the performance of the acquisition is measured by industry analysts' rankings about the success of the acquisitions.

Also in the US market Rosen (2003) used event study methodology, buy-and-hold-return measure, and portfolio-in-calendar-time approach to examine 6259 mergers and acquisitions by U.S firms from 1982 to 2001, over both short-term (5-day) and long-term (3-year) horizons. His empirical evidence suggests that in the short run, acquisition performance is independent of whether the announcement is the first one made by the firm in the previous three years. In the long run, however, first time announcers do better than other bidders, or in other words, acquisition performance got diminished when the firms acquired more. It is consistent with findings of Conn et al. (2004) which state that CARs diminish steadily from single to highly acquisitive acquirers. In addition, CARs fell significantly from the first deal (0.98) to the fifth (-0.11) and beyond, supporting the diminishing returns hypothesis (Loderer and Martin, 1990; Haleblian and Finkelstein, 1999; Fuller et al., 2002; Ahern, 2008).

In favour of the second argument, Stegemoller (2001) analyses the long-term performance of 542 U.S firms making acquisitions from 1990 to 1999 and discovers that regardless of whether the acquisition performances are measured by accounting ratio or stock returns, frequent acquirers always outperform their counterparts.

Similarly Baker and Limmack (2001) found similar evidence for the UK market when examining 595 completed acquisitions by UK listed acquirers from 1977 to 1990. Applying seven benchmarks to control for size, industry and general market movements, and undertaking analysis based on the Fama-French three factor model, the authors concluded that negative abnormal returns were confined to single or

infrequent bidders, whereas shareholders of multiple bidders did not suffer any wealth losses.

Rovit, Harding & Lemire (2003) studied the performance of 724 publicly held, U.S.-based firms in their 7476 acquisitions over a 15-year period from 1986 to 2001. They filtered firms whose revenues were at least $500 million in 2000, then compared the firms' acquisition behavior to the excess return they delivered to shareholders, with excess return defined as the total return to shareholders, including dividends, minus the costs of equity. The results indicated that frequent acquirers outperformed all infrequent and non-buyer companies. In details, frequent acquirers outperformed occasional buyers by a factor of 1.7 and non-buyers by a factor of almost two-to-one. Rovit et al. then concluded that the more acquisition bids a firm conducted the more values its shareholders would enjoy.

3.3 Effect of Corporate governance

Surveying 155 Indian public listed companies which had executed mergers and acquisitions deals from 2003 to 2008 to calculate a corporate governance index based on the firm's management discipline, transparency, independence, accountability, responsibility, fairness, and corporate social responsibility, Rani et al. (2013) find out that companies that have better corporate governance are more likely to have higher M&A performance (positive and higher abnormal returns) in the short-run. This is consistent with finding of Klapper and Love (2004) that better corporate governance results in better operating performance and market valuations.

Similar evidence is found on the Chinese stock market, where Liu and Wang (2013) studied 36 mergers and acquisitions cases of listed real estate firms in Shanghai and Shenzhen stock exchanges from 2008 to 2009. They conclude that ownership structure, institutional investors and CEO-Chairman duality have a significantly positive impact on acquisition performances, while board size has the opposite impact. Claiming that CEO-Chairman duality helps firm make better strategic decision and sustainability that result in higher acquisition performance, findings of Liu and Wang contradict with the agency theory argument supported by empirical evidence by Masulis et al. (2007).

Concerning the market for corporate control, Mitchell & Lehn (1990) found out that an active market for corporate control can demotivate empire building practices, since firms that carried out bad acquisitions are at risks of being the target for the next acquisition by more efficient firm. As a result, acquisitions are more carefully chosen and yield better stock performance.

Regarding shareholder rights, study of Wang & Xie (2008) concludes that the bigger the difference between shareholder rights of the bidder and the target, the higher the synergies will be. They explain that the highest total gains from acquisitions can be achieved when a firm with good corporate governance system acquires a badly governed one.

Internal audit is also studied in the context of mergers and acquisitions. In a survey-based research by Selim et al. (2003), 22 organizations in 6 countries were interviewed about the role of internal auditors in mergers, acquisitions and divestitures. Results show that the internal auditing plays a moderate role in the success of the transactions.

3.4 Other effects

Deal size and target size

This is also a controversial topic. Insisting that smaller relative deal size increases bidder's stock returns and larger deal size presents acquirers with significant implementation problems, Rovit et al. (2003) show that bidders focusing on small deals, defined as target size to bidder size ratio of smaller or equal to 15%, outperform the bidders making larger deals by a factor of almost six to one.

In a similar vein, Ahern (2008), through analysing the relationship between transaction size and advisor fees, found that transaction costs increase with the size of the target, and that the relative size of target to acquirer is positively related to integration costs, leading to declining returns.

Contradict to the above findings, study of Asquith et al. (1983) on a sample of mergers from 1969 to 1974, concludes that bidders' abnormal returns are positively correlated with the relative size of the deal.

Having the same conclusion, Mulherin & Boone (2000) through a sample of acquisitions by 1305 firms in the US, explains that the synergies realized from the combined wealth effect of bidder and target often associated with a larger deal size.

Bidder size

Bidder size effect, often referred to as "size effect", has been documented in a number of previous studies to significantly affect acquisition performance. Malatesta (1983) in his study of the net effects of mergers on shareholder wealth reveals that the measured abnormal return to acquiring firms depended on firm size: smaller firms earn significantly negative post-merger returns.

Disagreed with the conclusion by Malatesta, in 2003 Moeller, Schlingemann & Stulz show the opposite results from their study of 12,023 acquisitions in the period 1980 – 2001. They find that abnormal return associated with acquisition announcements for small firms exceeds that of large firms by 2.24 percentage points. In most of the cases, small firms gain significantly when they announce an acquisition, except for when the target is publicly held and the method of payment is equity. Large firms, in contrast, experienced noticeable loss in shareholders' wealth when acquiring public firms. Using the calendar-time approach recommended by Fama (1998) to compare long-term post-

acquisition returns separately for small and large firms, the authors confirmed that the size effect was not reversed over time.

Payment method

The phenomenon of lower returns from acquisitions paid by equity has been documented by numerous other researchers (Travlos, 1987; Hayward, 2002; Fishman, 1989; Brown & Ryngaert, 1991; and Martin, 1996). Their studies agree that acquisitions financed by common equity experience negative announcement returns, in contrast to constant unchanged, sometimes even positive, returns associated with cash-financing deals.

In contrast, there has been other evidence in favour of equity financing. Researchers note that when the acquiring firm is unsure about the value of the target, stock offering is more likely, since the acquirer acknowledge that the target will only accept a cash payment of higher than its true value, leading to an overpayment for the bidder (Fuller et al., 2002). Furthermore, Eckbo & Thorburn (2000) suggest that stock offering is sometimes a way for bidders to force targets to share a part of the risks of overpayment, meaning that stock offering often associates with higher post-acquisition performance for bidders.

Target's public status

A frequently observed phenomenon in previous researches of U.S. acquisitions is that the bidders often achieve positive announcement abnormal return when acquiring private targets, and zero or negative returns when the targets are publicly traded (Hansen & Lott, 1996; Chang, 1998; Fuller et al., 2002; Moeller et al., 2003; Faccio & Stolin, 2004). One way to explain the diminishing returns in public targets cases is the liquidity of the target firm. Acquiring private firms or subsidiaries will expose the bidders to an illiquid market, thus the targets will compensate the bidders by a liquidity discount/premium, resulting in a higher return for bidders. Acquiring public firms in a relatively more liquid market, on the contrary, will drive up competition and therefore, lower acquisition returns for bidders.

Number of bidders

Previous studies have provided empirical evidence that competition among bidding firms increases the returns to targets and lower that of bidders (Berkovitch & Narayanan (1990); Bradley et al. (1988)). They explained that increases in demand of the target firms boost up the offering price to the targets. The overpayment would then decrease bidders' post-acquisition returns.

Same vs. Cross-industry

In relation to acquisition performance, the most commonly accepted conclusion is that cross-industry acquisitions are less likely to succeed, due to bidders' lack of expertise and information on targets and targets' industry (Argawal et al., 1992; Hayward, 2002; Jensen, 1986). In contrast, diversification within related industries provides bidders with better economies of scope and better integration post-acquisition.

Same vs. Cross-border

It is claimed that cross-border acquisitions often result in higher wealth effects than domestic deals, due to the competitive advantages of multinational firms compared to a more closed economy (Kang, 1993; Goergen and Renneboog, 2004).

Deal attitude

Hostile takeovers tend to associate with lower abnormal returns for bidder, whereas friendly acquisitions often yield positive outcomes, due to the substantial costs from legal filing fees and publication (Schwert, 2000; Moeller et al., 2004). On the other hand, hostile takeovers are more likely to create values for bidders by removing inefficient managers in the targets.

Acquisition waves

The acquisition wave was more likely to associated with higher bidder performance, partly due to the overoptimistic reaction of the market (Alexandridis et al., 2012; Harford, 2005; Goel & Thakor, 2010).

Table 2: Summary of previous studies

Author(s) and year	Variable	Findings
Moeller et al. (2004)	CAARs	(-1,+1) CAARs = 1.102%
Fuller et al., 2002	CAARs	CAARs = 1.77%
Hayward (2002)	CAARs	CAARs = -1%
Hayward (2002)	Acquisition experience	Negative relationship with CAR No relationship with analyst ratings on acquisition success
Rosen (2003)	Acquisition experience	Short run: no effect Long run: first-time acquirers outperform the rest
Conn et al. (2004)	Acquisition experience	CARs fell from 0.98 (first bid) to -0.11 (third bid) Frequent acquirer has CAR of 37% lower
Fuller et al., 2002	Acquisition experience	CARs fell from 2.74% (first bid) to 0.52% (fifth bid)
Ahern, 2008	Acquisition experience	CARs fell as acquisition number increased
Loderer & Martin, 1990	Acquisition experience	CARs fell from 1% (first bid) to 0.2% (second bid)
Haleblian & Finkelstein, 1999	Acquisition experience	CARs fell as acquisition number increased
Schipper & Thompson, 1983	Acquisition experience	13% CAR (first bid) No CAR (from the second)
Rovit et al., 2003	Acquisition experience	Frequent acquirers outperformed occasional acquirers by a factor of 1.7 and non-buyers by a factor of 2
Stegemoller, 2001	Acquisition experience	Frequent acquirers outperformed occasional acquirers
Baker & Limmack, 2001	Acquisition experience	Single/infrequent bidders: negative CAR Multiple bidders: CAR of 0
Rani et al. (2013) Klapper and Love (2004)	Corporate governance	Shor run: better corporate governance, higher CARs
Liu and Wang (2013)	Corporate governance	Ownership structure, institutional investors and CEO/Chairman duality have a positive impact on acquisition performances Board size has negative impact
Masulis et al. (2007)	Corporate governance	CEO/Chairman duality has negative impact

Author(s) and year	Variable	Findings
Mitchell & Lehn (1990)	Corporate governance	Market for corporate control has positive impact
Wang & Xie (2008)	Corporate governance	The bigger the difference between shareholder rights of the bidder and the target, the higher the synergies
Selim et al. (2003)	Corporate governance	Internal auditing plays a moderate role in the success of the acquisitions
Rovit et al. (2003)	Deal/Target size	Bidders focusing on small deals outperform others by a factor of almost 6:1
Ahern (2008)	Deal/Target size	Relatively large target is positively related to integration costs, leading to declining returns
Asquith et al. (1983)	Deal/Target size	Bidders' abnormal returns are positively correlated with the relative size of the deal
Mulherin & Boone (2000)	Deal/Target size	Larger deal size is often associated with larger synergies
Malatesta (1983)	Bidder size	Smaller firms earn significantly negative post-merger returns
Moeller et al. (2003)	Bidder size	Abnormal return for small firms exceeds that of large firms by 2.24 percentage points
Hayward, 2002; Fishman, 1989; Martin, 1996	Payment method	Equity-financed acquisitions have lower abnormal returns
Eckbo & Thorburn (2000)	Payment method	stock offering often associates with higher post-acquisition performance
Fuller et al., 2002; Moeller et al., 2003; Faccio & Stolin, 2004	Target's public status	Positive CARs when acquiring private targets Zero or negative returns when acquiring public targets
Berkovitch & Narayanan (1990); Bradley et al. (1988)	Number of bidders	Competition among bidding firms increases the returns to targets and lower that of bidders
Argawal et al., 1992; Hayward, 2002; Jensen, 1986	Same vs. Cross-industry	Cross-industry acquisitions are less likely to succeed
Kang, 1993; Goergen and Renneboog, 2004	Same vs. Cross-border	Cross-border acquisitions often result in higher wealth effects than domestic deals
Schwert, 2000; Moeller et al., 2004	Deal attitude	Hostile takeovers tend to associate with lower abnormal returns f Friendly acquisitions often yield positive outcomes
Alexandridis et al., 2012; Goel & Thakor, 2010	Acquisition waves	Acquisition wave was more likely to associated with higher acquisition performance

Source: Author's own compilation

4 RESEARCH HYPOTHESIS

4.1 Hypothesis 1

When firms continue acquiring more and more as a source of inorganic growth, my first and foremost question for this paper is whether or not the acquiring firms enjoy excess returns compared to the market as a result of the acquisition, or is it true that the synergies, if exist, are only awarded to the target companies. Although it is still highly controversial, my hypothesis is that stock prices of bidders will actually increase few days before (due to information leakage) until few days after the announcement dates. Therefore, the first hypothesis would be:

(1) There is abnormal stock return around the announcement date

4.2 Hypothesis 2

While organizational learning is receiving more and more attention in the literature, can this be applied to acquisitions as well? If organizational learning can be measured by the changes in the practice after some experiences, as described in section 2.6, does it mean that after some experiences in buying other businesses, bidders can actually learn and that learning will be reflected in the improvements in their current acquisition deal's practices? Expecting organizational learning to be correct, my second hypothesis would be:

(2) There is a positive relationship between bidder's acquisition performance and the number of acquisition deals before that announcement;

4.3 Hypothesis 3

Hypothesis 2 already testifies the relationship between the number of previous acquisition and the performance of the acquisition. However, when classifying the bidders into frequent acquirers and infrequent acquirers, should they experience different performance as well? Is this true that firms that acquired more would be more likely to perform better in the current acquisition?

(3) Bidders with more previous acquisition experience perform better than irregular acquirers

4.4 Hypothesis 4

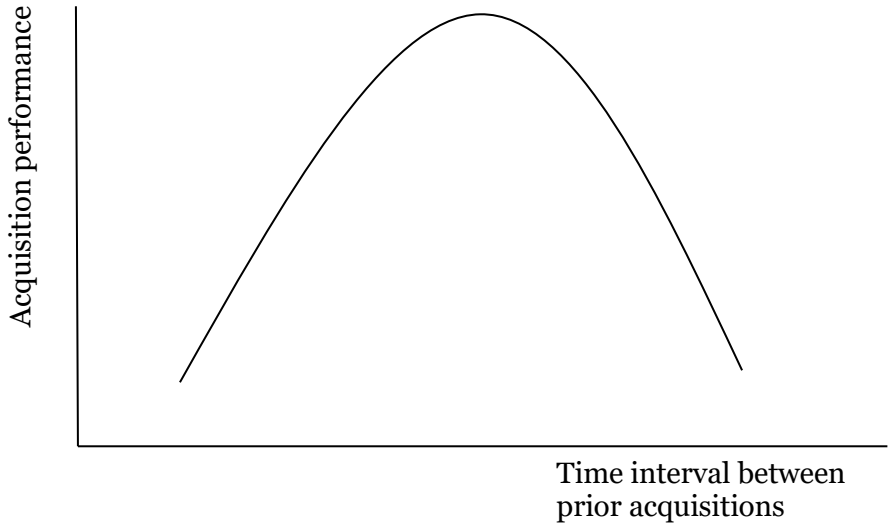
While past experience can be reflected by the number of deals done in the past, it might also depend on whether the experience was a success or failure. In the context of acquisitions, the performance of previous deals could be a determining factor for performance of the deal of focus. There are different views on this matter. Some researchers claim that previous successes would make firms feel overconfident and lose the urge to search for new and superior options, while huge failures would discourage shareholders, making them question ability of management and thus, the acquisitions may not get approved or consensus to perform well. On the contrary, they claim that small losses could actually be the best for firms to learn from the mistakes while keeping their confidence (Hayward, 2002). However, in the context of serial bidders learning from their experiences of acquiring many times in the past, for me it would make more sense that if a bidder already succeeded many times in the past, it would stand a high chance of success in the current deal as well. And vice versa. My proposed hypothesis 4 is:

(4) There is a positive relationship between past acquisitions' performance and performance of the current deal

4.5 Hypothesis 5

As much as experience is important, learning from past experience might only be relevant and useful when they are generated and applied in a timely fashion. Very short time intervals between bids may not be enough for firms to learn the lessons, while very long intervals make the experience inappropriate or forgotten (Chang, 1996; Huber, 1991; Argote et al., 1990; Ginsberg & Baum, 1998; Hayward, 2002). Therefore, a moderate length of time might be the idealist for firms to acquire and apply the learning to result in an increase in stock return. In other words, acquisition performance increases at first when the time between acquisitions increases, but after a certain point, it starts to decrease when time increases.

Figure 3: Inverted U-shaped relationship between acquisition performance and time between past acquisitions



(5) There exists an inverted U-shaped relationship between acquisition performance and the time between acquisitions done in the past

meaning that:

(i) There is a positive relationship between bidder's acquisition performance and the time between acquisition

(ii) There is a negative relationship between bidder's acquisition performance and squared of the time between acquisition

4.6 Hypothesis 6

Looking from a different perspective, the activeness of the bidders in acquiring more firms might not be a sign of learning and applying the knowledge, but merely the empire-building practice of management. That is, when managers want to increase their own power and position rather than benefiting the firm and its shareholders, they could actively acquire new firm to expand the firm size and scope, staffing level and total assets under their control (Trautwein, 1990; Rhoades, 1983; Black, 1989; Jensen, 1986). In other words, frequent acquisition might only be beneficial to the firm when associated with good corporate governance to monitor the empire building problem. This would be the case of companies like Cisco, which has developed an effective acquisition strategy to use serial acquisitions as a source of growth.

(6) *There is a positive relationship between bidder's acquisition performance and its corporate governance strength*

Respective statistical hypotheses will be presented later in section 5.6 of the paper, after the variables are defined and models are specified.

4.7 Hypothesis 7

Using similar method as Hypothesis 3, I divide the sample of acquisition events with respective bidders into events carried by bidders of better corporate governance and bidders of worse corporate governance systems, and examine the difference between their stock performances. If my theory of better corporate governance going together with better acquisition performance, then it should be true that:

(7) *Bidders with better corporate governance have higher acquisition performance*

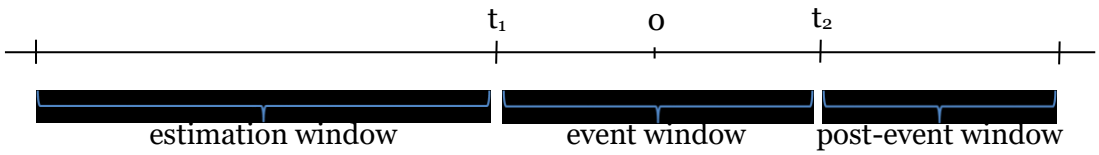
5 METHODOLOGY

5.1 Event study

5.1.1. Study windows

To derive to the acquisition performance, the most popular approach that is often used in examining the behaviour of security price around a specific event, the event study methodology, will be used. This method was introduced by Fama, Fisher, Jensen and Roll in 1969, and has become the standard method of measuring security price reaction to some announcements or events (Binder, 1998).

The method requires two windows: estimation window and event window. The estimation window typically ranges from 120 to 250 trading days, in which there are no events to affect the stock price, in order to ensure an unbiased market model for each stock. The estimation window should be before the event window, with a possible gap between them. The event window typically ranges from some days before the announcement date (t_1) to some days after (t_2), because the possible leakage of the information before the announcement date could affect the stock price before announcement.



Estimation window in my research is 150 trading days, (-170, -21), from the 150th day to the 21st day before the acquisition announcement.

Where R_{it} and R_{mt} are the returns to stock i and to the market during day t.

To test for short-term market reaction, seven event windows are calculated:

- (-1,+1) event window, a three-day event window from the previous day to the acquisition announcement to the day after the announcement
- (-2, +2) event window,
- (-3, +3) event window,

- (-5, +5) event window,
- (-10, +10) event window,
- (-15, +15) event window, and
- (-20, +20) event window.

The use of different event windows is to test if the event window length had any effect on the abnormal returns, i.e how quickly the market reacted to the acquisition news.

5.1.3. Market Model

The market model for each stock i in the sample during a period t is:

$$R_{it} = \alpha_i + \beta_i R_{mt} + u_{it}$$

where $E[u_{it}] = 0$ and $VAR[u_{it}] = \sigma_{u_i}^2$

The residual $\hat{u}_{it}$ from the above market model is an estimator of the abnormal return (AR) for the stock i during day t.

$$AR_{it} = R_{it} - \left(\widehat{\alpha_i} + \widehat{\beta_i} R_{mt}\right)$$

5.1.3. CARs and CAARs calculation

When testing the relationship between acquisition performances and other factors, I would need to calculate the cumulative abnormal returns (CAR) of each stock during each event window, which are the sum of all abnormal returns that particular stock earns during each day of the window:

$$CAR_t = \sum_{i=1}^{N} AR_{it}$$

The cumulative average abnormal returns (CAAR) of all *N* stocks during an event window (t_1, t_2) will then be derived as:

$$CAAR_{(t1,t2)} = \frac{1}{N} \sum_{t=t1}^{t2} CAR_t$$

5.2 Significance test for CAARs

In order to determine whether the CAARs calculated over the event windows are statistically significant, the cross-sectional t-test, standardized cross-sectional test (also known as BMP test), and the Corrado Rank test will be carried out..

The reason for including all of these tests is that each of them has different strengths and shortcomings, and thus, would provide different results from different perspective. The classic t-test, while having the advantage of simplicity over other tests, has a major problem is that it is prone to cross-sectional correlation and volatility changes, and that it requires a normal distribution of CAARs, which is very unlikely in empirical studies, and also not prevail in this research, as shown in section 6.2 of the paper. The BMP-test, on the contrary, take into account the event-induced volatility problem. The Rank test, which is a non-parametric test, does not assume that the data has any particular probability distribution. Therefore, BMP test and Rank test are considered to be more powerful.

5.2.1. Cross-sectional t-test

Test statistic: $t = \frac{CAAR_{(t1,t2)}}{\hat{\sigma}_{CAAR(t1,t2)}}$

where the variance of the standard deviation estimator calculated based on cross-section of abnormal returns (Brown and Warner, 1980):

$$\hat{\boldsymbol{\sigma}}^2_{\mathrm{CAAR(t1,t2)}} = \frac{1}{\mathrm{N(N-d)}} \sum_{i=1}^{N} \left[CAR_{i(t1,t2)} - CAAR_{i(t1,t2)} \right]^2$$

Assumptions of this method is that abnormal returns are normally distributed independently and identically:

$$ARt \sim N\left(0, \frac{\sigma^2}{N}\right)$$

5.2.2. Standardized Cross-sectional (BMP) test

For the cross-sectional t-test, however, it is assumed that the event would have identical effect on all the firms, so when there is even just a small event-induced variance increase, test statistics will be affected. Under most of the cases the cross-sectional t-test would be too large and the correct null hypothesis would be rejected too often (Boehmer et al., 1991). In order to fix that issue, Boehmer, Musumeci and Poulsen (1991) proposed the standardized cross-sectional BMP test, taking into account both the standardized residual test (Patell, 1976) and the empirical variance estimate based on the cross section of event-window abnormal returns, so that the event-induced variance changes will not affect the test statistic. Researchers consider the BMP test to be "a good candidate" for a robust test in conventional event studies over short windows (Savickas, 2003; Harrington & Shrider, 2007).

According to Boehmer et al. (1991), the test statistic is calculated following the below steps:

Step 1: Standardizing abnormal returns

Calculated the same way as Patell (1976), assuming that the abnormal returns are not correlated and that variance is constant across time, each abnormal return is standardized as:

$$SAR_{it} = \frac{AR_{it}}{S(AR_{i})}$$

Standard deviation of the abnormal returns, estimated from the estimation window, is then equal to:

$$\hat{\sigma^2}_{AR_i} = \frac{1}{M_i - d} \sum_{t=Est_{min}}^{Est_{max}} (AR_{i,t})^2$$

where M_i denotes the number of non-missing returns and d denotes the degrees of freedom.

Then, the standard error is adjusted by the forecast error, because the event-window ARs are an out-of-sample estimation.

$$S(AR_i) = \hat{\sigma}_{AR_i} \sqrt{1 + \frac{1}{M_i} + \frac{(R_{m,\tau} - \overline{R}_{m,Est})^2}{\sum_{Est_{min}}^{Est_{max}} (R_{m,\tau} - \overline{R}_{M,Est})^2}}$$

Cumulating the standardized abnormal returns over the event window (t1,t2) we have $CSAR_{i(t1,t2)}$.

Step 2: Calculating cross-sectional average of $CSAR_{i(t1,t2)}$

$$\overline{CSAR}(\tau_1,\tau_2) = \overline{\frac{1}{N}\sum_{i=1}^{N} CSAR_i(\tau_1,\tau_2)}$$

Step 3: Estimating standard deviation of $CSAR_{i(t1,t2)}$

$$S(\overline{CSAR}) = \sqrt{\frac{1}{N(N-1)}\sum_{i=1}^{N}\left[CSAR_i(\tau_1,\tau_2) - \overline{CSAR}(\tau_1,\tau_2)\right]^2}$$

Step 4: Deriving to BMP test statistics

$$T_{Boehmer} = \frac{\overline{CSAR}(\tau_1,\tau_2)}{S(\overline{CSAR})}$$

Step 5: Calculating adjusted standardized cross-sectional test statistic

To account for cross-correlation, the standardized cross-sectional test statistics is adjusted following the method by Kolari & Pynnonen (2010):

$$T_{Boehmer_{adj.}} = T_{Boehmer}\sqrt{\frac{1-\bar{\rho}}{1+(n-1)\bar{\rho}}}$$

where $\bar{\rho}$ denotes the average cross-correlation among abnormal returns.

5.2.3. Corrado Rank test

Proposed by Corrado in 1989 and further developed by Corrado & Zivney (1992) as a non-parametric test (also called distribution-free test), the Rank test eliminates the need to use assumptions about parameters of the population distribution which are often not true. Therefore, Corrado Rank test is proven to be competitive and superior over the BMP test (Campbell & Wesley, 1993; Kolari & Pynnonen, 2010).

Raking the returns in the event window relative to the joint period of both estimation window and event window, Corrado Rank test statistics is derived as follows:

Step 1: Transforming abnormal returns into respective ranks

Denoting K_{it} as the rank of the abnormal return, the transformation is done for each stock (similar to the RANK command in Excel) for each day:

$$K_{it} = Rank(AR_{it})$$

Step 2: Calculating standard deviation for the test statistics:

$$s(K) = \sqrt{\frac{1}{m}\sum_{t=1}^{T}\left[\frac{1}{N}\sum_{i=1}^{N}\left(K_{it} - \frac{m+1}{2}\right)\right]^2}$$

where N denotes the number of non-missing returns for the day and m denotes the total number of observations in the estimation window and event window.

Step 4: Calculating Corrado Rank test statistics for each day

$$C_{rank} = \frac{1}{N}\sum_{i=1}^{N}\left[K_{i0} - \frac{m+1}{2}\right] \Big/ s(K)$$

5.3 Explanatory variables

NoPriorAcq is calculated as the number of the acquisition deals undertaken by the firm from 1992 to the current acquisition, of which the period from 1992 to 2001 is the non-acquisition period for bidders to form their acquisition experience.

LogAcqTime: is calculated as the logarithm to the base 10 of the average time (in days) between two consecutive deals the bidder conducted prior to the deal being studied. If the company conducted only one acquisition during the 1992 – 2011, the number of days is counted from the beginning of the study period (01/01/1992) to the acquisition announcement date.

SquaredLogAcqTime: is used to test whether the relationship between LogAcqTime and the CARs reverses after a certain point.

CGI (Corporate Governance Index): is constructed using seven indicators from Datastream: i) *Balanced Board Structure* (regarding culture, experience, gender, independence and size); ii) *Shareholder Rights* (whether any anti-takeover regime is in place, do shareholders have equal voting rights, and so on), iii) *Board Functions/Monitoring* (Does the firm monitor the board functions through establishing a corporate governance committee), iv) *Board Meeting Attendance Average* (The average overall attendance percentage of board meetings as reported by the company), v) *Audit Committee Independence* (Percentage of independent board members on the audit committee as required by the firm), vi) *Compensation Committee Independence* (Percentage of independent board members on the compensation committee as required by the firm) and vii) *Nomination Committee Independence* (Percentage of independent board members on the nomination committee as required by the firm).

Balanced Board Structure and Shareholder Rights are flagged as “Yes” or “No” in Datastream, and will be given the value of 1 if it is flagged as “Yes”, and 0 if “No”. The other five indicators have values ranging from 0 to 100, and are calculated the same way: 1 if the score is higher than the average score of all firms in the sample, and 0 otherwise. Corporate Governance Index (CGI) for each bidder in each acquisition is then measured as the sum of all seven components. Therefore, CGI of each firm will receive a score from 0 to 7.

5.4 Control variables

Recession: 1 if the deal took place in recession time, 0 otherwise. Although recession affected each bidder and target countries in different time, the common recession time for all firms in the sample from the beginning of 2008 to the end of the second quarter in 2009 is used (Centre for Economic Policy Research, 2009).

AcqWave: 1 if the deal took place in a hot acquisition period, 0 otherwise. In the sample period there was one acquisition wave from 2003 to 2007, right before the financial crisis.

LogMVBidder: calculated as logarithm to the base 10 of the market capitalization of bidder 4 weeks before announcement date (in USD million).

LogDealSize: calculated as logarithm to the base 10 of the value of the deal (in USD million).

AcqPercentage: the percentage of target's shares acquired for that particular acquisition

Hostility: 1 if the deal is a hostile takeover, 0 otherwise (friendly or neutral attitude).

PaymentMethod: 1 if the deal is financed entirely by cash, 0 otherwise (equity, note, earnout, or a combination of two or more pricing methods).

Competition: 1 if there is more than one bidder bidding for the deal, 0 otherwise.

Publicity: 1 if the target is a public firm, 0 otherwise.

CrossBorder: 1 if the target is not in the same country with the bidder, 0 otherwise.

CrossIndustry: 1 if the target is not in the same industry group with the bidder, 0 otherwise. Industry group similarity is defined as having the same first two digits of SIC (Standardized Industrial Classification) code.

5.5 OLS Model for CARs

Besides significance tests for CAARs to investigate the overall effect, the relationship between CARs of each event and the acquisition experience, corporate governance, and other factors will be examined using ordinary least squared (OLS) model, with specification as follows:

$$\begin{aligned} CAR = {} & \alpha + \beta 1 * AvgPastCARs + \beta 2 * NoPriorAcq + \beta 3 * LogAvgTime \\ & + \beta 4 * SquaredLogAvgTime + \beta 5 * CGI + \beta 6 * Recession + \beta 7 * AcqWave \\ & + \beta 8 * LogMVBidder + \beta 9 * LogDealSize + \beta 10 * AcqPercentage \\ & + \beta 11 * Hostility + \beta 12 * PaymentMethod + \beta 13 * Competition \\ & + \beta 14 * Publicity + \beta 15 * CrossBorder + \beta 16 * CrossIndustry \end{aligned}$$

Just to provide a robustness check, besides the stock performance, I will use ROE (Return on equity) of bidders as a substitution for CAR. ROE is calculated as:

$$ROE = \frac{Net\ Income\ of\ the\ acquisition\ year}{Average\ shareholders'\ equity}$$

The second model specification is:

$$\begin{aligned} ROE = {} & \alpha + \beta 1 * AvgPastCARs + \beta 2 * NoPriorAcq + \beta 3 * LogAvgTime \\ & + \beta 4 * SquaredLogAvgTime + \beta 5 * CGI + \beta 6 * Recession + \beta 7 * AcqWave \\ & + \beta 8 * LogMVBidder + \beta 9 * LogDealSize + \beta 10 * AcqPercentage \\ & + \beta 11 * Hostility + \beta 12 * PaymentMethod + \beta 13 * Competition \\ & + \beta 14 * Publicity + \beta 15 * CrossBorder + \beta 16 * CrossIndustry \end{aligned}$$

Return on assets (ROA) could have been a good indicator for accounting performance of the bidders as well. However, data on ROA is half missing from Thomson Reuters Datastream database, so ROA is not used in this paper.

5.6 Statistical hypothesis

Based on the research hypotheses in section 4, corresponding statistical hypotheses are as follows:

(1) *There is abnormal stock return around the announcement date*

H_0: CAAR = 0

H_1: CAAR > 0

(2) *There is a positive relationship between bidder's acquisition performance and the number of acquisition deals before that announcement*

H_0: $\beta 2 = 0$

H_1: $\beta 2 > 0$

(3) *Bidders with more previous acquisition experience perform better than irregular acquirers*

H_0: $CAR_{\text{Frequent bidders}} = CAR_{\text{Irregular Bidders}}$

H_1: $CAR_{\text{Frequent bidders}} > CAR_{\text{Irregular Bidders}}$

(4) *There is a positive relationship between past acquisitions' performance and performance of the current deal*

H_0: $\beta 1 = 0$

H_1: $\beta 1 > 0$

(5) *There exists an inverted U-shaped relationship between acquisition performance and the time between acquisitions done in the past*

(i) LogAvgTime is positively correlated with CAR

H_0: $\beta_3 = 0$

H_1: $\beta_3 > 0$

(ii) SquaredLogAvgTime is negatively correlated with CAR

H_0: $\beta_4 = 0$

H_1: $\beta_4 < 0$

(6) There is a positive relationship between bidder's acquisition performance and its corporate governance strength

H_0: $\beta_5 = 0$

H_1: $\beta_5 > 0$

(7) *Bidders with better corporate governance have higher acquisition performance*

H_0: $CAR_{\text{better governed bidders}} = CAR_{\text{other bidders}}$

H_1: $CAR_{\text{better governed bidders}} > CAR_{\text{other bidders}}$

6 DATA

6.1. Database and sample selection

The data sample initially includes 215,793 merger and acquisition deals during the 10-year period from 1992 to 2011 by companies located in Western Europe generated from database of Thomson One SDC. Acquisitions from the time period of 1992-2001 will be used as a base to calculate the prior acquisition experience of firms as well as the average time between previous acquisitions. Only acquisitions from 2002-2011 are the study subject of bidder acquisition performance.

I excluded acquiring firms from financial and utility industries since these industries are regulated differently. That cut out 3,278 deals from the sample.

In order to obtain stock price of the bidder, I limit them to publicly traded firms only. A further constraint is applied to target publicity status, to take only target firms that are either public or private firms, leaving 47,436 deals in the sample.

To make sure that all acquisitions give bidders certain control over targets, I chose only deals that acquire at least 50% of total shares of the target firms. 25,777 deals satisfy this condition. The rationale is that acquiring less than 50% of target shares may not have adequate effects on bidder's stock performance.

In addition, I exclude deals with undisclosed value, spinoffs[1], repurchases[2] and management buyout[3]. This left me with 13,787 acquisition deals.

I further filtered the sample to take only completed deals, with deal values of at least USD 5 million, thus deriving to a sample of 8,996 deals. The threshold of UDS 5 million is chosen to exclude all deals that are not significant and thus less likely to have any impacts on the acquiring firms. In prior studies, mostly the authors restricted the deal value to be higher than USD 1 million (Moeller et al., 2004). However, given the difference from sample time period and research time of more than 10 years, the threshold of USD 5 million is to account for inflation and other factors.

Using these 8,996 deals generated from Thomson One, I use Excel filters to make further restrictions in the sample. I take only 8,405 acquisitions in 15 European

[1] The sale or distribution of new shares of an existing business or division of a company to form an independent firm

[2] The share buyback of some or all of the outstanding shares of a firm for many reasons, in the context of M&A it could be to fend off a hostile takeover

[3] An acquisition where the existing managers of a company acquire a large part or all of the company

countries including Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom. The reason for the exclusion of other member states in EU is that they occupied less than 10% of total acquisitions in Western Europe, and therefore including them may bias the results.

Of all 8,405 acquisitions, I filtered to take only deals from 2002 to 2011 that have corporate governance data at year end prior to the acquisition year available on Datastream. Corporate governance data in this research contains Balanced Board Structure, Shareholder, Board Functions/Monitoring, Board Meeting Attendance Average, Audit Committee Independence, Compensation Committee Independence and Nomination Committee Independence. This produces a sample of 1,085 deals, of which 34 deals were removed due to missing stock prices, leaving a sample of 1,051 acquisitions.

6.2. Descriptive statistics

Table 3 shows the descriptive statistics for CARs of each event window. The mean values of CARs range from 0.17% for (-20,+20) window to 0.63% for (-5,+5) window. Looking at the standard deviation, CARs seem to fluctuate tremendously especially for the (-15,+15) and (-20,+20) windows where the differences between Min and Max values go up to 1.35 and 1.37, respectively.

Based on the skewness and excess kurtosis of the CAR distributions, the Jarque-Bera test statistic is calculated. They are all significant at 5% level, indicating that the sample's CARs are not normally distributed. Although it is a drawback, the non-normality problem is not uncommon in previous studies.

Table 3: Descriptive statistics for dependent variables

	Mean	Std.Devn.	Min	Max	Skewness	Excess Kurtosis	Normality test	
CAR(±1)	0.0048	0.0393	-0.1306	0.2792	0.8303	5.1444	264.03	[0.0000]**
CAR(±2)	0.0059	0.0480	-0.1570	0.4600	1.2345	9.5889	465.31	[0.0000]**
CAR(±3)	0.0061	0.0537	-0.2561	0.2497	0.0803	3.4751	262.42	[0.0000]**
CAR(±5)	0.0063	0.0663	-0.2830	0.4421	0.5567	4.8255	325.38	[0.0000]**
CAR(±10)	0.0056	0.0853	-0.3939	0.4652	0.2838	3.0854	202.54	[0.0000]**
CAR(±15)	0.0044	0.1063	-0.5518	0.8196	0.4815	5.4754	421.42	[0.0000]**
CAR(±20)	0.0017	0.1222	-0.5743	0.7789	0.5611	3.6060	203.02	[0.0000]**

For explanatory variables, the mean, median, mode, min, max and standard deviation are calculated in table 4. Although vastly fluctuate, previous acquisition performances of the bidders yield averagely 0%.

Number of prior acquisitions varies from 0 to 31, which is the case of The Capita Group PLC, a London-based international business process outsourcing and professional services company which have been experiencing strong rise in revenues as a result of its acquisition spree.

The days between prior acquisitions of acquirers is averaged at around 1146 days, resulting in a mean of 3.06 for LogAvgTime and 9.61 for SquaredLogAvgTime.

CGI with seven categories has maximum value of 7 and minimum of 0. The average firm in the sample has a CGI of 4.38, while most of the firms have CGI of 4.

Market values of bidders from the sample averaged to USD 9,162.54 million. Smallest acquirer's is negative (-48,068.75 million) while that of largest acquirer is USD 893,334.34 million. LogMVBidder has a mean of 2.87.

Deal size has values between USD 4.68 million to USD 60,408.06 million. LogDealSize ranges from 0.67 to 4.78, averaged to 1.86.

Table 4: Descriptive statistics of independent variables

	Mean	*Median*	*Mode*	*Min*	*Max*	*Standard deviation*
AvgPastCARs	0.00	0.00	0.00	-0.35	0.50	0.07
NoPriorAcq	4.53	2.00	0.00	0.00	31.00	5.67
LogAvgTime	3.06	3.03	3.18	2.10	4.61	0.52
SquaredLogAvgTime	9.61	9.20	10.14	4.41	21.27	3.50
CGI	4.38	4.00	4.00	0.00	7.00	1.32
Recession	0.17	0.00	0.00	0.00	1.00	0.38
AcqWave	0.55	1.00	1.00	0.00	1.00	0.50
LogMVBidder	2.87	2.98	2.47	0.67	5.95	1.01
LogDealSize	1.86	1.69	1.60	0.67	4.78	0.80
AcqPercentage	0.96	1.00	1.00	0.50	100.00	0.11
Hostility	0.00	0.00	0.00	0.00	1.00	0.05
PaymentMethod	0.68	1.00	1.00	0.00	1.00	0.47
Competition	0.02	0.00	0.00	0.00	1.00	0.12
Publicity	0.23	0.00	0.00	0.00	1.00	0.42
CrossBorder	0.64	1.00	1.00	0.00	1.00	0.48
CrossIndustry	0.45	0.00	0.00	0.00	1.00	0.50

In the sample, 895 firms acquired 100% of target shares, 93 firms acquired 50-75% of target shares, and 63 firms acquired more than 75% but less than 100%.

Of all the sampled acquisition deals, only 3 are marked as hostile. Therefore, this variable may not play a significant role in explaining the variances in the acquisition performances.

In terms of methods of payment, 718 deals used only cash financing while 333 deals used equity financing and other combination methods.

Competition factor seems to not very distinct between acquisitions as well, with only 16 deals have two bidders bidding for the same target. There are no deals with more than two bidders.

Of all 1051 deals, there are 244 cases with public targets and 807 deals with private targets.

Of all the acquisitions, 675 were made cross-border, and 471 cross-industry.

6.3. Correlation matrix

In terms of the correlation between the regressors, there is a negative correlation between NoPriorAcq and LogAvgTime (-0.72). That could be explained that when a firm acquires frequently over a period of time, mostly the time between its acquisitions is short. Correlation between LogAvgTime and SquaredLogAvgTime is obviously high (0.99), due to the fact that the latter is the squared value of the former. Otherwise, the other variables seem not to correlate with each other.

Table 5: Correlation matrix of independent variables

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
1 AvgPastCARs	1.00	0.03	-0.02	-0.02	-0.03	0.06	-0.06	-0.02	-0.05	0.01	0.00	-0.04	0.01	-0.01	-0.02	-0.04
2 NoPriorAcq	0.03	1.00	-0.72	-0.65	-0.04	-0.02	-0.01	-0.20	-0.19	0.07	-0.04	0.03	-0.04	-0.10	-0.01	-0.02
3 LogAvgTime	-0.02	-0.72	1.00	0.99	0.08	0.01	-0.03	0.14	0.13	-0.07	0.04	-0.12	0.05	0.10	-0.08	-0.01
4 SquaredLogAvgTime	-0.02	-0.65	0.99	1.00	0.08	0.01	-0.03	-0.02	0.11	-0.06	0.03	-0.13	0.04	0.09	-0.08	-0.02
5 CGI	-0.03	-0.04	0.08	0.08	1.00	-0.06	0.11	0.10	0.10	0.01	0.00	-0.02	0.02	0.07	0.06	0.04
6 Recession	0.06	-0.02	0.01	0.01	-0.06	1.00	-0.50	-0.03	-0.06	-0.03	0.02	-0.02	-0.02	-0.02	0.03	-0.06
7 AcqWave	-0.06	-0.01	-0.03	-0.03	0.11	-0.50	1.00	0.00	0.02	0.06	0.01	0.01	0.00	-0.01	-0.06	0.02
8 LogMVBidder	-0.02	-0.20	0.14	-0.02	0.10	-0.03	0.00	1.00	0.34	-0.03	0.09	-0.09	0.11	0.47	0.09	-0.08
9 LogDealSize	-0.05	-0.19	0.13	0.11	0.10	-0.06	0.02	0.34	1.00	-0.07	0.10	-0.12	0.16	0.59	0.10	-0.09
10 AcqPercentage	0.01	0.07	-0.07	-0.06	0.01	-0.03	0.06	-0.03	-0.07	1.00	-0.03	-0.09	-0.01	-0.16	-0.08	0.04
11 Hostility	0.00	-0.04	0.04	0.03	0.00	0.02	0.01	0.09	0.10	-0.03	1.00	-0.04	0.28	0.10	0.04	-0.01
12 PaymentMethod	-0.04	0.03	-0.12	-0.13	-0.02	-0.02	0.01	-0.09	-0.12	-0.09	-0.04	1.00	-0.03	-0.06	0.14	0.01
13 Competition	0.01	-0.04	0.05	0.04	0.02	-0.02	0.00	0.11	0.16	-0.01	0.28	-0.03	1.00	0.19	0.00	-0.02
14 Publicity	-0.01	-0.10	0.10	0.09	0.07	-0.02	-0.01	0.47	0.59	-0.16	0.10	-0.06	0.19	1.00	0.02	-0.07
15 CrossBorder	-0.02	-0.01	-0.08	-0.08	0.06	0.03	-0.06	0.09	0.10	-0.08	0.04	0.14	0.00	0.02	1.00	-0.08
16 CrossIndustry	-0.04	-0.02	-0.01	-0.02	0.04	-0.06	0.02	-0.08	-0.09	0.04	-0.01	0.01	-0.02	-0.07	-0.08	1.00

7 RESULTS

7.1. Overall effects of the acquisition announcement

Below is the testing of Hypothesis 1 which states that "*There is abnormal stock return around the announcement date*".

CAARs of the ±0, ±1, ±2, ±3, ±5, ±10, ±15 and ±20 windows are presented together with their respective test statistics as follows:

Table 6: Cumulative Average Abnormal Returns and significance tests

Event window	*CAAR*	*Positive : Negative ratio*	*t-test*	*BMP test*	*Rank test*
[-0;+0]	0.0029	563 : 488	3.1594	2.4315	2.6955
			*0.0016****	*0.0150***	*0.0070****
[-1;+1]	0.0050	562 : 489	4.0945	3.3763	3.1329
			*0.0000****	*0.0007****	*0.0017****
[-2;+2]	0.0062	574 : 477	4.1388	3.6949	3.2651
			*0.0000****	*0.0002****	*0.0011****
[-3;+3]	0.0064	578 : 473	3.8313	3.179	2.9073
			*0.0001****	*0.0015****	*0.0036****
[-5;+5]	0.0067	556 : 495	3.1914	2.2794	1.9337
			*0.0014****	*0.0226***	*0.0531**
[-10;+10]	0.0060	529 : 522	2.2363	1.4403	0.9058
			*0.0253***	*0.1498*	*0.3650*
[-15;+15]	0.0048	541 : 510	1.4490	0.1168	-0.1923
			0.1473	*0.9071*	*0.8475*
[-20;+20]	0.0020	518 : 533	0.5360	-0.5582	-0.5871
			0.5920	*0.5767*	*0.5572*

Test statistics with t-prob
*p < 0.1, **p < 0.05, ***p < 0.001

Table 6 shows that there were significant abnormal returns around the announcement dates. In details, on the announcement date, CAAR averaged to 0.29%, with statistical significance in terms of all t-test, BMP test and Corrado Rank test. Of all stocks, there are 563 positive CARs and 488 negative CARs.

Accumulating over longer periods, CAARs increase up to 0.67% in ±5 window when the number of positive returns are still larger than the number of negative ones. When

extending the windows to ±10, ±15 and ±20, CAARs decrease to 0.60%, 0.48% and 0.20% respectively. BMP and Corrado Rank tests indicate that they are not statistically significant any more. T-test shows a slightly different result when coming to window ±10 though. At 5% significant level, there seems to have some positive abnormal return according to t-test.

Generally speaking, the above results are not surprising and totally in line with the expectation set out in Hypothesis 1, to some degree. This also confirms that some of the theories about acquisition motives might hold true, especially the theories that assume motives come from shareholder value maximization (Efficiency theory, Monopoly theory, Raider theory, and Valuation theory).

These results are consistent with findings by Moeller et al. (2004) and Fuller et al. (2002), yet in contrast to results that studies of Hayward (2002) and Capron & Pistre (2002) show.

Although the synergies seem to be allocated to bidders to a certain extent, the size of the abnormal returns are rather small, especially when comparing to other studies of the same results. Also on the market of Europe, over the event window (-1,+0), Goergen & Renneboog (2004) discovered a positive CAAR of 1.04% for the United Kingdom and 0.40% for Continental Europe. On the US market, Fuller et al. (2002) and Moeller et al. (2004) found out larger CAARs of 1.77% and 1.10% respectively.

7.2. Effects of past acquisitions

Contradict to my expectation for Hypothesis 2 that says "*There is a positive relationship between bidder's acquisition performance and the number of acquisition deals before that announcement*", the number of past acquisitions a firm carried out does not have any effect or relationship with the firm's stock performance around acquisition dates. From table 7 when testing CARs in relation with only the explanatory variables, the coefficients for *NoPriorAcq* are not statistically significant for all seven models of seven testing windows.

Table 7: Cumulative abnormal returns in relation to explanatory variables

	CAR(±1)	*CAR(±2)*	*CAR(±3)*	*CAR(±5)*	*CAR(±10)*	*CAR(±15)*	*CAR(±20)*
Constant	-0.0836	-0.0661	-0.1356*	-0.1642*	-0.1696	-0.2576	-0.1339
	0.1484	*0.3511*	*0.0874*	*0.0941*	*0.1781*	*0.1001*	*0,4575*
AvgPastCARs	0.0253	0.0104	0.0131	0.0299	0.0742**	0.1431***	0.1680***
	0.1361	*0.6152*	*0.5730*	*0.2968*	*0.0443*	*0.0018*	*0.0015*
NoPriorAcq	0.0002	-0.0001	0.0003	0.0006	0.0010	0.0014	0.0009
	0.6556	*0.9214*	*0.6356*	*0.4420*	*0.3178*	*0.2672*	*0.5304*
LogAvgTime	0.0431	0.0372	0.0793*	0.0975*	0.1086	0.1382	0.0736
	0.1759	*0.3394*	*0.0692*	*0.0706*	*0.1170*	*0.1084*	*0.4575*
SquaredLogAvgTime	-0.0058	-0.0054	-0.0114*	-0.0141*	-0.0155*	-0.0185	-0.0093
	0.1800	*0.3032*	*0.0538*	*0.0538*	*0.0990*	*0.1138*	*0.4892*
CGI	0.0026***	0.0025**	0.0018	0.0012	-0.0029	0.0023	-0.0011
	0.0050	*0.0292*	*0.1632*	*0.4415*	*0.1504*	*0.3595*	*0.6938*
R squared	0.0139**	0.0080	0.0082	0.0064	0.0089*	0.0126**	0.0105*

Coefficients with t-prob listed under coefficients
*p < 0.1, **p < 0.05, ***p < 0.001; ***F < 0.01

When putting the control variables to the equation, the result does not change for *NoPriorAcq*. Although various studies have shown either positive or negative relationship between bidders' stock performances and the number of previous acquisitions, we can conclude that this is not the case for the EU-15 market during the time 2002-2011.

Switching from measuring stock performance to accounting performance, table 11 formulating how ROE can be explained by the explanatory and control variables. Results are interesting for *NoPriorAcq*. Its coefficient is 0.6725, statistically significant at 10% level.

Table 8: Cumulative Abnormal Returns in relation to all independent variables

	CAR(±1)	*CAR(±2)*	*CAR(±3)*	*CAR(±5)*	*CAR(±10)*	*CAR(±15)*	*CAR(±20)*
Constant	-0.0939	-0.0939	-0.1767**	-0.2220**	-0.2910**	-0.3611**	-0.2527
	0.1242	*0.2096*	*0.0344*	*0.0317*	*0.0276*	*0.0280*	*0.1808*
AvgPastCARs	0.0294*	0.0143	0.0192	0.0317	0.0737**	0.1376***	0.1573***
	0.0863	*0.4941*	*0.4122*	*0.2730*	*0.0463*	*0.0028*	*0.003*
NoPriorAcq	0.0003	0.0000	0.0005	0.0009	0.0015	0.0019	0.0015
	0.5737	*0.9349*	*0.4127*	*0.2618*	*0.1597*	*0.1493*	*0.3297*
LogAvgTime	0.0474	0.0513	0.0985**	0.1242**	0.1546**	0.1784**	0.1257
	0.1437	*0.1963*	*0.0263*	*0.0235*	*0.0274*	*0.0407*	*0.2093*
SquaredLogAvgTime	-0.0062	-0.0072	-0.0138**	-0.0175**	-0.0215**	-0.0239**	-0.0161
	0.1572	*0.1800*	*0.0220*	*0.0182*	*0.0235*	*0.0434*	*0.2367*
CGI	0.0026***	0.0024**	0.0016	0.0012	-0.0026	0.0025	-0.0007
	0.0048	*0.0373*	*0.2028*	*0.4579*	*0.1941*	*0.3157*	*0.8114*
Recession	-0.0001	-0.0011	0.0056	0.0139**	0.0267***	0.0351***	0.0430***
	0.9703	*0.8130*	*0.2693*	*0.0284*	*0.0010*	*0.0005*	*0.0002*
AcqWave	-0.0003	0.0034	0.0081**	0.0082*	0.0134**	0.0122	0.0161*
	0.9191	*0.3286*	*0.0389*	*0.0879*	*0.0296*	*0.1114*	*0.0678*
LogMVBidder	-0.0103***	-0.0104**	-0.0122**	-0.0117*	-0.0139*	-0.0001	0.0010
	0.0053	*0.0209*	*0.0157*	*0.0607*	*0.0804*	*0.9913*	*0.9271*
LogDealSize	0.0093**	0.0061	0.0070	0.0057	0.0042	-0.0088	-0.0145
	0.0204	*0.2138*	*0.2022*	*0.3998*	*0.6284*	*0.4136*	*0.2405*
AcqPercentage	0.0022	0.0076	0.0022	0.0066	0.0349	0.0141	0.0139
	0.8451	*0.5794*	*0.8832*	*0.7255*	*0.1477*	*0.6376*	*0.6867*
Hostility	-0.0139	-0.0160	-0.0240	-0.0138	0.0058	-0.0207	-0.0198
	0.5616	*0.5860*	*0.4628*	*0.7331*	*0.9103*	*0.7480*	*0.7889*
PaymentMethod	0.0027	0.0003	0.0048	0.0014	0.0043	0.0039	0.0098
	0.3179	*0.9182*	*0.1994*	*0.7674*	*0.4610*	*0.5944*	*0.2434*
Competition	0.0026	0.0048	0.0072	0.0089	-0.0137	-0.0179	-0.0279
	0.8059	*0.7066*	*0.6150*	*0.6153*	*0.5442*	*0.5254*	*0.3888*
Publicity	-0.0033	0.0000	0.0009	0.0021	0.0031	0.0108	0.0166
	0.3739	*0.9988*	*0.8559*	*0.7397*	*0.7025*	*0.2848*	*0.1524*
CrossBorder	0.0023	0.0042	0.0045	0.0075*	0.0067	0.0081	0.0093
	0.3743	*0.1953*	*0.2074*	*0.0890*	*0.2378*	*0.2503*	*0.2513*
CrossIndustry	0.0005	0.0001	0.0002	-0.0035	-0.0084	-0.0112*	-0.0112
	0.8489	*0.9782*	*0.9417*	*0.4041*	*0.1157*	*0.0911*	*0.1430*
R squared	0.0236	0.0186	0.0234	0.0206	0.0326***	0.0349***	0.0351***

Coefficients with t-prob listed under coefficients

*p < 0.1, **p < 0.05, ***p < 0.001; ***F < 0.01

In order to test Hypothesis 3 ("Bidders with more previous acquisition experience perform better than irregular acquirers"), I classify the deals into three categories based on the number of prior acquisitions that the bidder had carried out before the deal of focus, to see whether they experience different CAARs compared to one another. Category 1 consists of acquisition events where the bidder had not acquired another firm during the period from 1992 to the current deal. Category 2 includes acquisitions where bidders had carried out at least one but not more than ten deals previously. Category 3 contains the rest of the deals, that is, deals where bidders had experiences in acquiring at least eleven companies before. Then, I calculate CAAR again for each of the category and the results are shown on table 9.

Table 9: Categorizing firms into 3 groups of different experience levels

	NoPriorAcq = 0		NoPriorAcq = 1 to 10		NoPriorAcq = 11 to 31	
	CAAR	t-test	CAAR	t-test	CAAR	t-test
[-0;+0]	0.0047	3.7058	0.0025	3.5142	0.0014	0.8622
		0.0002***		0.0004 ***		0.3886
[-1;+1]	0.0052	1.6816	0.0066	3.7446	0.0018	0.6237
		0.0926*		0.0002 ***		0.5328
[-2;+2]	0.0084	2.943	0.0061	3.7693	0.0003	0.0825
		0.0033***		0.0002 ***		0.9343
[-3;+3]	0.0075	2.24	0.0067	3.4917	-0.0001	-0.0282
		0.0251**		0.0005***		0.9775
[-5;+5]	0.0073	1.7303	0.0064	2.6685	0.0014	0.8545
		0.0836*		0.0076 ***		0.3928
[-10;+10]	0.0026	0.4467	0.0058	1.7433	0.0084	1.1034
		0.6551		0.0813 *		0.2699
[-20;+20]	0.0062	0.7673	-0.0020	-0.4226	0.0049	0.462
		0.4429		0.6726		0.6441

Test statistics with t-prob
*p < 0.1, **p < 0.05, ***p < 0.001

Looking at the result, CAARs for the most active acquirers are almost always the lowest (except for windows (-10;+10) and (-20;+20)). In all cases, CAARs are not significant and from that, conclusion can be drawn that bidders with more than ten previous acquisitions actually perform the worst. This, again, strongly denies Hypothesis 2.

The first category seems to perform better than the second one over short windows. Deals belonging to the former outperformed deals of the latter, except for the (-1;+1) and (-10;+10) windows. In details, on the announcement date, buyers with no

acquisition experience before experienced abnormal gains of twice as high as their counterpart. The former had CAARs of 0.47% while the latter only realized CAARs of 0.25%. Non-acquiring company enjoyed CAARs of 0.35 times higher over the (-2;+2) window. Furthermore, over the (-20;+20) window, category-1 bidder had CAARs of 0.62% while category-2 bidders had negative CAARs of -0.20%.

There is some evidence that supports Hypothesis 3 actually, when looking at the the (-1;+1) and (-10;+10) windows. In those cases, acquirers with some experiences achieved CAARs of 0.66% and 0.58%, while bidders who had not acquired before only had CAARs of 0.52% and 0.26%, respectively.

I further examine Hypothesis 3 by calculating the difference between CAARs of experienced and non-experience acquirers (Table 10). It is evident that bidders with no experience did better than the rest, except only for the (-10;+10) window. Their differences (CAARs of inexperienced minus CAARs of experienced bidders) are statistically significant at 1% significance level.

Table 10: Categorizing firms into 2 groups of different experience levels

	(1) NoPriorAcq = 0		(2) NoPriorAcq = 1 to 31		Diff.	
	CAAR	t-test	CAAR	t-test	CAAR(1) – (2)	t-test
[-0;+0]	0.0047	3.7058	0.0024	3.5738	0.0023	38.1457
		0.0002 ***		0.0004 ***		0.0000***
[-1;+1]	0.0052	1.6816	0.0040	3.4996	0.0012	34.2483
		0.0926 *		0.0005 ***		0.0002***
[-2;+2]	0.0084	2.943	0.0052	3.5071	0.0032	27.1434
		0.0033 ***		0.0005 ***		0.0045***
[-3;+3]	0.0075	2.24	0.0056	3.2083	0.0019	31.6139
		0.0251 **		0.0013 ***		0.0014***
[-5;+5]	0.0073	1.7303	0.0008	1.1456	0.0065	36.1758
		0.0836 *		0.2519		0.0000***
[-10;+10]	0.0026	0.4467	0.0062	2.0346	-0.0036	15.4527
		0.6551		0.0419 **		0.0071***
[-20;+20]	0.0062	0.7673	-0.0009	-0.2107	0.0071	24.4524
		0.4429		0.8331		0.0034***

Test statistics with t-prob
*p < 0.1, **p < 0.05, ***p < 0.001

This result in opposite to my expectation before carrying out the research. For most of the cases, Hypothesis 3 is also rejected. Bidders who have little to no experiences in acquisitions actually are having more abnormal stock returns compared to the experienced ones. This is consistent with findings of Conn et al. (2004) which claim that frequent acquirers have CARs of 37% lower than irregular bidders, and different from conclusions made by Rovit et al. (2003) and Stegemoller (2001).

However, looking from the perspective of the performance of past acquisitions, not their quantity, Hypothesis 4, which claims that "*There is a positive relationship between past acquisitions' performance and performance of the current deal*", seems to hold true. In fact, for (-1,+1), (-10,+10), (-15,+15) and (-20,+20) windows, there is a positive relationship between *AvgPastCARs* and CARs, at 10%, 5%, 1% and 1%, when controlling for other variables. Without control variables, *AvgPastCARs* are statistically positively correlated with CARs over the ±10, ±15 and ±20 windows.

Table 11: ROE in relations with other variables

	Model 1	*p-value*	Model 2	*p-value*
Constant	48.0150	*0.3279*	101.8030	*0.0303***
AvgPastCARs	-20.8911	*0.1316*	-19.7261	*0.1554*
NoPriorAcq	0.6725	*0.0856**	0.4094	*0.2901*
LogAvgTime	-41.7279	*0.1096*	-59.4333	*0.0216***
SquaredLogAvgTime	8.4141	*0.0176***	10.6436	*0.0025****
CGI	-0.7941	*0.2928*	-0.7182	*0.3374*
Recession	14.8688	*0.0000****		
AcqWave	6.4267	*0.0056****		
LogMVBidder	-0.0150	*0.9894*		
LogDealSize	0.0339	*0.9846*		
AcqPercentage	0.1241	*0.1768*		
Hostility	-3.0900	*0.8702*		
PaymentMethod	0.5248	*0.8108*		
Competition	-3.9279	*0.6476*		
Publicity	-3.7499	*0.2153*		
CrossBorder	2.7853	*0.1920*		
CrossIndustry	2.3084	*0.2475*		
R squared	0.0838*		0.0529*	

Coefficients with p-value

*p < 0.1, **p < 0.05, ***p < 0.001; ***F < 0.01

ROE-based model seems to contradict quite often with CARs-based model. When examining ROE, *AvgPastCARs* has negative coefficients, and the coefficients are not significant at all.

So, after Hypotheses 2, 3 and 4 are tested, the results are mixed for Organizational Learning Theory. It is hard to confirm whether the theory is true for the firms in the sample.

7.3. Effects of timing

Timing theory in my research is that there exists an inverted U-shaped relationship between acquisition performance and the time between acquisitions done in the past (Hypothesis 5). For that to be true, acquisition performance would increase when the time gap increases, but up to a certain point, acquisition performance will have to fall if time between acquisitions keeps increasing.

For the models corresponding to the ±3, ±5, ±10 and ±15 windows, Table 8 shows that there is clearly a positive relationship between *LogAvgTime* and CARs at 5% significance level. The positivity proves that indeed the longer the time gap between previous acquisitions a bidder had performed rises, the better stock performance will be.

SquaredLogAvgTime variable, however, moves in the opposite direction with CARs. The coefficients of the variable are all negative, and they are statistically significant for the exact four windows mentioned above, at significance level of 5% as well.

Dropping the control variables, the results are still consistent.

With *LogAvgTime* positively and *SquaredLogAvgTime* negatively correlated to CARs, the inverted U-shape between the time elapsed between acquisitions and the acquisition performance can be confirmed as Hypothesis 5 predicts. This is in line with the findings of Hayward (2002).

Surprisingly, using ROE as the dependent variable, the results are totally reversed. *LogAvgTime* is negatively correlated with ROE and *SquaredLogAvgTime* is positively correlated. That would predict a U-shaped relationship instead of the inverted U-shaped one.

7.4. Effects of corporate governance

Corporate governance index (*CGI*) seems to play a certain role in explaining the variables in the acquisition performances of the acquiring firms over the sample within short windows only. Regardless of including or excluding the control variables, *CGI* is significant at 1% and 5% for (-1,+1) and (-2,+2) windows respectively. The coefficients are positive, implying that a better corporate governance is most likely to accompany a better stock performance around acquisition dates. This confirms Hypothesis 6 of the research. However, when I extend the windows for a longer timeframe, CGI and CARs are no longer correlated. Using ROE on the left hand side of the equation rather than CARs, *CGI* does not contribute to the explanation of the variance in dependent variable anymore.

I further investigated the effect of corporate governance by dividing the sample into four sets of events with four kinds of acquirers: (1) companies which are worse governed (defined as having CGI from 0 to 3) with less acquisition experiences (defined as having NoPriorAcq of 0 or 1), (2) companies with worse corporate governance but more acquisition experiences (NoPriorAcq of at least 2), (3) companies with better corporate governance (having CGI of at least 4) and less experiences, and (4) companies with better corporate governance and more experiences. The results are shown on table 12.

Table 12: Combined effects of corporate governance and acquisition experience

	(1) CGI = 0 to 4, NoPriorAcq < 2		(2) CGI = 0 to 4 NoPriorAcq ≥ 2		(3) CGI =5 to 7 NoPriorAcq < 2		(4) CGI =5 to 7 NoPriorAcq ≥ 2	
Obs.	211		355		207		278	
	CAAR	Rank test	CAAR	Rank test	CAAR	Rank test	CAAR	Rank test
±0	0.0027	0.7789	0.0007	-0.2825	0.0061*	1.8836	0.0058**	2.2583
		0.4360		0.7776		0.0596		0.0537
±1	-0.0006	-0.7440	0.0006	0.5259	0.0014	1.2247	0.0127	1.1458
		0.4569		0.5289		0.2207		0.1135
±2	0.0024	-1.2352	0.0038	1.4412	0.0152***	2.9577	0.0048**	2.0723
		0.2167		0.1495		0.0031		0.0348
±3	0.0012	-0.5346	0.0047	1.2171	0.0136**	2.5212	0.0029***	2.1735
		0.5929		0.2236		0.0117		0.0073
±5	0.0017	-0.2343	0.0041	0.5683	0.0101*	1.7632	0.0095**	1.1545
		0.8148		0.5698		0.0779		0.0247
±10	0.0031	-0.1114	0.0064	0.5578	-0.0013	0.4777	0.0032	0.4782
		0.9113		0.5770		0.6328		0.2483
±15	-0.0015	-1.3316	-0.0031	-1.2881	0.0007	1.0505	0.0794	0.6781
		0.1830		0.1977		0.2935		0.3589
±20	0.0016	-0.5734	-0.0021	-0.5836	-0.0048	-0,5180	0.0051	0.4584
		0.5664		0.5602		0.6045		0.7810

Test statistics with t-prob
*p < 0.1, **p < 0.05, ***p < 0.001

From table 12, it is clear that acquirers with higher scores in corporate governance perform much better than their counterpart. For the first and second models where CGI is from 0 to 4, none of the CAARs in the sub-samples are significant using the Corrado Rank test. However, when moving to the second and third models, CAARs are highly significant at 1%, 5% and 10% level of significance. The difference in numbers of previous acquisitions does not seem to affect much the results of CAARs for firms in sub-group 3 and sub-group 4.

7.5. Effects of the control variables

Contradict to my expectation, recession has a significantly positive impact both on CARs over ±5, ±10, ±15 and ±20 windows and on ROE. This could be explained that during periods of financial turbulences, bidders are more cautious to select deals to acquire, and also more likely to buy targets at a bargained price, leading to their positive abnormal returns around and after acquisition.

AcqWave is also positively associated with CARs for (-3,+3), (-5,+5), (-10,+10) and (-20,+20) windows, and with ROE, which could be explained that during acquisition hot periods, market is more efficient and transparent, making the buying of targets easier and more profitable.

The size effect is not present in my paper at all, as *LogMVBidder* has a significant negative relationship with CARs at 1%, 5%, 5%, 10% and 10% for (-1,+1), (-2,+2), (-3,+3), (-5,+5) and (-10,+10) windows, meaning that smaller sized bidders actually perform better than bigger ones. It has no association with ROE on the other hand.

The size of the transaction, represented by *LogDealSize*, is found to positively affect bidder's excessive stock prices for the shortest window (-1,+1) only. Otherwise, it has no impact on CARs at all, and neither do *AcqPercentage*, *Hostility*, *PaymentMethod*, *Competition*, and *Publicity*.

In terms of domestic vs. foreign targets, *CrossBorder* is positively correlated with CAR(-5,+5) at 10% significant level. The result supports the theory that acquiring a domestic company gives bidders a certain advantages in terms of understanding business environment and legislation and easier to integrate after acquisition thanks to the more-familiar culture. In contrast, firms acquiring overseas are more likely to face difficulties before, during and after acquisitions that may hinder them from conducting a proper due diligence before the deal and during the post-acquisition integration process. This cannot justify the argument by other researchers that when firms acquire overseas, they have advantages of multi-national companies, can enter bigger market, become more well-known worldwide, and therefore, will have better stock performances (Kang, 1993; Goergen and Renneboog, 2004).

CrossIndustry is negatively associated with CAR(-15,+15) at significance level of 10%, indicating that bidders who acquire firms from different industry (in this paper, defined as having the first two digits of SIC code different from each other), are having

higher stock prices compared to acquirers of horizontal transactions. This supports diversification theory which claims that acquiring firms from different industry will diversify the risks that the bidder is facing in one certain industry. Furthermore, bidders can also enter new market, expand customer base, and acquire more technology and know-how. This, however, is in contradiction to another theory contending that when a firm acquires a cross-industry company, the differences between two industries make knowledge in one inapplicable to the other. Moreover, in that case the customers of one company are not likely to immediately become customers of the other.

8 SUMMARY AND CONCLUSION

The paper discusses the effects of acquisition experiences and corporate governance around the acquisition dates. Acquisition experiences are examined from different aspects: the number of previous bids successfully executed by the firm, the average time lapse between previous acquisitions, and the performance of the previous acquisitions measured as average past CAARs. The idea is that the learning curve of organizations are determined by not only the frequency of the past experiences but only whether the experience was a success or a failure, since they may bring out either lessons or discouragements.

Besides the experiences, the study focuses on another aspect that is believed to strongly affect the stock performance of firm: corporate governance. Defined as the system in which firms are directed and control (Shailer, 2004), corporate governance covers a broad range of topics related to the relationship and the distribution of benefits among the stakeholders of the firms, being the shareholders, managers, creditors, employees, government, and so on. A strong corporate governance system is one that have enough monitoring mechanism in place, while is still able to motivate the participants of the firm's operations, in order to ensure maximization of shareholders' wealth and protect shareholders' rights. On the scope of this paper, seven aspects of corporate governance are studied: the structure of the board of directors, shareholder rights, the board functions, the attendance rate of board meetings, and the independence of the three most important committees – Audit Committee, Compensation Committee and Nomination Committee which significantly affect the internal control and system, the financial aspects, and the employees, especially executive personnel of the firm.

However, my paper differs from other past researches that merely looked into either acquisition experience or corporate governance in that I attempt to testify the combined effects of the acquisition frequency and the strength of the governing system of the acquiring firms, so see whether a regular bidder placed under bad governance would just do the acquisitions repeatedly for purposes other than increasing firm's value, such as to empire-build. My assumption is that only firms with strong corporate governance would be capable of repeatedly earning abnormal returns from acquisitions, because only those firms have a good strategy to use serial acquisitions as a source of inorganic growth.

Concerning the results of the paper, the picture they draw is still unclear. From the sample of 1,051 acquisition deals made by companies in the EU-15 from 2002 to 2011, it is evident that the acquiring firms experienced some positive gains in excess of the average market. With CARs ranging from 0.20% to 0.67%, the gains were relatively small compared to other studies in the same market and in the US (Goergen & Renneboog,2004; Fuller et al., 2002 and Moeller et al., 2004).

The number of previous acquisitions seems not to associate with CARs at all. However, when regressing the relationships between independent variables and ROE of the firm for the acquisition year, there is a positive significant relationship between the number of past bids and that accounting performance indicator.

Although some of the cases actually support my theory that bidders who had acquired more in the past would perform better for the current deal, in most of the cases it was the other way around. Irreguar bidders, including the inexperienced ones, were the top performers in terms of stock abnormal returns.

Looking from another perspective, it could be arugued that firms with past successes in acquisitions could learn from their success and increase their confidence to continue perform well in the future. It could also be claimed that firms who were performing well in the past are more likely to have better corporate governance, and therefore, would continue to win in the future deals. The average CARs that a firm had experienced during its previous acquisitions were positively and significantly correlated to the current CARs that the firms were enjoying for current deal.

In order to examine the combined effect of corporate governace and acquisition experience, I divided the sample into four sub-samples. The first sub-sample contains deals made by firms with worse corporate governance strength indicator and less acquisition experiences. The second one consists of firms with lower corporate governance index but higher number of prior acquisitions. The third-group firms had stronger corporate governance accompanied with little to no experiences, and firms belonging to the fourth groups were well governed and highly experienced. CAARs of the third and fourth groups are highly significant, while CAARs of the other are not.

There is also an application for firms planning to make acquisitions a part of their business. There is evidence on the market that when the time lapse between prior acquisitions increased, current acquisition performance would increase up to a point, then it would start to decrease. In other words, when the time between acquisitions are either too short or too long, abnormal stock performance is not optimized. This could

be explained that the learning should be captured and applied on a timely fashion, long enough for it to be absorbed but short enough for it to be still applicable.

Concerning the limitation of my study, as briefly explained in the introduction part, the short term performances of stocks may only reflect the market reaction and expectation of the acquisitions rather than their true performance (Hayward, 2002; Hietala et al., 2001). Based on conclusions on behaviour of stock market by Shiller (1981) and Geroski (1984), Magenheim and Muller (1988) argued that the stock market could be over-optimistic about the acquisition performance when it is first announced. Their reasoning is that acquisition activities have been highly correlated with stock market activities. That is, M&A occurred most frequently in the times when the market is in bull condition and often overly optimistic about future prospects of the firms. Likewise, future performance of the acquisition could also be overestimated. Rosen (2003) in his study about merger momentum also documented the same long-run reversal phenomenon: if either the merger or the stock markets were hot at the time of the merger, the merger is more likely to witness a lower long-term stock returns than those announced at other times. Magenheim & Muller (1988) suggested that acquisition effects should be traced over a long enough period to ensure that all the stock price changes truly reflect future effects of the acquisition on firm performance. Therefore, suggestion for another study of the topic would be to also consider the stock performances of the bidders over a period of two to three years.

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