# THE SHORT AND LONG-TERM PERFORMANCE OF ACQUISITIONS INVOLVING DEVELOPED MARKET ACQUIRERS AND EMERGING MARKET TARGETS DURING 2014-2016

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ABSTRACT

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**The short and long-term performance of acquisitions involving developed market acquirers and emerging market targets during 2014-2016**

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110 pages, 15 figures, 16 tables and 4 appendices

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Keywords: M&A, abnormal returns, emerging markets, event study, buy-and-hold abnormal returns, short-term performance, long-term performance

Research on M&A has long shared the interest of researchers and it has been studied from multiple perspectives, such as from the point of view of value creation and performance. Over the past few decades, acquisitions of target companies from emerging markets have considerably increased. The objective of this research is to study the impact of the announcement of acquisition to the share price of the developed market acquirer when the acquisition is conducted on emerging market target companies. With the sample size of 178 acquisitions conducted between 2016-2019, this study provides evidence of the short and long-term stock price development using the event study methodology.

The results provide evidence that on average, developed market acquirers achieve a positive abnormal return of 0.30 % on the announcement day. Other one-day abnormal returns, as well as multiple-day cumulative abnormal returns, were also positive on each time window. This study also provides evidence that the market reaction differs between different deal and acquirer-specific characteristics. During longer time periods, on average the abnormal returns were negative in each time window.

TIIVISTELMÄ

Lappeenrannan–Lahden teknillinen yliopisto LUT

LUT-kauppakorkeakoulu

Kauppatieteet

Heikki Kiviniemi

**Yritysostojen lyhyen ja pitkän aikavälin suoriutuminen, kun osallisena on kehittyneiden markkinoiden ostajayhtiö ja kehittyvien markkinoiden kohdeyritys vuosina 2014-2016**

Kauppatieteiden pro gradu -tutkielma

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Avainsanat: Yrityskaupat, epänormaalit tuotot, kehittyvät markkinat, tapaustutkimus, osta- ja pidä epänormaalit tuotot, lyhyen aikavälin suoriutuminen, pitkän aikavälin suoriutuminen

Yrityskauppoja on tutkittu monesta eri näkökulmasta, kuten arvonluonnin ja suorituskyvyn kannalta. Viime vuosikymmeninä kehittyvien markkinoiden kohdeyritysten ostot ovat lisääntyneet huomattavasti. Tämän tutkimuksen tavoitteena on tutkia yritysostoilmoituksen vaikutusta kehittyneiden markkinoiden ostajayritysten osakekursseihin, kun yritysostojen kohteena on kehittyvien markkinoiden yritykset. Vuosina 2016–2019 toteutettujen 178 yritysoston avulla tämä tutkimus tarjoaa näyttöä lyhyen ja pitkän aikavälin osakekurssien kehityksestä tapahtumatutkimusmenetelmän avulla.

Tulokset osoittavat, että kehittyneiden markkinoiden yritysostajat saavuttavat keskimäärin 0.30 % positiivisen epänormaalin tuoton ilmoituspäivänä. Muut yhden päivän epänormaalit tuotot sekä usean päivän kumulatiiviset epänormaalit tuotot olivat myös positiivisia jokaisella aikaikkunalla. Lisäksi tulokset indikoivat, että markkinareaktio vaihtelee eri kauppa- ja ostajakohtaisten ominaisuuksien välillä. Pidemmällä aikavälillä epänormaalit tuotot olivat keskimäärin negatiivisia jokaisella aikaikkunalla.

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The writing process of this Thesis was a long but educational journey filled with ups and downs. Finally, the process comes to an end and now it’s time to thank the ones that have supported me the most.

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In Espoo 12.10.2022

Heikki Kiviniemi

ABBREVIATIONS

| | |
|---|---|
| M&A | Mergers and Acquisitions |
| AR | Abnormal Return |
| AAR | Average Abnormal Return |
| CAR | Cumulative Abnormal Return |
| CAAR | Cumulative Average Abnormal Return |
| BHAR | Buy-and-Hold Abnormal Return |
| OLS | Ordinary Least Squares |
| SIC | Standard Industrial Classification |

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# 1. Introduction

Mergers and acquisitions (M&A) have long been an important factor of growth for corporations of different sizes. The main conceptual thinking behind mergers and acquisitions is that two firms merge when their combination leads to increased value from the perception of the acquiring firm's management (Erel, Liao & Weisbach 2012). Mergers and acquisitions are usually a result of different motives and objectives that companies aim to capture. Besides economic growth in existing and new markets, different financial, operating, and strategic synergies play a key role (DePamphilis 2008, 18-19). These synergies are mainly based on the acquisition of new resources and skills, the expansion of markets, and the improvement of governance practices (Borisova, John & Salotti 2013). Mergers and acquisitions share similar characteristics, but the main differentiator is that in a merger two companies are combined into an entirely new entity, whereas in an acquisition the acquirer acquires the target company, and no new entity is formed (Corelli 2016, 435-436).

Mergers and acquisitions are a vital part of the economy as they enable large companies to grow externally and provide entrepreneurs rewards for their efforts. Smaller companies are provided with ways to transform their business and contribute to corporate renewal. One key strategic goal of an acquisition is to create durable and sustainable shareholder value for the buyer and the target. (Sherman & Hart 2006, 9-16) When it comes to growth, mergers and acquisitions can enable exponential growth as a substitute for linear and slower growth that is usually achieved by growing the business internally (Kumar & Sharma 2019, 1). As will be later explained in Chapter 2.2, the M&A process is often a multidimensional, complex, and unique transaction. Thus, throughout the history of M&A research, researchers have comprehensively identified multiple factors that are associated with the probability of completing a successful transaction. Some of the most important factors include the geographical distance between the companies, termination fees, ownership, and the process flow of the acquisition (Chakrabarti & Mitchell 2016; Li, Li & Wang 2019; Officer 2003; Dikova, Sahib & van Witteloostuijn 2010).

Despite the possibilities associated with M&As, the success rate of most deals is low. The success rate of an M&A can be measured from multiple standpoints, for example with the required rate of return that has been set to the investment or with the shareholder value that is created through the transaction. (Venzin, Vizzaccaro & Rutschmann 2018, 12) An M&A survey conducted by Deloitte (2020) highlighted that low success rate can be caused by imprecise strategizing, poor target selection, unrealistic synergies, and failure in the post-merger integration process. The survey also states that 46 percent of corporate executives say that less than half of their M&A transactions over the past two years have generated the expected value or return on investment. According to Katramo (2013, 67), historically around 50-70 percent of M&As fail to achieve the goals that have been set before the deal. From the perspective of the shareholders of the acquiring company, prior research shows that the acquiring companies have generated zero or negative short-term abnormal returns at the announcement of an acquisition (Martynova & Renneboog 2008) and significant negative abnormal returns during longer time periods (Dutta & Jog 2009 & Moeller, Schlingemann & Stultz 2004).

There are also factors that can terminate the M&A process completely. Finkelstein & Cooper (2021, 28-30) point out that M&As can also be abandoned due to the rejection by regulatory authorities. The most recent example of this can be found in the Helsinki Stock Exchange when in 2022 the anticipated and significant merger of two Finnish companies Cargotec Oyj and Konecranes Oyj was blocked by the UK Competition & Markets Authority due to competition issues that the merger would have created.

Over time, there have been certain periods when M&A activity has been higher and lower. Historically M&A activity in the US has exceeded Europe but during the late 1990s and early 2000s the M&A activity in Europe was recorded at similar quantities compared to the USA (Duffhues & Renneboog 2006, 15). According to PWC (2021), the total M&A deal value in 2020 was 3,2 trillion US Dollars worldwide. Boston Consulting Group (2019) recognizes three major trends that continue to shape the M&A market in the future. Firstly, private equity exits, corporate divestitures, and spinoffs support the supply for the buy-side. Secondly, record-high cash levels drive demand. M&A activity is supported by the elevated levels of cash holdings, for both PE firms and corporations. Finally, resilience and flexibility continue to support M&A activity. Traditionally the increase in uncertainty has led to a decline in deal volume. However, despite the recent multitude of risks such as Brexit, trade

wars, and the slowdown of China's economy, the M&A activity and fundamentals have remained on healthy levels, meaning that the number of transactions has not dropped significantly, and the valuations have remained on a stable level. Despite the high M&A activity in the past, several events could cause the positive M&A period to end. These include the rapid rise in interest rates which would make it harder to finance M&A operations along with the slowdown of global trade (Cretin, Dieudonne & Bouacha 2015). In addition, looking forward to next years, the confidence towards the M&A market is not as high as in previous years. Greater regulation and increasing inflation levels combined with increased taxes might disrupt the market and cause volatility to the deal pipeline. (PWC 2021; EY 2022)

Over the past few decades, companies in emerging markets, have continued to extend their geographical reach and strengthen their competitive positions. As a result of this, acquisitions of target companies from emerging markets have considerably increased (Francis, Hasan & Sun 2008). During the late 1980s and early 1990s, many emerging markets approved reforms to liberalize capital flows that allowed foreign corporate control. These reforms were followed by the increased number of foreign acquisitions and from that point on, the trend has continued (Chari, Ouimet & Tesar 2010).

Teece (2016) points out that for firms to actively leverage their performance and profitability, the firm must possess the capabilities to integrate, reconfigure, and learn from internal and external resources in markets and reason that emerging markets are increasingly becoming environments such as emerging economies. Emerging economies offer multiple expansion and diversification opportunities for developed market acquirers and thus, the acquisitions of emerging market targets are seen as a lucrative opportunity (Deng & Yang 2015). Kumar (2009) complements this view by arguing that M&As have been both developed and emerging economies' main globalization strategies nowadays. Despite the importance of acquisitions that involve developed market acquirers and emerging market targets, research has been more focused on acquisitions where both parties have been developed market companies. Research is relatively scarce on transactions involving target companies from emerging markets (Mentz & Schiereck 2008; Narayan & Thenmozhi 2014). This is mainly caused by the restrictions and high barriers for foreign business operations until the 1990s. This leaves room for more research on acquisitions of emerging market target companies (Ferreira et. Al 2014). Due to more inefficient capital markets, higher

transaction costs, and inferior access to company data compared to developed market companies, emerging market companies are seen as risky investments (Griffin, Kelly & Nardari 2010; Kristoufek & Vosvrda 2013). Thus, it is interesting to explore how the acquisitions of emerging market targets affect the share price development of the acquiring company and how the shareholders perceive the acquisition.

## 1.1. Research Problem and Limitations

The objective of this research is to investigate, how acquisitions of emerging market targets, have affected the short- and long-term stock-price performance of developed market acquirers during 2014-2016.

The research aims to answer the following research questions:

1) What is the short-term market reaction of the acquirer's stock price when developed market acquirers conduct acquisitions of target firms from emerging markets?
2) Does short-term market reaction differ between acquisitions with the different deal and acquirer-specific factors?
3) Is there a long-term market reaction of the acquirer's stock price when developed market acquirers conduct acquisitions of target firms from emerging markets?

By answering these research questions, it can be assessed whether developed market companies' acquisitions of emerging market targets have a positive effect on the shareholder value of the acquirer which is measured by the stock price development. This research aims to contribute and fill the research gap by examining the relationship between developed and emerging markets in the context of acquisitions. There is a clear research gap in the context of acquisitions for cases when a developed market acquirer conducts an acquisition of an emerging market target. This research gap will be examined later in the literature review.

This study focuses on developed market acquirers. Thus, the company must have been publicly listed in some of the developed countries stock markets during 2014-2016. This time period was chosen because the long-term stock price development was calculated for three years after the acquisition. Also, the year 2020 was excluded from the examination due to the Covid-19 pandemic which could lead to biased results. MSCI World and MSCI Emerging Markets Index have been used to define and classify the countries that are included

in developed and emerging markets. The MSCI World index captures large and mid-cap representation across 23 developed markets and thus, the countries that are included in this index are classified as developed market countries. Countries that are included in the index are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, UK, and the USA. MSCI Emerging Market Index captures large and mid-cap representation across 24 Emerging Markets and therefore, these countries are used as emerging market countries. Emerging market countries are the following: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Kuwait, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Saudi Arabia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates. There are smaller countries such as Liechtenstein and Somalia which could be classified as developed and emerging market countries respectively, but the capital markets in these countries are relatively small and thus they are excluded.

When it comes to the transactions, the deal value needs to be at least 10 million US dollars to ensure that the acquisition has an actual impact, and that the influence of small acquisitions is removed. This restriction is also done in other studies concerning M&A (Chari, Ouimet & Tesar 2010; Danbolt & Maciver 2012; Sharma & Raat 2016) Only deals that were completed and resulted in 100% transfer of ownership are accepted to the sample. The deal type is restricted only to acquisitions and thus, leveraged buyouts and management buyouts are excluded from the sample. There were no limitations made to the payment type of the deal since this is one deal characteristic that is observed in the results. Other deal and acquirer-characteristics that are observed are the type of acquisition and the size of the acquirer. Following the approach of prior research (Ghosh 2001; Chalencon & Mayrhofer 2018; Renneboog & Vansteenkiste 2019), banks, insurance companies, and other financial institutions are excluded from the sample since they have different asset characteristics, and they are subject to more restrictions such as financing decisions and capital structure. Only the performance of the acquirer is investigated since the effect on the target's shareholders is obvious and widely stated in the prior research. Typically, the shareholders of the target company gain from the acquisitions due to the premium paid by the acquiring company (Hansen & Lott 1996; Datta, Pinches & Narayanan 1992).

# 2. Theoretical Background

This chapter introduces the basic concepts and theoretical frameworks that are essential in the context of mergers and acquisitions and especially with the scope of this research. Chapters 2.1 and 2.2 introduce the key concepts and activities that are associated with M&As. It is important to introduce these to clarify the complex mechanics of M&As. Chapters 2.3, 2.4, 2.5, and 2.6 introduce the theoretical framework of the thesis.

## 2.1 M&A Types and Concepts

Mergers and acquisitions are often mixed and understood as a similar concept. A merger occurs when two companies form an agreement to combine into one new company. An acquisition is a similar event, the only difference being the way in which the two companies form the combination. Mergers are statutory, meaning that they are executed as a specific formal transaction in accordance with the local regulation where the merging companies are incorporated. In contrast, the acquisition is the process in which the ownership of stocks and assets of the target company is transferred to the buyer. Thus, the transaction can take the form of an asset or stock purchase. The financing of the transaction can happen with three methods. The deal can be financed with either cash, stock, or with a combination of these two. The main differentiator between merger and acquisition is the transfer of ownership. Following the merger, the separately owned companies become jointly owned and they form a new single entity. In an acquisition, the target company loses its existence and the company taking over the target continues its operations with its own identity. Mergers usually happen between two firms that are relatively the same size, whereas in acquisitions the acquirer is usually larger in size. (Corelli 2016, 435-436)

The fundamental question and motivation underlining the execution of mergers and acquisitions is whether companies are better off by acquiring a company, which creates possibilities for market entry, expansion of customer base, new earnings opportunities, and extension of capabilities, or by expanding internally (Sherman & Hart 2006, 17). Mergers and acquisitions are part of corporate restructurings and more specifically they belong to a family of operational restructuring activities. Operational restructuring usually refers to a partial or complete sale of firms, product lines, or to downscaling by closing unprofitable or

strategically insignificant facilities or factories. Financial restructuring refers to actions by the firm to differentiate its capital structure. Takeovers and buyouts can be categorized as friendly or hostile takeovers. Friendly takeovers are further divided into mergers, acquisitions, and consolidations. (Depamphilis 2008, 4-5) Figure 1 presents an overview of different types of corporate restructurings.

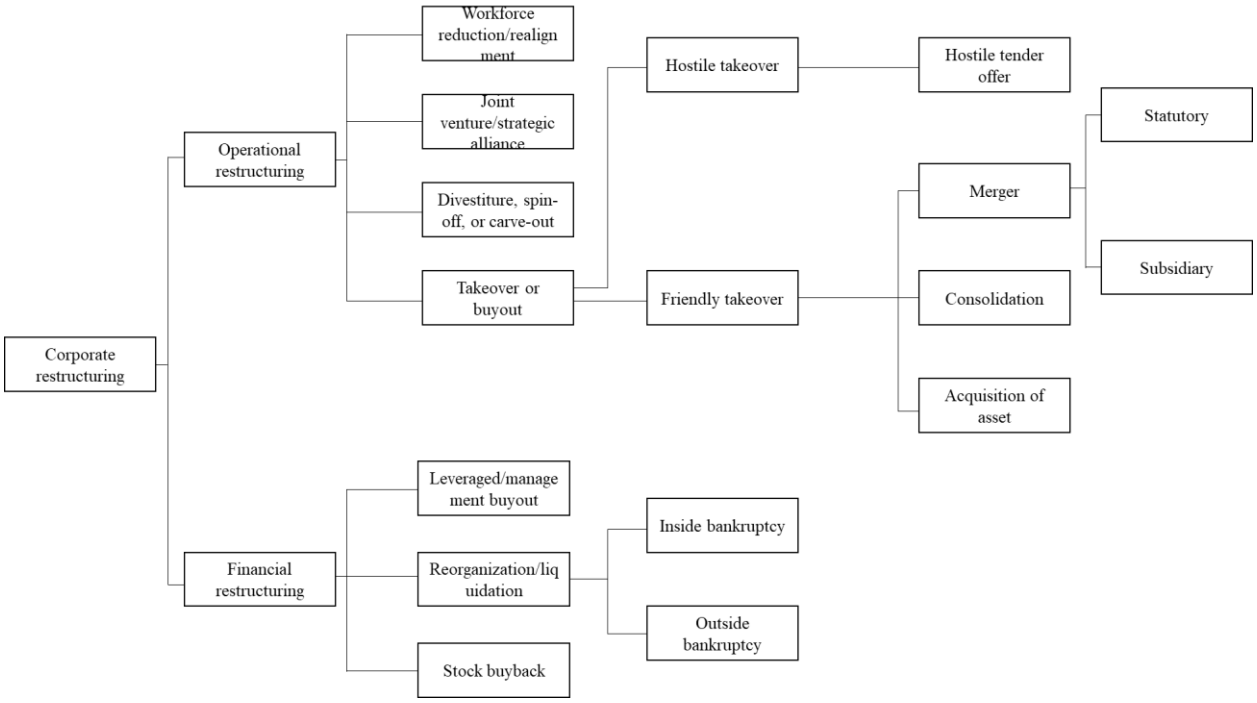


Figure 1. Types of corporate restructurings (Depamphilis 2008, 9)

Consolidation is sometimes defined as a separate form of corporate restructuring as can be seen in Figure 1 above. However, usually consolidation is defined as a special type of merger, and it shares a lot of similarities. The only difference between a merger and a consolidation is that in consolidation, no entirely new company is formed. Instead in consolidation, the legal existence of both firms is terminated, and they become part of the new company. As a concept, mergers and consolidations are overlapping and consolidations are often introduced as mergers. In a tender offer, the firm that has intentions to buy the target firm communicates this offer directly to the stockholder. Operating like this, it bypasses the board of directors and management of the target company. Due to its nature, tender offers are usually used to conduct hostile takeovers. (Damodaran 2012, 661-662)

Acquisitions are divided into a horizontal, conglomerate, and vertical depending on the industry differences and similarities with the target company. A horizontal acquisition occurs between a buyer and a target company that operates in the same industry. In conglomerate acquisition, the two companies operate in mostly or fully unrelated industries. In vertical acquisitions, the buyer and target operate in different stages of the value chain. (Depamphilis 2008, 6-7)

## 2.2 Acquisition Process

The acquisition process is often complex and includes many steps. This is because transactions can vary greatly depending on the companies that are involved in the process and nature of the transaction. However, a clear line can be drawn to the stages that occur before and after the day when the ownership of the target company transfers to the buyer. (Gomes et. al 2013) The acquisition process can be divided into four phases: planning, due diligence & valuation, transaction execution, and integration. Planning, due diligence & valuation, and transaction execution occurs before the ownership of the target company transfers to the buyer and integration happens after the ownership has transferred. (Parenteau & Weston 2003; Sherman & Hart 2006). Figure 2 illustrates the process and supports the walkthrough of the different steps. In the following subchapters, the different stages of the acquisition process are described more profoundly.

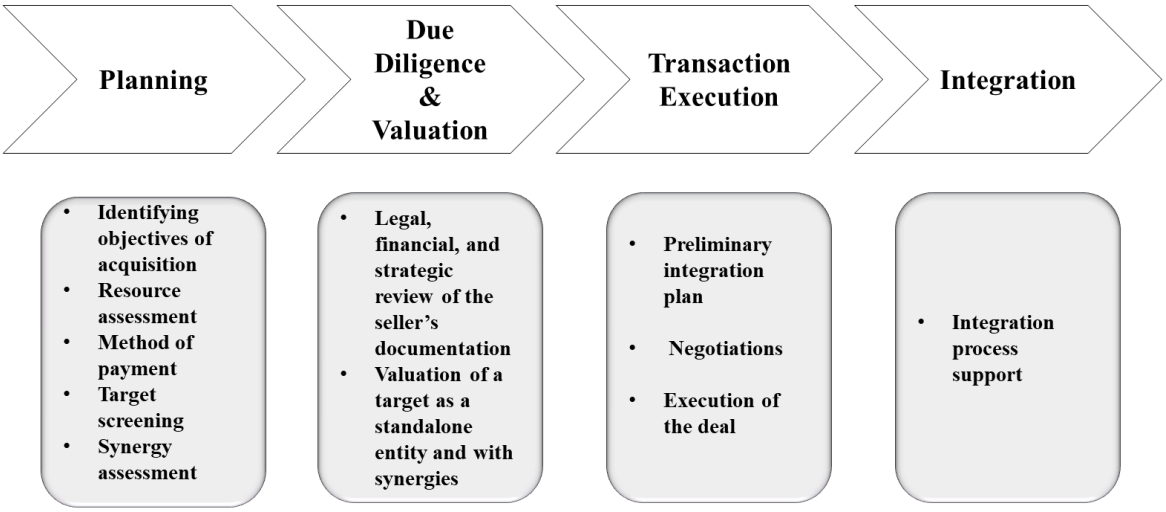


Figure 2. Acquisition process (Sherman & Hart 2006, 38-46; Finkelstein & Cooper 2021, 28-31)

### 2.2.1 Planning Phase

The planning phase begins by identifying that the company can expand its business by acquiring other companies. Acquisition needs to support the business plan of the company, and this is directly linked to identifying the objectives of the acquisition (Sherman & Hart 2006, 39). Often, the main objective is to achieve synergy by combining two businesses with an increased market share and increased competitive advantage. Key motivators could also be the possibility to decrease costs, diversifying products, and especially in cross-border acquisitions, the chance to expand and gain a foothold in a new geographic market (Sherman & Hart 2006, 41; Finkelstein & Cooper 2021, 47-48).

The acquisition planning phase should also consist of resource assessment, which refers to the process of defining the acquisition project and estimating the necessary resources to move the acquisition project forward (Zakaria, Fernandez & Schneper 2017). According to Deloitte (2018), the C-suite executives and investment committee of the acquiring company have an important responsibility in this phase, since they are ultimately responsible for ensuring that: 1) The right teams and people are in place, 2) teamwork culture and discipline are properly managed, and 3) organization-wide focus and long-term, value-enhancing goals are actively maintained. The company's internal resources are also linked to the strategic goals of the acquisition. According to the resource-based view of the company, one driver behind the cross-border acquisition is to use and leverage existing resources to achieve a competitive advantage in the destination markets (Anand & Delios 2002).

The method of payment is also an integral part of the planning phase. A stock offer is beneficial to the bidder when the target has private information about its assets (Fishman 1989; Hansen 1987). Hansen (1987) states that, because the target will accept only cash offers that surpass its standalone valuation, these offers lead to adverse selection and overpayment to the target company. On the other hand, stock payments rarely lead to overpayment since the shareholders of the target company share the decline in the acquired firm's stock in case the bidder overpays. Thus, acquiring firms tend to pay with cash if the target company is undervalued and alternatively with stock if the company is overvalued. According to Attaoui, Cao & Six (2021), the planning behind the method of payment is crucial since it provides an opportunity for both the acquirer and to the target to rebalance and optimize the capital structure of the combined entity.

Thorough target screening is an essential step in the execution of an effective acquisition process. The target screening process composes of four different steps; 1) The screening criteria must be clearly defined. This is directly linked to the above-mentioned objectives that the company is aiming to achieve with the acquisition, e.g., increased competitive advantage or increasing market share. As the initial research is conducted and possible opportunities are assessed, further details can be added to refine and clarify the required criteria that are necessary to support the acquisition's strategy. The screening could be extended to e.g., the following questions: If the company aims to capture new market segments or extend the current ones, the company can evaluate which companies help in this objective. Criteria can also deal with size, products, or customers and capabilities. 2) The Second step includes building a comprehensive candidate list. The list can be assembled from multiple sources, such as industry databases, SIC codes, and industry journals. 3) After the comprehensive candidate list is assembled, a more rigorous inspection can be applied. This refers to applying e.g., inclusion and exclusion criteria which help in eliminating candidates that don't meet the threshold for inclusion and simultaneously identifying the candidates that should be considered for further assessment. 4) In the final step the candidate profiles are created, and they are reflected against the assigned objectives and acquisitions strategy. (Rosner 2006)

### 2.2.2 Due Diligence and Valuation

To successfully ensure and close the acquisition, it is a common procedure to conduct a thorough review of the target company's materials. Due diligence is associated with obtaining a broad view of the target company. Due diligence covers a comprehensive list of different factors such as the examination of financial records, contract risks, responsibilities, technologies, financing, taxation, and corporate culture. Successful due diligence also requires tight collaboration between different parties. (Immonen 2018, 48) Due diligence can be divided into 3 different areas: commercial and financial due diligence as well as to other due diligence topics depending on the scope (Gleich, Kierans & Hasselbach 2017, 22). Figure 3 illustrates the three due diligence topics and their content.

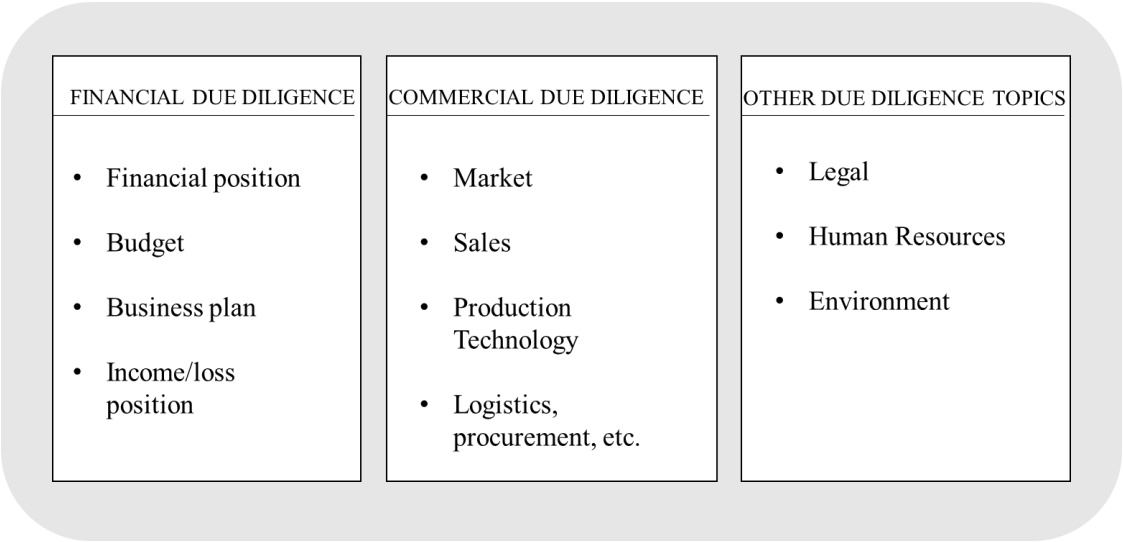


Figure 3. Three main areas of due diligence (Gleich et. al 2017, 22)

The goal of due diligence is to investigate and evaluate a target company to the extent of a business transaction, in order to reduce information asymmetries between the buyer and the seller. A well-executed and transaction-focused due diligence limits the unexpected risks and provides measures that can be utilized in the integration phase. Nevertheless, it is important to consider that, even though due diligence can reduce the risks associated with the acquisition, such as overpayment and issues related to integration, it never eliminates them completely. (Gleich et. al 2017, 21)

Along with due diligence, valuation is an important step in the acquisition process. Valuation creates the basis for the price of the transaction. Since the acquisitions are large investments the role of valuation is crucial since it determines the price that the acquirer is ready to pay from the target company. The Five most common valuation methods include market-based, income or discounted cash flow (DCF), asset-oriented, replacement cost, and the real options or contingent claims approach (DePamphilis 2008, 268). From a valuation perspective, the biggest risks to the buyer are related to whether the purchase price is valued and modeled correctly. As stated above, it is important that the valuation of the target company is a combination of the standalone value of the target combined with the possible synergy benefits. This is necessary to reveal the correct price (Katramo et.al 2013, 46).

From the buyer's perspective, the biggest risks are practically associated with whether the purchase price is on the correct level. To mitigate this risk, the valuation should be conducted

correctly from the standpoint of the buyer. One cornerstone of the success in acquisitions is also that the profitability of the target company stays on the same level in the future as it was before the acquisition. This relates to the predictability of income. Hence, the acquirer needs to understand what factors influence the income and balance sheet responsibilities in the future. (Katramo et.al 2013, 46)

### 2.2.3 Transaction Execution

The actual integration process of the acquisition begins after the deal closure. However, the process of integration planning begins well before the deal has been closed. The integration of the target into the buyer is a complex process and the factors driving the success and failure are not easily identifiable. To minimize the complexity around the integration, an appropriate integration plan should be put in place prior to the closing of the deal. (Steigenberger 2017)

Gates & Very (2003) also suggest that the preliminary integration plan should be conducted prior to the execution of the deal. Integration is a complex process and therefore the company can utilize the knowledge gathered during deal analysis, negotiations, and due diligence to elaborate the integration plan accordingly. Moreover, the integration plan should be prepared during the early stage of the acquisition process and elaborated later.

Negotiations in the context of acquisition are a distinct stage where information sharing, and compromises occur between the buyer and the target. The negotiation stage is often perceived as crucial to the success of the deal (Parola & Ellis 2014). Negotiations are described as the period where the outputs of due diligence are reviewed, the transaction price is agreed and trust between both parties is formed and strengthened. Without a throughout familiarization of the resources, know-how, culture, and way of operating of both parties, the negotiations could last long and pose problems for the transaction process (Angwin 2001). Once the final negotiations have taken place and the valuation and due diligence are completed, the deal can be executed, and the ownership of the target firm transfers to the buyer.

### 2.2.4 Integration

The post-transaction integration is an extremely important period from the standpoint of the added value that is created from the acquisition (Finkelstein & Larsson 1999). One of the goals of integration is to determine and define the guiding principles and value drivers that support the integration strategy and the vision that has been set for the acquisition (EY 2020). Integration is part of the post-transaction period where the target company is integrated into the acquirers' business operations (Katramo 2013, 57)

Successful integration is a combination of multiple factors. According to Waldman & Javidan (2009), leadership and organizational management have an important role in successful integration. From the buyer's point of view, the integration is challenging since the expected added value must be executed with the obtained synergy benefits. In the meantime, to avoid the loss of value, the challenges of the management of integrations must be able to be controlled (Gates & Very 2003).

The M&A process between the acquiring and acquired firm is complex and its outcome depends on each counterparty's ability to manage each phase and assess its impact on the whole process. For the M&A process to be successful, it needs to be implemented on every hierarchical level and the counterparties need to have visibility to each step of the process. (Caiazza & Volpe 2015)

## 2.3 Efficient Market Hypothesis

The efficient market hypothesis (EMH) is a financial economics theory first introduced by Eugene Fama (1965) in research that examined features of efficient markets. According to the theory, the stock price is the reflection of the information available in the market. The theory suggests that market efficiency refers to the degree to which stock prices reflect the available information that is considered to be relevant. In other words, the efficient market hypothesis implies that all decisions made by corporate decision-makers are reflected in the current value of the company. According to the theory, when all assumptions hold, investors cannot achieve excessive profits since all available information is instantly incorporated into existing share prices. Thus, investors cannot achieve excessive returns or purchase under or overvalued stocks because stocks trade at their fair value.

The concept of efficient markets is based on a theoretical viewpoint, and it is not straightforward to define the hypothesis. Therefore, Fama (1970) has set three different forms of efficiency based on the nature of information:

**Weak form efficiency** – Weak form efficiency implies that stock prices and the value of the firm cannot be forecasted based on historical information. Thus, an investor cannot achieve excessive returns by analyzing past stock prices e.g., with technical analysis which utilizes the development of past stock prices. Equilibrium stock prices might not hold but market participants are unable to profit from these market inefficiencies systematically.

**Semi-strong form efficiency –** If markets are semi-strong efficient, the stock prices and value of firms reflect on all publicly available information such as news and annual financial statements. If semi-strong-form efficiency holds, the share prices adjust to the new information rapidly and investors are unable to gain excessive returns by using this information

**Strong form efficiency –** Strong form efficiency is the strict form of efficiency. It states that all information in a market, whether private or public is accounted for in the value of the company and the share price. Thus, it is impossible to achieve excessive profits.

The efficient market hypothesis has been a subject to a lot of criticism since there are investors and portfolio managers who have consistently achieved excessive returns. Market inefficiencies might exist due to asymmetric information or transaction costs. Anomalies are examples of short-term inefficiencies that might appear in the market. (Naseer & bin Tariq 2015) Based on these anomalies, researchers such as Rossi & Gunardi (2018), Al-Khazali & Mirzaei (2017), and Urquhart & McGroarty (2014) have expressed criticism towards the efficient market hypothesis. Fama (1998) argues that according to the efficient market hypothesis, the markets are expected to have zero abnormal returns. Thus, according to this view, there are no abnormal returns present in the context of acquisitions either. Semi-strong form efficiency will be tested in this study to see whether the share price changes reflect all available information and whether abnormal returns could be achieved. Prior research by Griffin, Kelly & Nardari (2010) and Kristoufek & Vosvrda (2013) document large cross-country differences in market efficiency. These studies show that developed markets are more efficient compared to emerging markets. This stems from lower transaction costs as well as from better access to public data and information of the companies. Based on the

semi-strong form of efficiency, this research proposes that there is a market reaction to the acquisition, but it will fade away quickly as the share price adjusts to new information.

## 2.4 Agency Theory

Agent theory, also known as the principal-agent problem is an economic theory first introduced by Ross in 1973. From a theoretical point of view, the principal-agent problems might arise from asymmetric information and differing points of interest. The theory lies on the hypothesis that in the corporate environment, agents (managers) act as the deputies for the principals (shareholders) and they might base their actions on their own interest instead of focusing on the broader interest of shareholders. This is contrary to the concept of the financial theory, which states that the main goal of the company and its management is to maximize shareholder wealth. (Ross 1973; Eisenhardt 1989)

In the context of acquisitions, information asymmetry refers to differences in information between the buyer and seller. Particularly this exists in cross-border deals where the acquiring company and the target are highly apart in terms of informational knowledge. There is usually a positive relationship between the information asymmetry and premiums paid from the target company. Information asymmetry also increases the transaction costs of the deal. In the context of acquisitions, the principal-agent problem can be identified in the abovementioned situations where the management of the company makes decisions based on their own interest instead of the interest of shareholders. For example, principal-agent problems can arise when the market valuation of the acquiring company is high. Thus, in these situations, the managers of the acquiring company try to justify the acquisitions, regardless of whether the acquisition creates sustainable value or not. (Jensen 2005; Zhu & Jog 2009)

Along with Jensen's (2005) arguments on the relationship between the agent-principal problem and acquisitions, he has also presented a concept of the free cash flow theory of acquisitions which is strongly associated with the agent-principal problem. He argues that the theory supports in the prediction of which acquisitions are more likely to destroy value instead of creating it. Acquisitions are one form of how the agents (managers) can spend their money instead of distributing it back to principals (shareholders). Theory suggests that managers with large free cash flows and high borrowing power choose to commit low value-

adding or even value-destroying acquisitions when there are no other profitable investment options available.

Jensen's (1986) empirical theory of free cash flows implies that managers and management might carry out acquisitions that serve their own interest instead of the interests of shareholders. Acquisitions lead to growth in the management's power because the resources under management's control also increase. This is also linked directly to management's compensation since it grows in line with the growth of sales. (Jensen 1986)

## 2.5 Hubris

The hubris hypothesis theory was first introduced by Roll (1986) in his article "The Hubris Hypothesis of Corporate Takeovers". The basic idea behind the theory is that the decision-makers can conduct acquisitions even when the valuation and the price offered to the buyer are above the market price. This is caused by the psychological factor which is referred to as hubris. If the decision-makers of the acquirer are affected by hubris it indicates that the management is too confident when estimating the purchase price and valuation. The state of overestimation is a key element of hubris, which translates to an arrogant attitude and overconfidence that arises when the person's authority exceeds the capabilities. In these situations, managers think that they have the required skill set to complete the transactions and minimize risks while underestimating the possibility of failure. When no gains are achieved from the acquisitions, hubris is one explanatory factor that could explain why managers didn't abandon these deals. (Roll 1986)

It is important to recognize and acknowledge the presence of hubris in the context of M&A because it helps to identify how efficient acquisitions are (Hartman 1996). Aktas, Bodt & Roll (2005) also point out that analyzing the acquisition's efficiency and identifying the presence of hubris is especially important for the management of the acquiring firm since it helps to align and progressively correct their overconfidence. Hayward & Hambrick (1997) have presented different sources for management hubris. These include recent organizational success which is often attributed to the management. This can result in overconfidence among the management. Management might also be credited for the good performance of the company even when success is attributed to different factors. If the company has been successful, the management is expected to receive compliments which greatly enhances the confidence and expectations of the management. Eventually, this can lead to managerial

hubris. Management self-importance is also one factor that could cause hubris. Management might have dilated views about their own abilities due to possible prior demonstrated success and accomplishments. This can also be caused by persistent self-importance or a personality trait. High compensation might boost self-importance and thus, lead to higher premiums paid of the target companies.

Hubris is tightly connected to the shareholder returns of the acquirer because the degree of hubris among acquiring company's management is positively related to paid premiums of the target company and simultaneously negatively related to the performance of the acquiring company. This inverse relationship has been studied extensively and many studies such as Hayward & Hambrick (1997), Malmendier & Tate (2008) and Raj & Forsyth (2003) have proven the negative effect of managerial hubris on the acquirer returns.

## 2.6 Synergies

Synergies are an important factor associated with acquisitions. Possible synergies are the main quantifiable justification and enabler of acquisitions, and the synergies contribute towards improving the performance of the combined firms and the creation of value for the shareholder. Synergies are created when the revenue of combined firms exceeds the revenues of the two independent companies prior to the acquisition. Synergy benefits are also achieved when there are quantifiable performance improvements in key KPIs. (Shaver 2006)

There are multiple sources behind synergies, but they are mostly created through revenue enhancements and cost reductions (Kumar & Sharma 2019, 32). Synergies are an important driver behind acquisitions and this chapter introduces the different synergy types and the theory behind them more thoroughly.

The synergy hypothesis was first introduced by Bradley, Desai & Kim in 1988 and later they provided a methodology to measure synergies and argued that the combination of two companies will generate benefits in the form of synergy compared to the standalone companies that operate on their own. Synergies are created from different sources and the next subchapters introduce the most common and relevant sources of synergies.

### 2.6.1 Operating Synergies

Operating synergies aim to improve the overall performance of the combined firms. Operating synergies are primarily achieved either through revenue enhancements or cost reductions (Gaughan 2010, 133). Operating synergies allow the firm to increase its operating income by diversifying and increasing growth and by utilizing existing assets (Damodaran 2005). Damodaran (2005) categorizes operating synergies into four types which are economies of scale, increased pricing power, a combination of different functional strengths, and higher growth in existing or new markets. Kumar & Sharma (2019, 33) also mention economies of scope as an important factor of operating synergies. Chatterjee (1986) states that operating synergies are associated with sharing of distribution processes, software systems, and manufacturing facilities and they are most common within manufacturing industries.

Economies of scale refer to efficiency that is created through the size of the company. The larger the company and its assets are, the higher the leverage power is. Economies of scale enable higher bargaining power and thus, it can contribute towards cost reduction. From a cost reduction point of view, the company is able to buy manufacturing materials at a cheaper cost. Generally, the full potential of economies of scale is achieved by horizontal acquisitions, where the two firms operate in the same industry. Greater pricing power is achieved through increased market share and reduced competition that result when two firms combine into one. Greater pricing power is directly linked to revenue enhancement since the company can sell its goods at a higher price than before and increase its margins and operating income. (Kumar & Sharma 2019, 33; Damodaran 2005)

Operating synergies can also be created by the combination of different functional strengths. Examples of these are situations when the company that possesses certain functional strengths such as marketing expertise, acquires a target company with strong technological skills. These synergies are transferrable and hence, they apply to wide variety of acquisitions (Damodaran 2005). Schade (2014, 14) states that functional strengths also create possibilities for revenue-enhancing synergies. An example of this could be the cross-selling of two products by the acquiring company and the target company. This can be exploited when additional products sold by one company can also be sold to the customers of the other company by utilizing the existing customer relationships. The functional synergy potentials

within the functional departments of the company by combination production factors are illustrated in Figure 4 below.

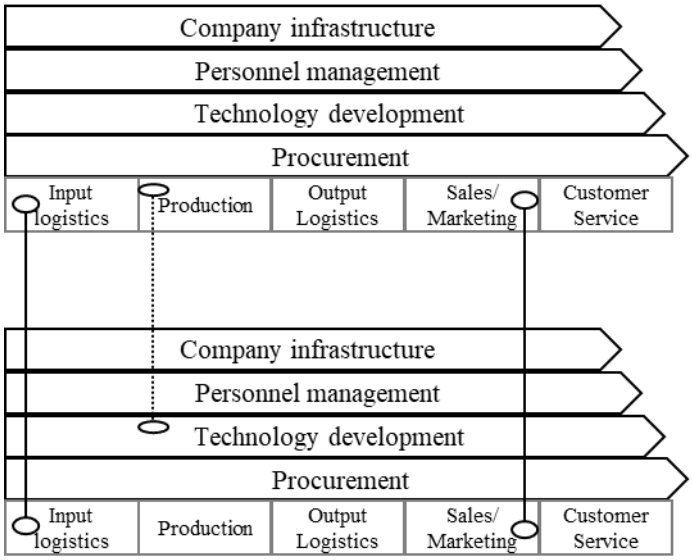


Figure 4. Functional synergy potentials within the functional department of the company by the combination of production factors (Schade 2014, 14)

Efficiencies that are referred to as economies of scope are primarily associated with the demand side changes. These changes can be for example distribution of different products or increasing or decreasing the scope of marketing. Economies of scope exist when it is more cost-efficient to produce a variety of products as opposed to just one product. That is when the total production and selling costs of several products are less than the total production and selling costs of the same products by individual companies that are specialized and focused on each of those products. Benefits from economies of scope can be achieved through e.g., single brand umbrella, research and development, and common distribution channels. Products might have a common technological or manufacturing base, customer base, geographical reach, or managerial capabilities. If a company possesses these features, it can create a motive and rationale for an acquisition to create operational synergies. (Cooper & Finkelstein 2013, 126)

Operating synergies can also be created in the form of economies of learning which refers to cost reductions that are derived from effective learning in the form of quality enhancement, productivity enhancement and more efficient teamwork (Cooper &

Finkelstein 2013, 127) Economies of learning refers to a reduction in the average costs of a product or service as its production increases. This is caused by the decline of a learning curve and the marginal value of learning increases simultaneously with the increase of each gradual unit of production (Bovaird 2014).

### 2.6.2 Financial Synergies

Financial synergies are created when the combination of two companies results in a greater level of financial activities than the two companies separately (Leland, 2007). Knoll (2008, 38) defines financial synergies as performance improvements of a multi-business firm that are derived from leveraging financial resources. Financial synergy benefits can be divided to four key points. These are reduction of corporate risk, tax advantages, financial economies of scale, and internal capital market (Knoll 2008, 39). In addition to these factors, Damodaran (2005) mentions an important benefit that stems from the positive payoff for a combination of a firm with excess cash and limited investment opportunities and a firm with a limited amount of cash that has many lucrative and high-return projects.

Reduction of corporate risk refers to the increase of the overall risk capacity of the combined firm after the acquisition. This assumption is derived from the co-insurance effect which states that acquisitions that involve buyer and target with uncorrelated cash flows can reduce the default risk of the merged entity. (Lewellen 1971) When the default risk of the merged entity is reduced, the corporate credit rating is also expected to be on a higher level and thus, the overall cost of debt is reduced simultaneously (Knoll 2008, 40). The modern portfolio theory of Markowitz (1952) also supports this assumption since it states that a portfolio which consists of firms with uncorrelated cash flows has a lower standard deviation compared to a portfolio that consists of firms with correlated cash flows.

Tax advantages stemming from the merged firms are an important factor when it comes to financial synergies that are achieved through acquisitions. If legally permitted, the merged company can take advantage of the net operating losses of the other entity to offset the profits in the other entity and consequently reduce the tax burden. (Scott 1977) Another aspect is that if the merged entity following the acquisition can increase the depreciation charges, it can save in taxes and lead to an increase in the overall value of the firm (Damodaran 2005).

Financial economies of scale can result in major financial synergies that are created when the company is able to issue debt and equity securities with lower transaction and flotation costs (Levy & Sarnat 1970). The decrease in borrowing costs is especially derived from the fact that the company can make larger and fewer security issues. In addition, the lower borrowing costs can be realized if the overall risk level of the company in terms of credit rating improves after the acquisition. (Brealey et.al 2011, 828) This also has an effect on the valuation of the company since the most popular valuation method discounted cash flow uses weighted cost of capital as the discount input. When the weighted average cost of capital decreases the value of cash flows increases which correspondingly increases the overall value of the company. Feix (2020, 61) states that the motivation towards achieving financial synergies is usually derived from the possibility of a lower cost of capital.

Financial synergies can also be achieved through internal capital markets which can be established through acquisitions. Through internal capital markets, the combined entity is able to allocate funding to parts of its businesses and new ventures internally by utilizing the increased assets of the combined entity. The benefits of internal capital markets are that it can result in financial flexibility, more accurate and higher-quality capital allocation, and reduced financing costs. Especially, if the company operates in highly inefficient capital markets, the importance of the internal capital market increases. (Chatterjee 1992; Knoll 2008, 41)

Financial synergies can be important for the management of the company because they can be realized in the form of investment opportunities and cash flows. For example, a smaller target companies could be generating large cash flows because it might not have lucrative or profitable investment opportunities whereas large companies might have multiple investment opportunities (Finkelstein & Cooper 2021, 127). Chatterjee (1986) finds that acquisitions based on financial synergies created more value compared to acquisitions that are based on operational synergies which were discussed more thoroughly in chapter 2.5.1.

# 3. Literature Review

Mergers and acquisitions have been the subject of research for over half a century (Gomes et.al 2013). Research and studies of M&As have been an important part of research in the field of organizational behavior, corporate finance, and strategic management. Approaches to M&A research differ between subjective and objective measures. Subjective measures include a qualitative assessment of degrees of synergy realization, strategic gap reduction, and integration process efficiency. Objective measures vary from accounting and financial performance measures to stock price movement. (Zollo & Meier 2008) Despite the vast amount of academic research that has been conducted on the effect of mergers and acquisitions on firm performance, the factors that determine the success of the acquisition are still not well understood (Renneboog & Vansteenkiste 2019).

Papadakis & Thanos (2010) and Andriuskevicius & Ciegis (2017) present the classical methodologies for measuring the performance of the results of M&A. These are accounting-based measures, short-term stock market-based measures, long-term stock market-based measures, and managers subjective assessments. These methodologies are presented in Figure 5.

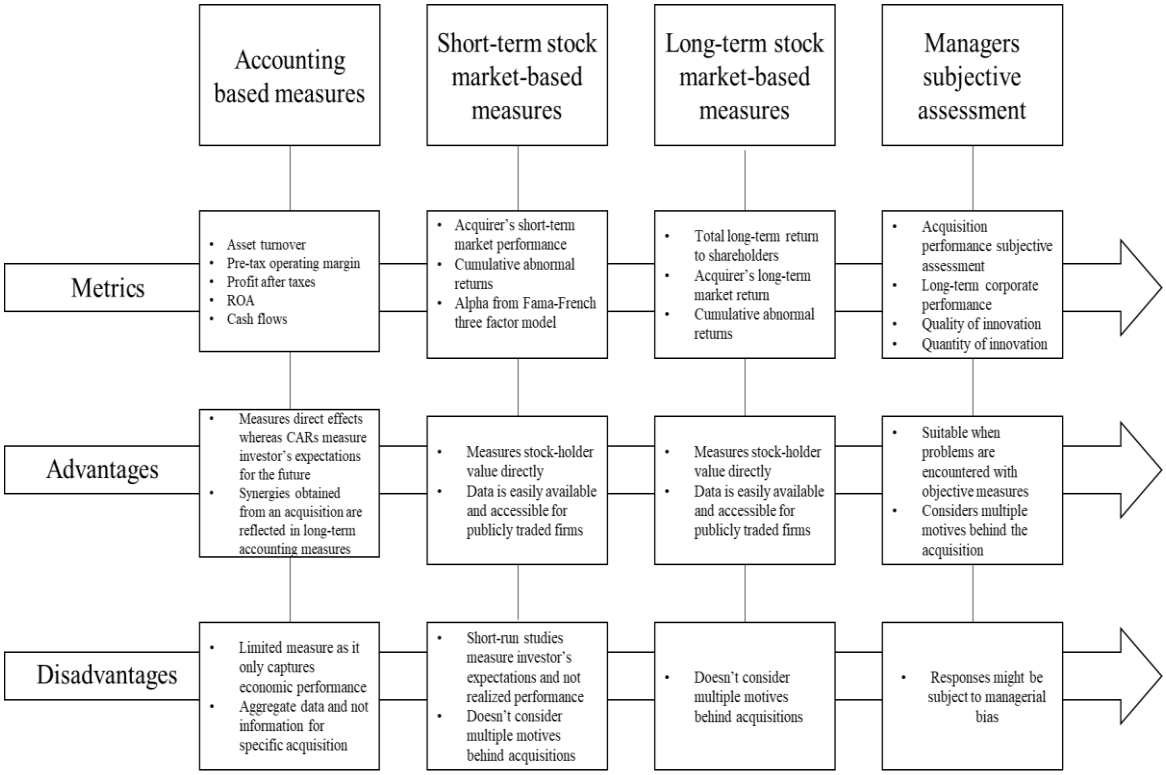


Figure 5. Classical methodologies that are used to measure M&A performance (Papadakis & Thanos 2010, 861-862; Andriuskevicius & Ciegis 2017, 206-209)

As previously stated in Chapter 1, research on acquisitions that involve developed market acquirers and emerging-market targets, has been scarce. However, the value of transactions that involve emerging market targets is increasing (Francis et.al 2008). Developed market acquirers are aiming to supplement their set of skills and knowledge resources by acquiring emerging market targets who possess these resources (Xie, Reddy, Liang 2017).

In the following subsections, prior studies that have analyzed short and long-term performance are discussed. All the covered literature employs the event study methodology. Event studies have been the most popular method of analyzing short-term and long-term stock price development in the context of announcements of acquisitions (Renneboog & Vansteenkiste 2019). Fama (1969) was the first who utilized event-study methodology in the context of stock splits. The event study approach depends on the assumption that an announcement of M&A brings new information to the market and shareholder's expectations regarding the firms' perspectives are updated and the share price reflects those expectations. Especially emphasis of M&A research has been put on the short-term wealth effect on the shareholder. Long-run performance has lacked research since it's arguably harder to measure

correctly (Renneboog & Vansteenkiste 2019). Thanos & Papadakis (2012) complement this view by stating that the topics such as acquisition waves, experience/learning, cultural issues, and meta-analytics have been researched thoroughly. However, long-term measures of the impact of M&A have lacked empirical and theoretical attention. As has been stated above, event studies on acquisitions that include developed market acquirers and emerging market targets have lacked theoretical attention (Mentz & Schiereck 2008; Narayan & Thenmozhi 2014). Thus, the research will create value by analyzing how shareholders perceive the acquisitions of emerging market companies. In the following literature review, the notation [-1, +1] refers to the event window. In the case of short-term cumulative average abnormal returns, hereinafter CAAR, notation [-1, +1] refers to cumulative returns from one day prior to the event until one day after the event. In this case, the event window would therefore be 3 days. In case of one-day average abnormal returns, hereinafter AAR, the notation is given e.g., with [0] or [1], meaning the AAR on the event day and the day after respectively. With long-term returns, the same notation is used with months. E.g., [0, +12] refers to long-term CAAR 12 months onwards from the event month.

## 3.1 Short-Term Returns

Chari, Ouimet & Tesar (2004a) studied transactions during 1988-2003 that involved a developed market acquirer and an emerging-market target. The objective of the event study was to study the stock-market reaction to the announcement of an acquisition. The target countries were Brazil, Argentina, Chile, Malaysia, Indonesia, Mexico, South Korea, Philippines, and Thailand. Their study found that during the event window of three weeks, developed market acquirers achieved on average 1.79 % statistically significant market-adjusted CAR. Emerging market acquisitions created the most value for US acquirers and these acquirers achieved on average 5.7 % cumulative abnormal returns during the event window. Research also revealed that acquirer achieves higher market returns when acquiring companies from East Asia than Latin America. The Authors also compared average abnormal returns when the set of targets includes both emerging market and developed-market targets. This target set resulted in a negative but insignificant CAAR of -0.02 %.

Francis et. al. (2008) achieved similar results when they investigated the value that was created when developed market acquirers acquired segmented (Emerging) market targets versus integrated (Developed) market targets. Their sample included 215 cross-border

acquisitions conducted by US firms during 1990-2003. They found out that acquisitions, that involved target firms from emerging markets resulted in 1.31 % three-day CAAR, whereas acquisitions that involved target firms from developed markets resulted 0.90 % CAAR. Both results were statistically significant at 1 %. The authors also compared returns between large and small acquirers. Large (small) acquirers are those with a market capitalization greater (less or equal) than the market capitalization of the 75$^{th}$ percentile of firms in NYSE in the acquisition year. They also compared returns during different time periods of 1990-1995 and 1996-2003. The highest CAAR of 1.74 % was obtained between 1996-2003 when the acquiring company was classified as large. This finding is in line with Chari, Ouimet & Tesar (2010) who stated that acquisitions to emerging market companies generated higher abnormal returns in the late 1990s when these countries liberalized capital flows.

The research of Chari et.al (2010) shared similar characteristics as the 2004 research (Chari, Ouimet & Tesar 2004a) that was discussed above. However, the sample included important emerging market countries such as China, India, and South Africa that were excluded from the original study. The timeline of the research was naturally also different as transactions between 1986 and 2006 were observed. Authors considered three different data samples: 1) DM-EM refers to observations where the acquirer is from developed markets and the target is from emerging markets, 2) DM-DM data sample includes observations where the acquirers, as well as the target are from developed markets, 3) finally the third data sample EM-EM includes observations where both the acquirer and target are from emerging markets. The sample included 594 transactions from the DM-EM sample, 1624 transactions from the DM-DM sample, and 900 transactions from the EM-EM sample. CAARs were observed during the three-day event window. In line with their previous study from 2004, they found that in the DM-EM sample, the median CAR for acquirers during the 3-day event window [-1, +1] was 1.16 % when the acquirer obtained majority control of the target company. Compared to the DM-DM sample, the median CAR for the acquirer was -0.20 %. Surprisingly EM-EM sample revealed that emerging market acquirers earn lower returns compared to developed market acquirers when the target firms are from emerging markets. The authors aimed to increase the reliability of the research by including the same acquirers in both DM-EM and DM-DM samples. Thus, the patterns that can be observed from the data are particular to the emerging market-developed market distinction.

Bednarczyk, Schiereck & Walter (2010) investigated cross-border acquisitions in the energy industry during 1995-2005. The sample involved an acquirer from a Western industrialized country and a target company from Hungary, the Czech Republic, Slovak Republic, or Poland. The authors used various event windows from [-30, +30] to [-1, +1] to capture the cumulative abnormal returns for the acquirer. During the event windows of [-1, +1], [0, +1] and [0, +5], the acquirers achieved statistically significant positive CAAR of 0.50 %, 0.42 % and 0.60 % respectively. Interestingly positive abnormal returns were generated for longer time periods until [-15, +15] after which the CAAR turned negative. During most of the short event windows [-1, +1], [0, +1] and [0, +5], the results are in line with studies of Chari et.al (2004a), Francis et.al (2008) and Chari et.al (2010).

Sharma & Raat (2016) reported positive CAAR of 1.26 % and 1.72 % for developed market acquirers that acquired emerging market targets during the event window of [-1, +1] and [-2, +2] respectively. The AAR for the announcement day [0] was 0.87 %. Their study differs from other studies of Chari et.al 2004a, Francis et.al 2008, and Chari et.al 2010 in a way that they observed target firms that are in either Hungary, Russia, the Czech-Republic, or Poland. Thus, the target firm's geographical location is in Eastern Europe. Their sample included 125 cross-border acquisitions made by developed-market firms. The market reacted positively to 65.15 % of the acquisition announcements. For reference, developed market acquirers that also acquired developed market targets obtained a CAAR of 0.37 % over the event window of 3 days. Returns were also lower over multiple day time window of [-2, +2] with CAARs of 0.50 %.

Chalencon & Mayrhofer (2018) obtained contradictory results when they investigated the value that is created when French multinationals acquire developed and emerging market target firms. Their study was based on a sample of 286 cross-border acquisitions that were announced between 2010-2012. During the event window of 21 days [-10, +10], the CAAR for companies that acquired emerging-market targets was 0.61 % whereas the corresponding return for developed market targets was 0.79 %. The biggest difference between these returns was identified between the fourth and seventh day after the acquisition announcement. During that period markets tend to react negatively to the announcement of acquisition with emerging market targets while the reaction is positive in the case of developed market targets. Table 1 presents the summary of the most relevant research conducted between 2004

- 2018 regarding short-term returns of acquisition announcements involving developed market acquirers and emerging market targets.

Table 1. Summary of the most relevant prior research conducted between 2004 - 2018 of short-term returns of acquisition announcements involving developed market acquirers and emerging market targets

| Author(s) | Published | N | Country/Region of the acquirer | Country/Region of the target | Time period | Measurement method | Event window and return | Notes |
|---|---|---|---|---|---|---|---|---|
| Chari, Ouimet & Tesar | 2004 | 1629 | Canada, Europe, Japan, Singapore & Hong Kong, United States | East Asia & Latin America | 1988-2003 | CAAR | [-1, +1]: 1.79 %*<br>[-2, +2]: 1.08 %* | Event window measured in weeks |
| Francis, Hasan & Sun | 2008 | 215 | United States | 20 emerging market countries | 1990-2003 | CAAR | [-1, +1]: 1.31 %* | Total sample that includes also developed market targets is 1 491 |
| Chari, Ouimet & Tesar | 2010 | 594 | Canada, France, Germany, Italy, Japan | 42 emerging market countries | 1986-2006 | CAAR | [-1, +1]: 1.16 % | |
| Bednarczyk, Schiereck & Walter | 2010 | 37 | Non-CEE European countries | Hungary, The Czech Republic, The Slovak Republic, Poland | 1995-2005 | CAAR | [-10, +10]: 0.52 %<br>[-5, +5]: 1.49 %*<br>[-1, +1]: 0.50 %*<br>[0, +1]: 0.42 %*<br>[0, +5]: 0.60 % | The research focused only on target companies from the energy industry |
| Sharma & Raat | 2016 | 66 | France, Germany, Netherlands, UK | The Czech Republic, Hungary, Poland, Russia | 2000-2011 | AAR<br>CAAR | [0]: 0.87 %*<br>[1]: 0.45 %<br>[2]: 0.44 %<br>[3]: -0.42 %<br>[4]: 0.07 %<br>[5]: 0.15<br>[-1, +1]: 1.26 %*<br>[-2, +2]: 1.72 %*<br>[-10, +10]: 1.77 | The total sample that includes also developed market targets is 125 |
| Chalencon & Mayrhofer | 2018 | 286 | France | CEE European countries, Latin America, Asia, Africa | 2010-2012 | CAAR | [-10, +10]: 0.61 %* | |

## 3.2 Long-Run Returns

Long-run returns refer to returns that are obtained during 1 month to 5-years following the month that the acquisition was announced. Long-run returns are usually also based on event study methodology, and they measure the long-term impact of acquisition on the stock price of the acquirer (Renneboog & Vansteenkiste 2019). Research on long-term returns is far more scarce compared to research on short-term returns which has shared the interest of researchers for centuries (Martynova & Renneboog 2008). The early studies of Asquith (1983) and Malatesta (1983) resulted in negative long-term abnormal returns for the acquirers. These studies embarked the interest of research towards analyzing long-term returns besides short-term returns that were researched in large quantities (Tuch & Sullivan 2007).

After the research of Asquith (1983) and Malatesta (1983), the next study that received attention was conducted by Loughran & Vijh (1997). They examined acquisitions conducted by US acquirers during 1970-1989. They measured buy-and-hold abnormal returns, hereinafter BHAR, for a 5-year period following an acquisition. They measured BHARs by calculating the difference between the five-year period returns of US acquirers and the control group that was matched based on size and industry. Their results show that acquirers obtain on average BHAR of -6.5 % in a five-year period following the announcement of an acquisition. Higson & Elliot (1998) examined the long-term performance of UK acquirers during 1975-1990. They analyzed long-term BHARs during three time periods of 12-month, 24-month, and 36-month following the announcement of an acquisition. As a result, the whole sample of UK acquirers obtained -0.74 %, -1.14 %, and 0.83 % BHARs during periods of 12-month, 24-month, and 36-month following the announcement of an acquisition respectively. However, none of these returns were statistically significant.

Mitchell & Stafford (2000) conducted similar research of 2 767 acquisitions during 1958 – 1993. Their results indicate that acquirers earn on average -0.10 % buy-and-hold abnormal return after three years from the announcement of an acquisition. However, the researchers concluded that once cross-sectional dependence is taken into consideration, there are no statistically significant abnormal returns.

One of the few studies available on Canadian acquirers was conducted by André, Maher & L'Her (2004). Their research was focused on the long-term performance of Canadian

acquirers during 1980-2000. They used the approach of constructing monthly portfolios in calendar time for measurement of an average long-term performance. Thus, the abnormal performance was measured by the mean calendar-time abnormal returns. The alphas obtained from the regression were negative -0.476 %, -0.460 %, and -0.523 % for time periods of 12-months, 24-months, and 36-months following the announcement of an acquisition respectively. When aggregating these results, the abnormal returns were -5.7 %, -11.0 %, and -18.8 % for the beforementioned time periods respectively. Thus, Canadian acquirers underperform significantly using an equal-weighted portfolio of acquirers.

Gregory (2005) studied the long-term stock performance of UK acquirers following an acquisition between 1984 and 1992. Their sample included 217 acquisitions and the long-term stock performance was analyzed with average BHAR for 60 months after the acquisition. On average, the companies obtained -17.7 % BHAR after 36 months from the event day and -19.9 % after 60 months from the event day.

Dutta & Jog (2009) obtained similar results when they examined the acquisitions conducted by Canadian acquirers during 1993-2002. Researchers used both calendar-time and event-time approaches when calculating the BHARs for the acquirers after three years from the acquisition. When using the TSX 300 index as a benchmark, the acquirers obtained on average BHAR of -54 %. The result was the same when an equal value-weighted portfolio was used. However, when individual matching firms were used as a benchmark, the acquirers obtained an average BHAR of -7.8 %. However, this result was not statistically significant.

Cui & Leung (2020) examined the association between long-term performance and managerial ability of US acquirers during time period of 2000-2012. Their results show that acquirers obtain positive average BHAR during each time periods. The returns for 12-month, 24-month, and 36-month periods were 2.1 %, 5.0 % and 7.9 % respectively. They also found out that the positive effect of managerial ability on long-term performance is more apparent with horizontal acquisitions compared to vertical acquisitions. One of the most recent studies by Hsu, Yang & Tsai (2021) was conducted in similar manner by analyzing the long-term average BHAR for US acquirers during 1990-2014. When the whole sample was taken into consideration, the acquirers earned on average statistically significant BHAR of -17.3 %. In addition, the research aimed to investigate how BHAR is affected when comparing the differences in the legal system and market integration of the acquirer and the target.

However, significant differences in BHAR were not found. The authors also compared the average BHAR of horizontal and non-horizontal acquisitions. As a result, horizontal acquisitions obtained an average BHAR of -4.86 % whereas non-horizontal acquisitions obtained an average BHAR of 28.72 %.

Table 2. Selection of the most relevant prior research conducted between 1983-2018 regarding long-term returns of acquisition announcements

| **Author(s)** | **Published** | **N** | **Country / Region of the acquirer** | **Time period** | **Measurement method** | **Event window and return** | **Notes** |
|---|---|---|---|---|---|---|---|
| Asquith | 1983 | 285 | United States | 1962-1976 | BHAR | [0, +8]: -7.2 %* | |
| Malatesta | 1983 | 256 | United States | 1969-1974 | BHAR | [+1, +12]: -0.054 % | |
| Loughran & Vijh | 1997 | 947 | United States | 1960-1978 | BHAR | [0 +60]: -6.5 % | |
| Higson & Elliot | 1998 | 830 | UK | 1975-1990 | BHAR | [+1, +12]: -0.74 %<br>[+1, +24]: -0.14 %<br>[+1, +36]: 0.83 % | |
| Mitchell & Stafford | 2000 | 2193 | US | 1958-1993 | BHAR | [0, +36]: -0.10 % | |
| André, Kooli & L'Her | 2004 | 267 | Canada | 1980-2000 | Calendar-time portfolio approach | [0, +12]: -0.476 % (When aggregated: -5.7 %)<br>[0, +24]: -0.460 % (When aggregated: -11.0 %)<br>[0, +36]: -0.523 % (When aggregated: -18.8 %) | The first percentage refers to alphas obtained from the regression |
| Gregory | 2005 | 217 | UK | 1984-1992 | BHAR | [0, +36]: -17.7 %*<br>[0, +60]: -19.9 %* | |
| Dutta & Jog | 2009 | 1300 | Canada | 1993-2002 | BHAR and calendar-time portfolio approach | BHAR [0, +36]: 0.01 %<br>Calendar-time portfolio approach [0, +36]: 0.4 % (When aggregated: 14.4 %) | |
| Cui & Leung | 2020 | 7907 | United States | 2000-2012 | BHAR | [0, +12]: 2.1 %*<br>[0, +24]: 5.0 %*<br>[0, +36]: 7.9 %* | |
| Hsu, Yang & Tsai | 2021 | 1066 | United States | 1990-2014 | BHAR | [0, +36]: -17.3 %* | |

## 3.3 Accounting Studies

Research on accounting studies in the context of emerging markets is quite scarce (Narayan & Thenmozhi 2014). Thus, the review of accounting studies also includes research that does not directly concern emerging markets. By doing so, this literature review provides a more comprehensive overview of the research field. However, along with studies that are based on abnormal returns, accounting studies are an essential part of M&A research since they are associated with operating performance. Thus, they are also covered.

Healy, Palepu & Ruback (1992) conducted one of the first studies that investigated the post-acquisition operating performance of merged firms. Their sample included the 50 largest mergers between U.S. public industrial firms that were completed during 1979-1983. Pre-tax operating cash flow was selected for the metrics that measure improvements in operating performance. To isolate the effect of acquisition, the authors used the industry-adjusted performance of the acquirer and acquired firm as a primary benchmark to assess the post-acquisition performance. Their results show that the annual median pre-tax return during the five post-acquisition years is 2.8 %. The median annual difference between performance in years -5 to -1 and 1 to 5 is 2.2 % which is also statistically significant. Merged firms experience a significant increase in operating cash flow returns after the merger. This was caused by an increase in asset productivity in relation to their industries.

Ghosh (2001) obtained similar results while examining whether operating cash flow performance improves after acquisition. Research shared similarities with the research of Healy et.al (1992) such as industry adjustment for performance and similar metrics. However, this study also adjusted for superior pre-acquisition performance which could led to imprecise estimates. The final sample included 315 acquisitions. The results indicate that the median of the difference between acquiring firms' cash flows and industry median cash flows is 3.86 % in the beginning (year – 3) and it declines to 2.47 % at the end (year 3). Results also show that the median and mean increase in industry-adjusted operating cash flows between pre- and post-acquisition periods are 0.27 % and 0.66 % respectively. However, neither of these is statistically significant.

Moeller & Schlingemann (2005) compared the effect of cross-border and domestic acquisitions on the operating performance of US acquirers. Their preliminary sample included 4 430 acquisitions that were conducted between 1985 and 1995. The two event

windows were [-5, -1] for the pre-acquisition period and [+1, +5] for the post-acquisition period. Their study followed the approach of Healy et.al (1992) and thus, industry-adjusted performance measures were used. Operating cash flow is used as a measure of operating performance, and it is normalized by the market value of assets at the beginning of the year defined as sales minus cost of goods sold minus selling and general expenses minus the change in working capital. For the cross-border sample, the average change in operating performance was -0.067 compared to the average change for the domestic sample which was -0.002. The main finding along with the negative effect that acquisitions had on the operating performance, was that cross-border acquirers experienced significantly lower improvements in operating performance compared to domestic acquirers.

Core, Guay & Rusticus (2006) investigated the operating performance of firms with weak shareholder rights during the time period of 1990-1999. Their study revealed that these firms exhibit significant underperformance of 10 % measured by return on assets (ROA). Martynova, Oosting & Renneboog (2007) reported similar results when they examined 873 deals conducted between 1997 and 2001 in Europe. In order to isolate the takeover effect, they adjusted the performance for the industry trend by considering the performance of a median company operating in the same industry. By using four operating performance measures: 1) (EBITDA – ΔWC/BV assets, 2) (EBITDA – ΔWC/Sales, 3) EBITDA/BV assets, 4) EBITDA/Sales. Their findings suggest that with industry adjustment, in 2 out of the 4 performance measures used, the post-acquisition operating performance declined ranging between -0.02 % and – 1.02 %. However, when examining raw performance without industry adjustment, 3 out of 4 performance measures declined ranging between -0.65 % and -1.73 %.

Chari et.al (2010) studied the long-run post-acquisition performance of developed market acquirers that acquired emerging market targets during 1986-2006. The original sample included 594 observations but due to a lack of accounting data, the final sample consisted of 183 observations. Operating performance was measured as return on assets, and it was defined as EBIT/Total Assets. ROA was measured in the second year following the acquisition to allow for sufficient time for the M&A to be reflected in the operating performance. The average change of ROA for acquirers was -0.5 %. However, due to the limited sample size, this result was statistically insignificant.

Narayan & Thenmozhi (2014) investigated the operating performance of developed market acquirers that acquired emerging market target firms during 1997-2007. They compared the industry-adjusted operating performance three years prior to the acquisition with the operating performance three years after the acquisition. The industry-adjusted operating performance was measured by deducting the book value of assets from EBITDA. They found out that the mean post-acquisition performance (0.1604) was higher than the mean pre-acquisitions performance (0.1515) for developed market acquirers that acquired targets from emerging markets. For emerging market acquirers that acquired developed market targets, the same values were pre (0.0843) and post (-0.0309). Their results indicate that developed market firms that acquire emerging market firms show a 50 % chance of value creation whereas acquisitions by emerging market firms of developed market targets will conceivably destroy value.

Table 3. Selection of prior research conducted between 1992 – 2014 regarding accounting studies of acquisition announcements.

| **Author(s)** | **Published** | **N** | **Country/Region of the acquirer** | **Time period** | **Measurement method** | **Event window and return** | **Notes** |
|---|---|---|---|---|---|---|---|
| Healy, Palepu & Rubak | 1992 | 50 | United States | 1979-1983 | Pre-tax operating cash-flow return of assets | 2.2 %* | |
| Ghosh | 2001 | 315 | United States | 1981-1995 | Cashflow / Assets | 0.66 % | |
| Moeller & Schlingemann | 2005 | 4430 | United States | 1985-1995 | Operating cash flow | -0.067 %* for cross - border acquisitions<br>-0.02 %* for domestic acquisitions | |
| Core, Guay & Rusticus | 2006 | 9917 | United States | 1990-1999 | Operating ROA | 0.04 %* | |
| Martynova, Oosting & Renneboog | 2007 | 873 | Europe | 1997-2001 | Multiple earning-based measures | EBITDA – ΔWC/BV assets: 0.05 %<br>EBITDA – ΔWC/Sales: 1.69 %<br>EBITDA/BV: -1.02 %*<br>EBITDA/Sales: -0.12 % | |
| Chari, Ouimet & Tesar | 2010 | 183 | Canada, France, Germany, Italy, Japan | 1986-2006 | ROA | -0.07 % | |
| Narayan & Thenmozhi | 2014 | 1300 | Multiple developed market countries | 1997-2007 | EBITDA – BV of assets | 0.89 | |

## 3.4 Deal and Acquirer Characteristics

Multiple different deal characteristics and factors can influence the post-acquisition performance of the acquirer. The main factors affecting post-acquisition performance can be categorized into five main groups:

1) Acquirer Characteristics
2) Target characteristics
3) Bid characteristics
4) Industry and competition factors
5) Economic environment.

Acquirer characteristics are a broad concept, and they can consist of e.g., the experience of the acquirer in M&A activity, the size of the acquirer, and the ownership structure. Target characteristics could be based on whether the target is public or private or what has been the premerger performance of the target. Deal characteristics can consist of the method of payment, the relatedness of the industry that the acquirer and target operate in, and cultural compatibility between the acquirer and the target. Industry and competition factors consist of the macro factors that might have an effect on the performance of the acquisition. These are e.g., the growth phase of the industry. Economic environment refers to the overall state of the economy e.g., whether the economy is in recession or a boom. (Yaghoubi et.al 2016)

The literature review of the deal and acquirer characteristics is focused on the same factors that are examined in the analysis part of this research. These are the size of the acquirer, industry relatedness of the acquirer and the target, and method of payment.

### 3.4.1 Size of The Acquirer

The size of the acquirer can be an important feature when determining the factors that influence the post-acquisition performance. In accordance with the size effect theory, the large size of the acquirer can create economies of scale which can lead to an increase in operational efficiency and improve market position to enhance bargaining power with both customers and suppliers (Moatti et. al 2015). Moeller, Schlingemann & Stultz (2004)

investigated the effect of acquirer size on announcement return for acquiring firm shareholders. They found that on average, large acquirers obtained 2.24 % lower CAR during the event window of (-1, +1) compared to small acquirers. Large (small) acquirers were defined as having market capitalization greater (equal or less) than the 75$^{th}$ percentile of the firms in NYSE in the same year. Kräussl & Topper (2007) obtained similar results when they analyzed the size effect of the acquirer in Dutch M&A market during 1980-2003. They concluded that small companies earn on average 2.45 % higher CAR during the event window of 3 days compared to large acquirers which are defined as being in the top 10 % of the sample in terms of market capitalization.

Humphery-Jenner & Powell's (2014) study involved 1 900 acquisitions in the Australian market from 1993 to 2007. They concluded that larger size has a positive effect on the cumulative abnormal returns of the acquirer. More specifically, when OLS regression was conducted with the 11-day market-adjusted cumulative abnormal return as the dependent variable. As a result, the top 25 % largest companies and the top 10 % largest companies of the sample had – 1.228 % and – 1.373 % effect on the CARs respectively.

When it comes to the question "Why smaller acquirers obtain higher returns", Zhao, Ma & Hao (2019) give the following explanations for the size effect in acquisitions:

1) Small companies prefer to use cash as a method of payment instead of mixed payment types, e.g., cash and equity which are more common with large acquirers. Travlos & Nickolaos (1987) argues that, when large companies acquire listed companies with equity payment, the cumulative abnormal returns are lower compared to acquisitions with a different method of payment. Stock payment can lead to so-called negative signaling effect, where companies financing their acquisition with stocks convey a signal to the market that their stock price is overvalued (Datta et.al 1992).

2) Large companies are more likely to acquire larger companies compared to smaller companies. Moeller, Schlingemann & Stulz (2004) study found that compared to acquiring subsidiaries and private companies, large companies are more likely to acquire listed companies. Research of Fuller, Netter & Stegemoller (2002) shows that the cumulative abnormal returns are lower when acquiring listed companies compared to subsidiaries and private companies.

### 3.4.2 Horizontal, Vertical, and Conglomerate Acquisitions

As stated in Chapter 2.1, acquisitions are classified into horizontal, vertical, and conglomerate acquisitions. Horizontal acquisitions refer to acquisitions of firms that compete and operate in the same market. The second type of acquisition is called vertical since it assumes a combination of firms that have a buyer-supplier relationship. The third type of acquisition is conglomerate, which refers to acquisitions of firms that produce unrelated products that are neither complements nor substitutes. Conglomerate acquisitions capture all types of acquisitions that are not defined as horizontal or vertical. (Tremblay & Tremblay 2012)

The common view of prior research is that horizontal acquisitions create value with an increase in market power, synergies, and cost efficiencies Firstly, Horizontal acquisitions contribute to the decrease of a potential number of competitors that operate in the same market. Thus, when acquisitions are made, the market coverage of the acquirer is expanded. Secondly, synergies are expected to be more profitable and higher in horizontal acquisitions since the two companies operate in the same industry. The integration stage is also expected to be shorter and less complicated since the operations and processes of the two companies are supposedly similar. Thirdly, horizontal acquisitions lead to resource sharing and transfer of employees which can contribute towards cost efficiencies. (Capron 1999; Bhattacharyya & Nain 2011).

These views are supported by Huyghebaert & Luypaert (2013) when they examined 130 horizontal acquisitions in Europe from 1997 to 2008. They found out that on average, acquirers obtained positive CAR of 0.23 %, 0.56 %, and 2.60% during event windows of [-1, +1], [-5, +5], and [-35, +5] respectively. Dutta & Jog (2009) reported positive average long-term BHAR for Canadian acquirers that conducted horizontal acquisitions over a three-year period following an acquisition. On average, the acquirers earned a 15 % return during this period.

For the most part, vertical acquisitions share the same traits as horizontal acquisitions, e.g., there are expected gains in market access and synergies. However, vertical acquisitions can also improve the coordination related to the flow of services and products from one company to another, which leads to increased capacity utilization and product development while inventory costs can also reduce. These factors contribute towards efficiency gains which

lead to increased profitability. (Goold & Cambell 1998) Ekkayokkaya & Paudyal (2021) state that the key element underlying vertical acquisitions is to identify the importance of the target company's assets to the acquirers' profitability. Thus, it is vital to measure what is the possible improvement in profitability if the target and its assets are acquired.

Vertical acquisitions can also pose some challenges that might not be present in e.g., horizontal acquisitions. The integration stage in vertical acquisitions can be longer and more complicated due to the greater need of synchronizing the flow of products and services (Rozen-Bakher 2018). This can be caused by the buyer-supplier relationship since the operating models of the two companies can be significantly different.

Kedia, Ravid & Pons (2011) study of 295 vertical acquisitions conducted in the US between 1997-2008 highlighted that vertical acquisitions resulted in positive abnormal returns around the announcement of the deal. The average CAR during time period of [-1, +1] was 0.54 %.

Ekkayokkaya & Paudyal (2021) obtained contrary results when they examined 6 465 vertical acquisitions that were conducted between 1990-2010. Their findings suggest that on average, acquirers that acquired public targets obtained an average CAR of -0.57 % during the event window of [-2, +2] around the announcement. They also measured abnormal returns in the same context with the degree of vertical relatedness (V) between the industries of the acquirer and the target. No conclusions can be drawn from the relationship of industry-relatedness, since at high levels of V when the V was in the range of 10 – 20, the average CARs were -2.43 % and -0.69 % respectively. In the low levels of V, when the V was in the range of 0 - 1, the average CARs were also negative at -0.69 % and -0.65 % respectively. Thus, the industry relatedness doesn't seem to have a positive effect at least from the point of view of CARs.

Prior research provides multiple aspects of the advantages and disadvantages of conglomerate acquisitions and how it affects post-acquisition performance. King et.al (2004) states that firms benefit from the diversification caused by conglomerate acquisitions, but on average most firms do not. Loughran & Vijh's (1997) research supports this view as they show that firms seem to benefit more from vertical and horizontal acquisitions as they create more value through synergies. Berger & Ofek (1995) argue that conglomerate acquisitions create less value than horizontal or vertical acquisitions because the value of diversified

firms is lower compared to the combined value that their segments would have independently.

Tremblay & Tremblay (2012) provide evidence that conglomerate acquisitions have higher synergy potential because of the capability to increase the market value of the combined firms. This can be a result of expanding the business into new and different markets. Some other factors that stand in the favor of conglomerate acquisitions are cheaper access to capital and improved income stability (Datta et.al 1992). Herger & McCorriston (2016) state that conglomerate cross-border acquisitions can be strongly driven by opportunities for financial arbitrage such as when acquirers are buying undervalued targets from e.g., emerging markets.

The diversity between an acquirer and the target can also lead to a more complicated integration phase which might negatively affect the outcome of the acquisition (Weber, Tarba & Rozen-Bachar 2011). Thus, Conglomerate acquisitions can create value by diversifying the business and creating synergies but the differences between products, markets, and geographic locations can have a negative effect to the integration phase which can lead to undesirable outcomes and reduced profitability.

King et.al's (2004) meta-analysis of M&A research combined data and findings of prior studies that involved conglomerate acquisitions. Their findings show that on the announcement date, conglomerate acquisitions resulted in 0.07 % average AR for the acquirer whereas non-conglomerate acquisitions resulted in an average AR of 0.70 %. During longer time periods (1-60 months) conglomerate acquisitions obtained an average CAR of -0.10 %, whereas non-conglomerate acquisitions obtained an average CAR of 0.05 %. Overall, the prior research has been quite unanimous that industry related i.e., horizontal, and vertical acquisitions have outperformed non-industry related acquisitions which are classified as a conglomerate.

### 3.4.3 Method of Payment

The method of payment of the transaction is regarded as one of the most important deal characteristics. Method of payment refers to the way in which the target company's shareholders are compensated when they grant the shares to the acquiring company. The method of payment can vary between cash compensation, stock compensation, and hybrid

which refers to a method where the purchase price is partially covered by cash and partially by stocks. In the context of acquisitions involving emerging market targets, the preferred method of payment has been cash since the minority shareholders of target companies in emerging markets have usually a lower levels of investor protection and thus, they prefer cash instead of equity because of the risk of expropriation. (Rossi & Volpin 2004)

Cash has usually been the dominant method of payment throughout the years. This is mainly caused by the fact that cash is a simpler method of payment, and it results in much faster settlement and rigorous transfer of ownership. The stock payment is more complex since it is based on both the acquirer and target company's stock valuations during the transaction period. (Shimizu et.al 2007)

Despite the popularity of cash-financed transactions, the number of equity-financed transactions has greatly increased during 21st and 22nd century (Martynova & Renneboog 2009). Although the number of equity-financed transactions has increased, many studies have concluded that transaction paid by cash have generated higher abnormal returns during short time-period compared to transaction paid by stocks (Cebenoyan, Papaioannou & Travlos 1992; Fuller & Glatzer 2003 & Danbolt 2004) However, it is worth to perceive that in prior research, a larger share of acquisitions have been financed with cash which can skew the sample and lead to the conclusion that cash-financed transactions perform better than equity-financed transactions.

One of the earlier studies regarding the method of payment and its effect on shareholder returns was done by Datta et.al (1992) in their meta-analysis, which concluded that cash-financed transactions result in positive abnormal returns compared to stock-financed acquisitions that resulted in significant negative returns.

Similar results were obtained when Bhagat, Dong & Hirshleifer (2005) studied the short-term stock reaction to acquisitions conducted by US acquirers between 1962-2001. They concluded that on average, cash-financed acquisitions obtained positive CAR of 0.76 % during the 5-day event window compared to average negative CARs of -0.77 % and -2.73 % that were obtained with hybrid and stock payments respectively. Similar research was conducted by Savor & Lu (2009) when they investigated how the method of payment affects the short-run returns of US acquirers during 1978-2003. They calculated CARs against a benchmark portfolio that was matched on book-to-market, industry, and size. The results

show that on average, cash-financed transactions resulted in 0.3 % excessive CAR over the benchmark group that financed acquisitions with stocks during the time window of [-1, +1]. On the other hand, stock-financed transactions resulted in a -0.33 % average CAR against the benchmark group that used cash financing during the same time window.

Method of payment has also been studied in the academic field of long-run abnormal returns. Loughran & Vijh (1997) concluded that stock-financed acquisitions generated on average, -24.2 % BHAR for the acquirer after five years following the announcement of an acquisition. Acquirers that financed acquisitions with hybrid payment and cash earned on average -9.6 % and 18.5 % BHARs consequently during the same time period.

Method of payment has also been studied from the point of view of long-term operating performance. Martynova et.al (2007, 102) studied the effect of an acquisition announcement on the long-term operating performance of European acquirers. Their results show that stock-financed deals have a negative effect of 1.2 % on the operating performance whereas cash-financed deals have a positive effect of 1 %. Hybrid payment resulted in a decrease in the operating performance of 1.9 %.

Table 4 presents the expected impact of abnormal returns that each of the covered deal and acquirer characteristics has. The + or – indicates that the deal or acquirer characteristic is expected to have more positive or negative impact compared to other variables from the same category. Thus, for example, it is not expected that small acquirers would generate overall positive abnormal returns. The + sign indicates that the abnormal returns have a more positive impact compared to large acquirers. In the case of horizontal, vertical, and conglomerate acquisitions, the ++ sign with horizontal acquisitions means that this deal characteristic is expected to have a more positive impact compared to the vertical and conglomerate acquisitions. The + sign of vertical acquisitions means that it is expected to have a more positive impact compared to conglomerate acquisitions, but a more negative impact compared to horizontal acquisitions.

Table 4. Summary of the impact of deal and acquirer characteristics

| **Characteristics of the deal/acquirer** | **Expected impact on abnormal returns** |
|---|---|
| Large acquirer | - |
| Small acquirer | + |
| Horizontal acquisition | ++ |
| Vertical acquisition | + |
| Conglomerate acquisition | - |
| Cash payment | + |
| Stock payment | - |
| Hybrid payment | + |

# 4. Hypotheses

Hypotheses are needed to test how the announcement of acquisition influences the average short- and long-term abnormal returns of developed market companies that acquire target companies from emerging markets. The scenario where a developed market acquirer conducts an acquisition of an emerging market target is a specific condition of acquisition and hypotheses support the evaluation of the results.

Based on the prior literature and theoretical framework, six hypotheses are formed. According to the prior literature, developed market acquirers have generated positive short-term abnormal returns when they have acquired emerging market targets. In addition, acquisitions are conducted from the standpoint of value creation and their goal is to maximize shareholder value. According to the efficient market hypothesis, the excess returns will fade away quickly because the markets will adapt to the new information.

*H1: On average, there is a small and positive reaction to the stock price of the acquirer on the announcement day.*

*H2: The abnormal returns will fade away quickly when the stock markets will adapt to the new information.*

Acquisitions are not conducted only to maximize shareholder value in the short-term, but also during the long-term. Prior research has shown mixed results when it comes to long-term shareholder value created from acquisitions. However, a larger quantity of studies has shown that long-term returns are negative.

*H3: On average, there is a negative long-term stock-price reaction on three different time periods of [0, +12], [0, +24], and [0, +36] to the developed market acquirers following the acquisition of the emerging-market target.*

Prior research has shown that different factors influence acquisition performance. Large acquirers have many scale advantages over small acquirers and the synergy potential is also greater. However, the prior literature has been mixed on whether large acquirers have generated higher abnormal returns than small acquirers. Industry-relatedness has also shared the interest of prior research. There is clear evidence that industry related i.e., horizontal, and vertical transactions have generated higher abnormal returns than non-related i.e.,

conglomerate transactions. In addition to the size of the acquirer and industry relatedness, the majority of prior studies have proved that cash-financed acquisitions have generated higher abnormal returns compared to acquisitions that are financed with stocks or with the combination of cash and stocks. Based on the prior literature, hypotheses 4-6 are formed:

*H4: On average, large acquirers generate higher short-term abnormal returns compared to small acquirers.*

*H5: On average, horizontal, and vertical acquisitions lead to higher short-term abnormal returns compared to conglomerate acquisitions.*

*H6: On average, cash-financed transactions generate higher short-term abnormal returns compared to stock-financed and hybrid-financed transactions.*

# 5. Data and Methodology

This chapter introduces the data sample as well as the proposed models and variables that are used in this study. Short-term returns are examined based on average abnormal returns and different deal and acquirer-specific factors are examined with OLS linear regression. Long-term returns are evaluated using average buy-and-hold abnormal returns.

## 5.1 Data

The data was obtained from Refinitiv Eikon by using the M&A screener. The preliminary data sample that was formed according to limitations set in Chapter 1.1 resulted in a total of 293 acquisitions that were announced in 2014-2016 between developed market acquirers and emerging market targets. After the preliminary sample was collected, banks, insurance companies, and other financial institutions were removed from the sample. Thus, 53 acquisitions were removed from the sample. Also, if the same company had conducted multiple acquisitions during 2014-2016, only the first completed acquisition was taken into consideration. This led to the removal of 62 acquisitions from the sample. The final sample consisted of 178 acquisitions which are summarized in Table 5 below. It is important to point out that in 2014 the total deal value is approximately 4 times larger compared to 2015 and 2016. This is a consequence of the acquisition that was conducted by Hong Kong-based company CITIC Pacific Ltd in 2014 which had a large deal value of 42 247.46 M $.

Table 5. Summary of acquisitions in the sample

Panel A: Summary of acquisitions - Whole sample

| Year | Number of deals | Total deal value M $ | Median deal value M $ |
|---|---|---|---|
| **2014** | 63 | 66 521.04 | 72.00 |
| **2015** | 59 | 14 982.53 | 54.00 |
| **2016** | 56 | 10 791.09 | 37.51 |
| **Total** | 178 | 92 294.66 | 59.02 |

Panel B: Summary of acquisitions - By country of the acquirer

| Country | Number of deals | Total deal value M $ | Median deal value M $ |
|---|---|---|---|
| **Australia** | 5 | 181.91 | 24.29 |
| **Belgium** | 3 | 6 262.53 | 434.32 |
| **Canada** | 14 | 3 560.44 | 51.43 |
| **Finland** | 1 | 30.68 | 30.68 |
| **France** | 4 | 784.03 | 59.00 |
| **Germany** | 5 | 2 158.90 | 376.23 |
| **Hong Kong** | 32 | 51 505.81 | 116.42 |
| **Ireland** | 1 | 225.20 | 225.20 |
| **Israel** | 2 | 2 316.82 | 1158.41 |
| **Italy** | 2 | 27.23 | 13.62 |
| **Japan** | 26 | 1 490.48 | 25.84 |
| **Netherlands** | 2 | 500.84 | 250.42 |
| **Norway** | 3 | 442.09 | 130.65 |
| **Singapore** | 12 | 941.13 | 38.48 |
| **Spain** | 3 | 133.32 | 40.28 |
| **Sweden** | 6 | 1 726.70 | 85.11 |
| **Switzerland** | 5 | 143.70 | 29.78 |
| **UK** | 20 | 2 621.79 | 41.54 |
| **USA** | 32 | 17 241.06 | 99.99 |
| **Total** | 178 | 102 498.69 | 59.02 |

Panel C: Summary of acquisitions - By country of the target

| Country | Number of deals | Total deal value M $ | Median deal value M $ |
|---|---|---|---|
| **Argentina** | 4 | 128.34 | 25.40 |
| **Chile** | 7 | 7 003.74 | 438.75 |
| **China** | 47 | 52 795.70 | 74.74 |
| **Colombia** | 5 | 473.00 | 74.36 |
| **Czech Republic** | 9 | 2 962.61 | 41.82 |
| **Egypt** | 5 | 940.28 | 36.00 |
| **Greece** | 3 | 677.05 | 11.02 |
| **Hungary** | 1 | 27.55 | 27.55 |

| | | | |
|---|---|---|---|
| **India** | 15 | 2 232.14 | 80.78 |
| **Indonesia** | 7 | 292.98 | 25.30 |
| **Malaysia** | 8 | 503.64 | 49.33 |
| **Mexico** | 16 | 10 510.35 | 206.19 |
| **Peru** | 2 | 31.10 | 15.55 |
| **Philippines** | 1 | 181.00 | 181.00 |
| **Poland** | 2 | 158.67 | 79.34 |
| **Russia** | 1 | 46.19 | 46.19 |
| **Saudi Arabia** | 4 | 420.72 | 78.86 |
| **South Africa** | 10 | 3 966.00 | 28.03 |
| **South Korea** | 13 | 7 418.54 | 21.70 |
| **Taiwan** | 3 | 123.54 | 37.21 |
| **Thailand** | 5 | 560.11 | 84.40 |
| **Turkey** | 7 | 683.42 | 72.00 |
| **United Arab Emirates** | 3 | 158.00 | 60.00 |
| **Total** | 178 | 102 498.69 | 59.02 |

32 acquisitions were conducted by companies based in Hong Kong and the USA, representing the largest share of the sample. When it comes to the target companies, as anticipated, the Chinese companies represented the largest share of target companies with 47 acquisitions followed by Mexico and India with 16 and 15 acquisitions respectively.

The classification of acquisitions as horizontal, vertical, and conglomerate was done by using the 4-digit SIC codes of the acquirer and the target. The first two digits represent the broad business classification and the latter two are used to further define the classification (SEC 2022). If the acquirer and the target had the completely same SIC code, the acquisitions were classified as horizontal. If the first two digits were the same but the latter two different, the acquisitions were classified as vertical. If the SIC code was completely different, the acquisitions were classified as a conglomerate. The classification of the size of the acquirer was first done by calculating the median market capitalization of the complete sample. If the acquirer had a market capitalization over the median it was classified as large and if the market capitalization was below the median, it was classified as small. This division was made to get equally representative sample sizes which improve comparability. The information on the method of payment was provided directly by Refinitiv Eikon's M&A screener.

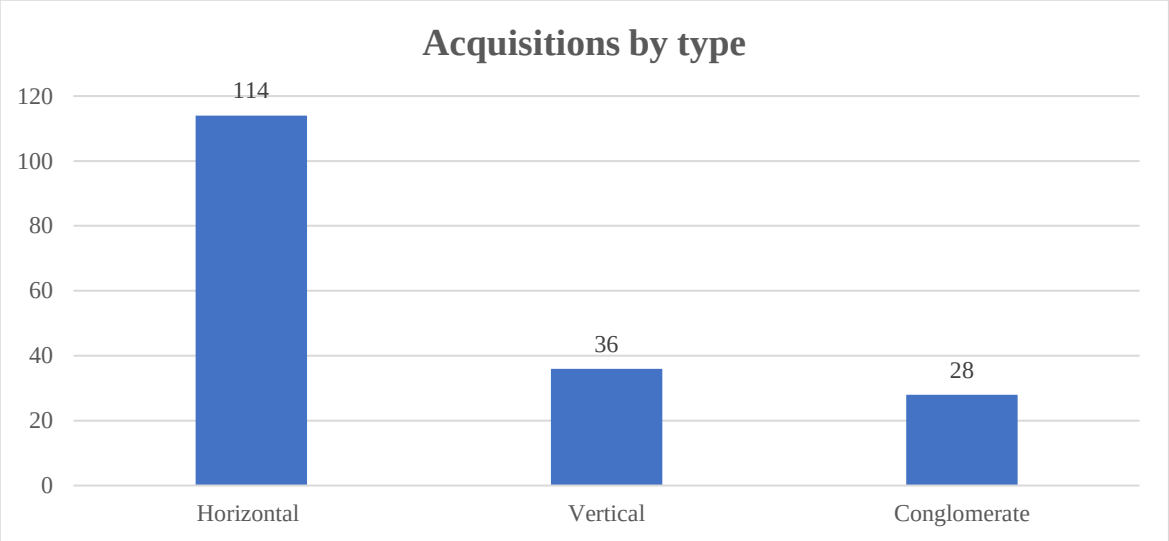


Figure 6. Acquisitions by type

As can be seen from Figure 6 above, from the complete sample, 114 transactions were classified as horizontal, 36 as vertical, and 28 as a conglomerate. As shown in Figure 7, 108 acquisitions were financed with cash, representing the most common payment method. Stock and hybrid payments were far less common with 13 stock-financed payments and 16 hybrid-financed transactions. There were 41 transactions that lacked information on the method of payment.

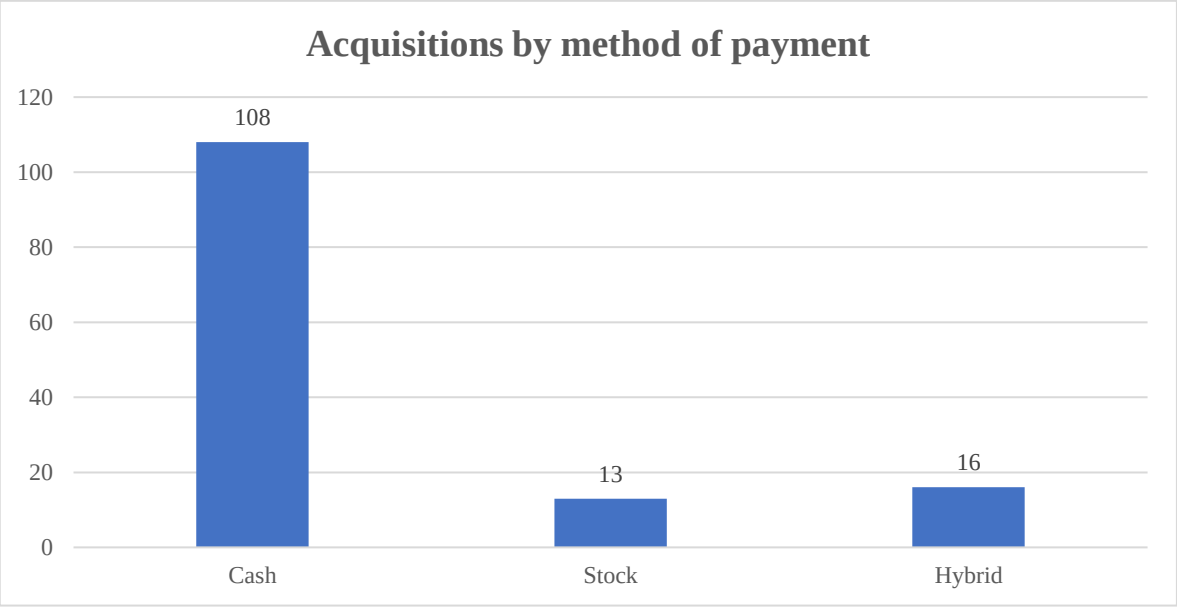


Figure 7. Acquisitions by the method of payment

## 5.2 Event Study

This research uses event study methodology to capture the effect of acquisitions on shareholder wealth which is measured by abnormal returns. An event study is a methodology that uses market data to measure the impact of a specific event on the value of the firm. Event study relies on the assumption that the markets are efficient, and the effects caused by the event are reflected instantly in the security prices. Therefore, the effect of the event's impact can be modelled by using security prices that are observed during a short time period around the announcement date of the acquisition. One of the benefits of event study methodology is that it rules out the use of accounting-based measures which have been subject to criticism since they can be manipulated by the management and rely on selected accounting standards and procedures. Stock returns cannot be manipulated by insiders since the stock prices are assumed to reflect the true value of firms. Event study methodology has also been subject to criticism which is mostly focused on the strict assumptions underlying this methodology. Event study relies on the assumption that: 1) The event under observation was unanticipated, 2) There were no other confounding events that occurred during the event window, and 3) The markets are efficient. (MacKinlay 1997; McWilliams & Siegel 1997).

The first step in the event study is to identify the event that is investigated. This can be for example merger, acquisition, or significant news. In this study, the event under investigation is the announcement of an acquisition. After the selection of an event, the event window needs to be decided. The event window is the period over which the stock returns are investigated. It is beneficial to define the event window being larger than the event under consideration, in order to examine the days surrounding the event. The announcement of an acquisition happens on a particular day, so the days surrounding that are examined. The estimation window is the period that takes place prior to the event window, and it is needed to calculate the parameter for expected normal returns. (MacKinley 1997)

The event window in this study is set to be 21 days [-10, +10]. Different time windows ranging from one-day windows of [0] and [+1] as well as multiple-day windows of [-2, +2], [0, +1], [0, +2], and [0, +5] are used to examine the impact of the announcement more thoroughly. The 21-day period is used as the event window is then wide enough to examine the period surrounding the event day. This is done to examine whether there are cumulative abnormal returns present before the announcement of an acquisition. High cumulative

abnormal returns before the announcement could signal that the information about the deal could have been leaked. The estimation window in this study is set to be 250 trading days before the event window. The timeline of this research's event study is presented visually in Figure 8.

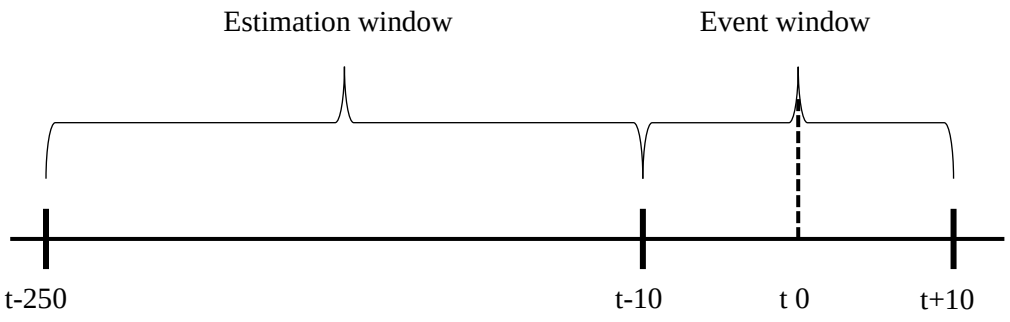


Figure 8. Event study timeline

The abnormal returns that are used in this study to capture the short-term impact are defined as the actual return deducted by a benchmark return. Benchmark return, i.e., the expected return is usually calculated with the market model such as with the capital asset pricing model (CAPM), Fama-French three-factor model, or more simplistically by using a broad market index such as S&P 500.

Event studies that use the abnormal return methodology rely on the assumption that the markets are forward-looking, and security prices are a representation of the present value of expected future cash flows for the shareholders. Since 1970, abnormal returns have been a widely used approach in short-run event studies to evaluate the performance of the acquirer (Martynova & Renneboog 2008). As a performance measure, abnormal returns, and extensions such as cumulative abnormal returns (CARs) and controlled abnormal returns (CTARs) have been the most popular method. These measures form the base in the evaluation of short-term returns (Antoniou, Petmezas & Zhao 2007; Doukas & Petmezas 2007; Billet & Qian 2008; Bruner 2004)

The short-term event study analysis in this research is based on abnormal returns around the announcement date of the deal. Abnormal returns are calculated by deducting the expected returns, which are calculated with the market model from the actual returns. To calculate the abnormal returns, individual stock returns need to be calculated. Logarithmic returns are

used in this study in order to obtain normally distributed results. The calculation of logarithmic returns of each stock and market index are presented in Equations 1 and 2 respectively.

$$R_{it} = \ln\left(\frac{P_{it}}{P_{it-1}}\right) \quad (1)$$

$R_{it}$ = Logarithmic return of stock $i$ at the time $t$

$P_{it}$ = Price of the stock $i$ at time $t$

$P_{it-1}$ = Price of the stock $i$ at time $t - 1$

$$R_{mt} = ln\left(\frac{I_t}{I_{t-1}}\right) \quad (2)$$

$R_{mt} = Logarithmic\ return\ of\ market\ index\ at\ the\ time\ t$

$I_t = Price\ of\ the\ market\ index\ at\ time\ t$

$I_{t-1} = Price\ of\ the\ market\ index\ at\ time\ t - 1$

After the calculation of logarithmic returns for each stock, the expected returns are calculated using the market model which is presented in Equation 3. The market model correlates the return of the security to the return of the used market index by assuming a linear relationship between them (Martynova & Renneboog 2008). This research uses MSCI world as the market index since it captures large and mid-cap representation across 23 developed markets. MSCI world is a good market index for this study since the focus is on developed market acquirers.

$$E(R_{it}|X_t) = \alpha + \beta R_{mt} + \varepsilon \quad (3)$$

$E(R_{it}|X_t) =$ Expected logarithmic return of stock $i$ at time $t$

$\alpha =$ Intercept/alpha

$\beta =$Beta coefficient/slope

$R_{mt}$ = Logarithmic return of the market index at time $t$

$\varepsilon =$ Epsilon/error term

Parameter Alpha and Beta are calculated with Excel's slope and intercept functions. As has been stated above, the parameters are calculated 250 days prior to the event window. Once expected returns have been obtained, abnormal returns can be calculated (Equation 4).

$$AR_{it} = R_{it} - E(R_{it}|X_t) \quad (4)$$

$AR_{it} =$ Abnormal return of the stock $i$ at time $t$

$R_{it} =$ Logarithmic return of stock $i$ at the time $t$

$E(R_{it}|X_t) =$ Expected logarithmic return of stock $i$ at time $t$

Cumulative abnormal returns are calculated for the time periods that Exceed the announcement day. These are [-10, +10], [-2, +2], [0, +1], [0, +2] and [0, +5]. Cumulative abnormal returns for each stock are calculated by summing up each day's abnormal returns in the event window. Equation 5 presents the calculation of cumulative abnormal returns.

$$CAR_i = \sum_{i=1}^{N} AR_{it} \quad (5)$$

In the formula, *N* refers to the sample size. In order to get a holistic understanding of the impact of acquisitions to the whole sample, the average is calculated from both abnormal returns and cumulative abnormal returns. Equations 6 and 7 present the calculations of average values for ARs and CARs respectively.

$$\overline{AR_t} = \frac{\sum_{i=1}^{N} AR_{it}}{N} \quad (6)$$

$$\overline{CAR_t} = \frac{\sum_{i=1}^{N} CAR_{it}}{N} \quad (7)$$

The statistical significance will be tested with the procedure introduced by Vaihekoski (2004, 233). The calculation of test statistic $J_1$ is presented in Equation 8 below.

$$J_1 = \frac{CAAR(t_1, t_2)}{\sqrt{\sigma^2(t_1, t_2)}} \sim N(0,1) \quad (8)$$

$CAAR(t_1, t_2)$
$= Cumulative\ average\ abnormal\ return\ during\ time\ window\ of\ (t_1, t_2)$

The variance for the complete sample is calculated as follows:

$$\sigma^2(t_1, t_2) = \frac{1}{N^2}\sum_{i=t}^{N}(t_2 - t_1 + 1)\sigma^2\,(e_{it}) \tag{9}$$

$\sigma^2(t_1, t_2) = variance\ of\ the\ complete\ sample\ during\ time\ window\ of\ (t_1, t_2)$

$\sigma^2(e_t) = Estimation\ window\ variance\ of\ stock\ i\ at\ estimation\ window\ time\ t$

In addition to analysing abnormal returns for the whole sample, this study follows Fuller et al. (2002) approach to controlling the characteristics of the acquirer. This allows getting more insight into the variations in examined acquisitions. This research analyses the impact of the method of payment, size of the acquirer, and type of acquisition with OLS regression that is presented in Equation 10. The dependent variable is CAR [0, +1] and all explanatory variables are dummy variables. CAR [0, +1] is chosen as the dependent variable since hypotheses H1 and H2 are most focused on the abnormal return on the announcement day and a few days after the acquisition.

$$\begin{aligned} CAR[0,+1] = {} & \beta_0 + \beta_1 Cash\ payment_t + \beta_2 Stock\ payment_t + \beta_3 Hybrid\ payment_t \\ & + \beta_4 Large\ acquirer_t + \beta_5 Small\ acquirer_t + \beta_6 Horizontal\ acquisition_t \\ & + \beta_7 Vertical\ acquisition_t + \beta_8 Conglomerate\ acquisition_t + \varepsilon_t \end{aligned} \tag{10}$$

$\beta_1 Cash\ payment_t$
$= Takes\ value\ of\ 1, if\ the\ acquisition\ was\ financed\ with\ cash\ payment.$

$\beta_2 Stock\ payment_t = Takes\ value\ of\ 1, if\ the\ acquisition\ was\ financed\ with\ stock$ payment.

$\beta_3 Hybrid\ payment_t$
$= Takes\ value\ of\ 1, if\ the\ acquisition\ was\ financed\ with\ hybrid\ payment.$

$\beta_4 Large\ acquirer_t = Takes\ value\ of\ 1, if\ the\ acquirer\ is\ classified\ as\ large.$

$\beta_5 Small\ acquirer_t = Takes\ value\ of\ 1, if\ the\ acquirer\ is\ classified\ as\ small.$

$\beta_6 Horizontal\ acquisition_t$
$= Takes\ value\ of\ 1, if\ the\ type\ of\ the\ acquisition\ is\ horizontal.$

$\beta_7 Vertical\ acquisition_t$
$= Takes\ value\ of\ 1, if\ the\ type\ of\ the\ acquisition\ is\ vertical.$

$\beta_8 Conglomerate\ acquisition_t$
$= Takes\ value\ of\ 1, if\ the\ type\ of\ the\ acquisition\ is\ conglomerate.$

## 5.2 Long-Term Stock Performance

The long-term stock performance is also based on event study methodology. The long-term stock price development of the acquirers is measured by calculating buy-and-hold abnormal returns. This methodology is widely used to capture the long-term performance of the acquirer and it has become the standard method of calculating the long-term abnormal returns in the research field of M&A (Barber & Lyon 1997; Lyon, Barber & Tsai 1999; Mitchell & Stafford 2000). BHAR measures the long-term return of investing in companies that conduct acquisitions and capitalizing on these investments at the end of a specified holding period compared to a strategy of investing in non-event firms or in the broad stock index (Mitchell & Stafford 2000). Thus, the method measures whether companies that create acquisitions have been able to generate excess returns over longer time periods.

Barber & Lyon (1997) argue that the BHAR method is the best one since it "precisely measures the investor experience". BHAR has certain advantages compared to other methods. As an example, cumulative average abnormal return (CAAR) which is another popular method, ignores the effects of monthly compounding, and thus, it is considered a biased predictor.

Despite the advantages related to the BHAR methodology, it has received criticism over the years. Mitchell & Stafford (2000) argue that the use of BHAR captures only the experience of buying the asset and holding it until the end of the holding period. However, there are also other methods such as periodic portfolio rebalancing. Problems might also arise from the compounding effect of BHARs. Due to compounding, the abnormal returns are increasing in the holding period, given that abnormal returns exist during any part of the return series.

This means that if there are abnormal returns only during the first months after the event and for example if 3 and 5-year BHAR are calculated, they can be significant, and 5-year BHAR is larger than 3-year BHAR. (Mitchell & Stafford 2000)

In general, prior research has been mixed when it comes to the question of which method returns the complete and less biased estimates (Kothari & Warner 2004). Fama (1998) argues that there isn't a single model for expected returns that could present and identify the complete description of the systematic patterns in abnormal returns. However, as stated above, BHAR has been the most popular method over the years.

Despite the criticism towards BHARs, Loughran & Ritter (1995) argue that the use of BHAR is the appropriate estimator compared to other methods, such as the calendar-time portfolio approach. Calendar-time portfolio approach has been criticized since it cannot detect abnormal performance. This is caused because it returns the average over "cold" and "hot" event activity. For example, if abnormal returns are present during months of "hot" event activity, the calendar-time approach might fail to measure significant abnormal returns.

The calculation of average buy-and-hold abnormal returns for the complete sample is presented in Equation 11 below:

$$BHAR = \frac{1}{N}\sum_{i=1}^{N}\left(\prod_{t=1}^{T}(1 + R_{it}) - \prod_{t=1}^{T}(1 + R_{mt})\right) \quad (11)$$

$T$ = number of months

$r_{it}$ = Return of stock $i$ at time $t$

$R_{mt}$ = Return of the market index at the time $t$

Similarly, as with short-term abnormal returns, the MSCI world is used as a benchmark index against which the abnormal returns are calculated.

The t-test is used to test the statistical significance and robustness of the long-term abnormal returns. The t-test is used to test whether the average buy-and-hold abnormal returns are statistically significant from zero. The use of traditional t-test has been criticised since there

is positive skewness with long-term abnormal returns in the long-term and it might lead to a biased and incorrect test statistic. (Barber & Lyon 1997). Lyon et.al (1999) recommend using skewness-adjusted t-statistic, which eliminates the bias. Skewness-adjusted test statistic that is used in this study is presented in Equations 12, 13, and 14 below:

$$T_{sa} = \sqrt{n} * (S + \frac{1}{3}\hat{\gamma}S^2 + \frac{1}{6n}\hat{\gamma}) \quad (12)$$

$T_{sa}$ = Skewness-adjusted test-statistic

$N = Number\ of\ acquisitions\ in\ the\ complete\ sample$

$$S = \frac{\overline{BHAR_t}}{\sigma(BHAR_t)} \quad (13)$$

$\overline{BHAR_t} = Average\ BHAR\ for\ the\ time\ window\ t$

$\sigma(BHAR_t) = Standard\ deviation\ of\ BHARs\ for\ the\ time\ window\ t$

$$\hat{\gamma} = \frac{\sum_{i=0}^{n}(BHAR_{it} - \overline{BHAR_t})^3}{N\sigma(BHAR_t)^3} \quad (14)$$

$BHAR_{it} = BHAR\ for\ the\ stock\ i$ at time $t$

# 6. Results

This chapter discusses the results that were obtained using the event study methodology for short- and long-term abnormal returns. First, the short-term stock price reaction to the announcement of acquisition was examined using an event study methodology that involved the use of AARs and CAARs as a measure of excess returns. The event study was first conducted on the whole sample consisting of 178 transactions. After this, the impact of different characteristics of the transaction and acquirer was examined by comparing different payment types of the transaction, the size of the acquirer, and the type of the acquisition whether it is horizontal, vertical, or conglomerate. After the short-term event study, the long-term returns were analysed using BHARs.

## 6.1 Event study

The event study methodology was used to address the first two research questions, "What is the short-term market reaction to the acquirer's stock price when the developed market acquirers conduct acquisitions of target firms from emerging markets?" and "Does short-term market reaction differ between acquisitions with the different deal and acquirer specific factors?". Hypotheses *H1, H2,* and *H4-H6* were consequently examined. As discussed in the literature review, the results from prior research have been quite mixed. General research on event studies and abnormal returns suggests that there is a negative short-term stock reaction (Martynova & Renneboog 2008). However, when the examination is limited to developed market acquirers that acquire target companies from emerging markets, the prior research suggests that on average, the developed market acquirers have achieved positive abnormal returns during short time windows (Chari, Ouimet & Tesar 2004b; Francis et.al 2008; Chari et.al 2010; Bednarczyk et.al 2010 & Sharma & Raat 2016). The results of the event study with the complete sample are illustrated in Table 6 below.

Table 6. Short-term stock price reaction - whole sample

| Short-term stock price reaction - whole sample | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.30 % | 1.06 %* | 0.24 % | 1.69 %* | 1.53 %* | 1.35 %* | 1.58 % * | 1.41 %* |
| variance | 0.002 | 0.011 | 0.003 | 0.012 | 0.014 | 0.012 | 0.014 | 0.018 |
| Min | -17.69 % | -77.12 % | -24.36 % | -63.90 % | -60.70 % | -63.45 % | -56.49 % | -40.73 % |
| Max | 31.034 % | 91.39 % | 54.30 % | 75.44 % | 60.67 % | 91.16 % | 90.94 % | 112.04 % |
| N | 178 | 178 | 178 | 178 | 178 | 178 | 178 | 178 |
| Probability test | | | | | | | | |
| T stat | 1.043 | 3.647 | 0.828 | 3.374 | 2.363 | 3.282 | 3.148 | 1.981 |
| P-value | 0.299 | 0.0003 | 0.409 | 0.0004 | 0.009 | 0.001 | 0.001 | 0.02 |

*Statistically significant at 95 % confidence level

The complete sample included 178 transactions that were conducted between 2014-2016. When examining the average abnormal returns and cumulative average abnormal returns it can be observed that during all time windows, the returns are positive. Abnormal returns during the event window varied a lot which can be seen by looking at the high variances in all time windows except [0] and [2]. When first examining the one-day time windows, it can be observed that the highest return 1.06 % was obtained one day after the announcement of the acquisition. This result is also the only statistically significant out of one-day windows. During event windows of [0] and [1], the acquirers obtained lower but still positive abnormal returns of 0.30 % and 0.24 % that were however not statistically significant. These results are in line with the research of Sharma & Raat (2016) since the reactions during the one-day windows are positive. The cumulative average abnormal returns are positive and statistically significant during all the time periods. The highest average cumulative abnormal returns of 1.69 % and 1.58 % are achieved during the time windows of [-1, +1] and [0, +2] respectively. The lowest cumulative abnormal return is achieved during the time window of [0, +1].

AR [1] is examined more thoroughly with the histogram that illustrates the distribution of cumulative average abnormal returns across the complete sample. Specifically, AR [1] is examined since it is the only statistically significant out of one-day time windows and has the highest difference between min and max abnormal returns within the sample. As can be seen from the histogram, abnormal returns are quite normally distributed and 69.1 % of the returns are positive and 30.9 % are negative. The red vertical line present returns between 0.00 % and 0.99 %.

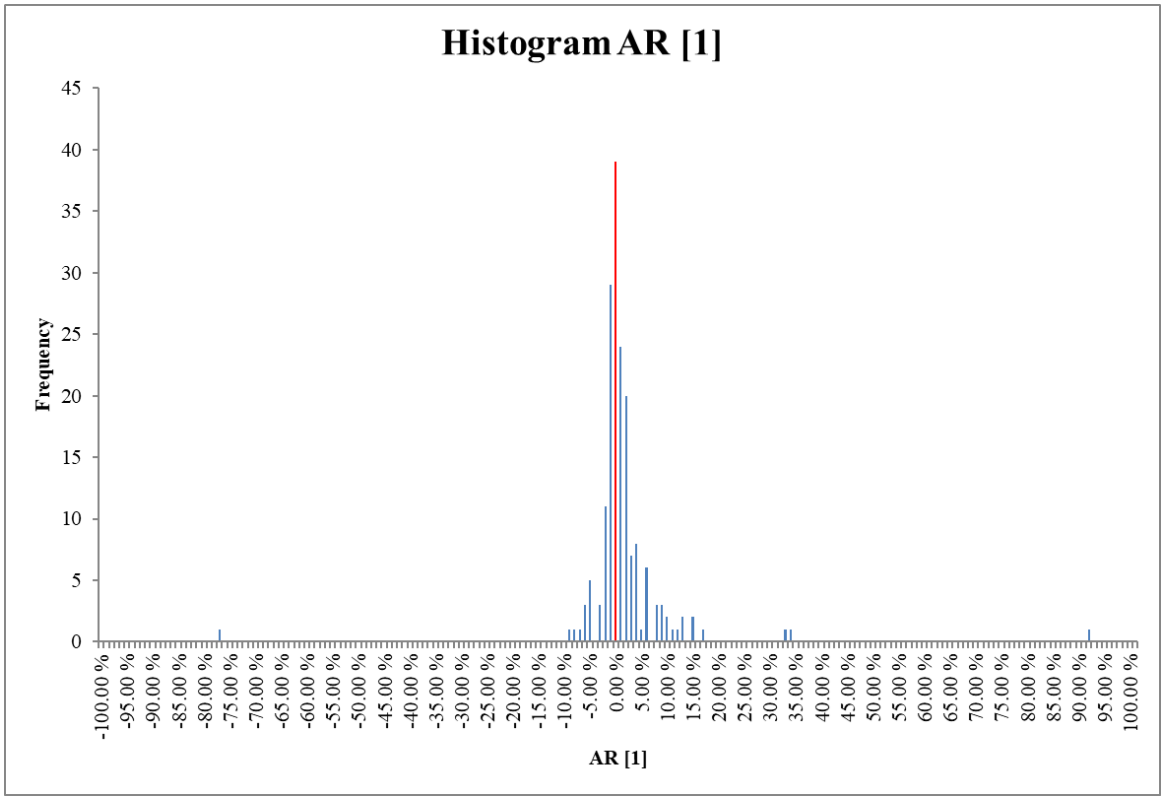


Figure 9. Histogram of the distribution of abnormal returns at the time window [1] for the complete sample

Along with the one-day window of AR [1], the cumulative abnormal returns of the time window [-1, +1] were examined with the histogram as well. As shown in figure 10, the distribution of CAR [-1, +1] is slightly skewed to the right side. However, it is important to notice that CAR [-1, +1] is the cumulative abnormal return of 3 days, whereas AR [1] is the abnormal return of one day. Thus, with CAR [-1, +1] it is expected that the distribution of returns has more variability.

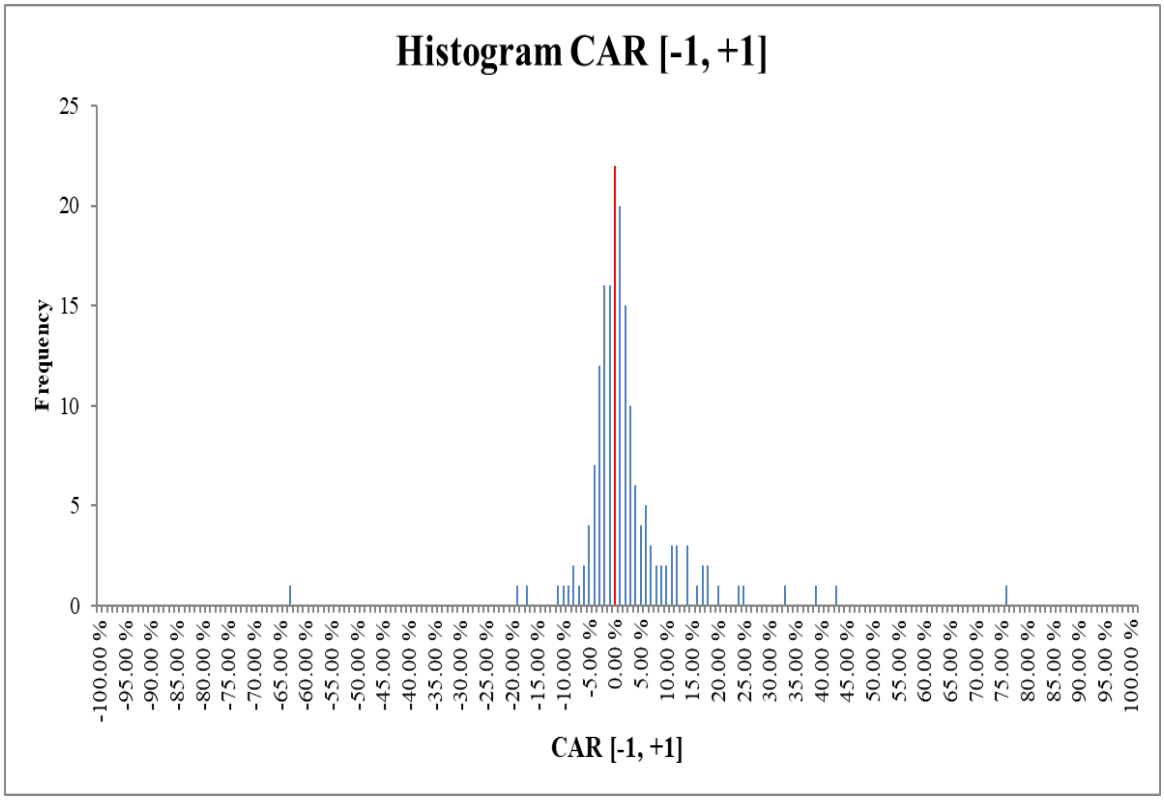


Figure 10. Histogram of the distribution of cumulative abnormal returns at time window [-1, +1] for the complete sample.

The results are in line with prior research on DM-EM sample (Chari et.al 2004a; Francis et.al 2008; Chari et.al 2010; Bednarczyk et.al 2010 & Sharma & Raat 2016) from the standpoint that the reaction was positive. However, the returns are significantly higher compared to the prior research which indicates that there is a clear positive and statistically significant reaction to the acquisition. The cumulative daily abnormal returns for the time period [-10, +10] can be seen in Figure 11. By examining the days before the announcement [0], it can be visually observed that there aren't any noticeable abnormal returns before the announcement. Thus, there aren't signs that the information regarding acquisitions would have leaked to the public before the actual announcement. The cumulative effect seems to continue for 3 days after the announcement of an acquisition. On day 4, the cumulation effect stops which can be seen from the downward-sloping curve. Based on the observation that the reaction after the announcement is positive and the abnormal returns will fade away quickly, hypotheses 1 and 2 remain valid.

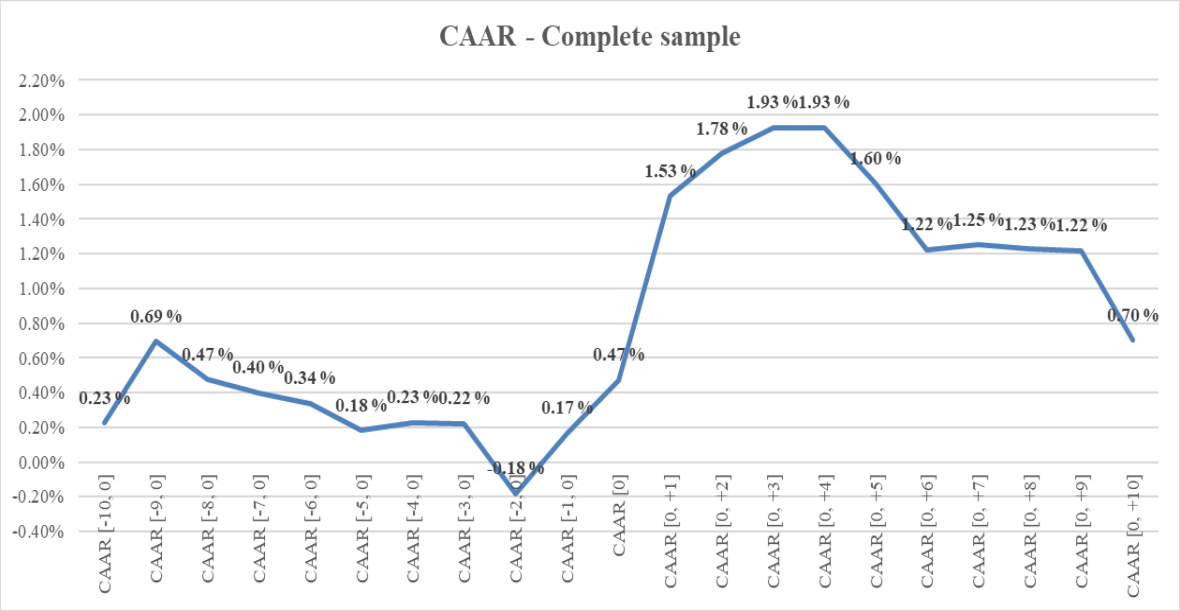


Figure 11. 21-day cumulative daily abnormal returns for the complete sample

Although the cumulative abnormal returns seem to decrease over time, there are abnormal returns present on the days after the acquisition. The results during longer time periods are also statistically significant which indicates that the markets are not efficient since the abnormal returns are present also on the days after the acquisition. Table 7 presents the short-term stock reaction when the transactions method of payment has been cash.

Table 7. Short-term stock price reaction - Cash payment

| Short-term stock price reaction - Cash payment | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.33 % | 2.04 %* | -0.43 % | 2.49* | 1.39* | 2.37* | 1.93 %* | 2.07* |
| variance | 0.002 | 0.011 | 0.001 | 0.013 | 0.012 | 0.013 | 0.016 | 0.021 |
| Min | -17.69 % | -8.29 % | -24.36 % | -19.17 % | -28.83 % | -21.03 % | -26.80 % | -40.73 % |
| Max | 31.04 % | 91.39 % | 13.87 % | 75.44 % | 38.66 % | 91.16 % | 90.94 % | 112.04 % |
| N | 108 | 108 | 108 | 108 | 108 | 108 | 108 | 108 |
| Probability test | | | | | | | | |
| T stat | 1.073 | 6.684 | -1.416 | 4.710 | 2.036 | 5.485 | 3.661 | 2.776 |
| P-value | 0.286 | 0.0000 | 0.160 | 0.0000 | 0.021 | 0.000 | 0.000 | 0.00 |

*Statistically significant at 95 % confidence level

Average abnormal returns of 0.33 % and 2.04 % are positive during the one-day time periods of [0] and [1] respectively. However, only the average abnormal return during [1] is statistically significant. Abnormal returns on the second day after the announcement is on

average negative -0.43 % which suggests that the cumulation effect stops after +1 day after the announcement. However, this result is not statistically significant. Nevertheless, when looking at cumulative abnormal returns, it can be observed that the returns are positive in each time window, and they are all statistically significant. Positive CARs are obtained especially in time windows of [-1, +1] and [0, +1] with average cumulative abnormal returns of 2.49 % and 2.37 % respectively. These results are in line with Bhagat et.al (2005) and Savor & Lu (2009) but the short-term positive reaction is higher. Consistent with prior research, cash was the dominant method of payment in this sample with 79 % of the sample consisting of cash-financed transactions. This could also skew the sample by showing that cash-financed transactions would perform better than other financing methods. Table 8 presents the short-term stock reaction to acquisitions where the method of payment has been stock.

Table 8. Short-term stock price reaction - Stock payment

| Short-term stock price reaction - Stock payment | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.81 % | -7.16 %* | 7.31 %* | -4.41 % | 3.86 % | -6.34 %* | 0.97 % | 2.70 % |
| Variance | 0.002 | 0.043 | 0.021 | 0.033 | 0.065 | 0.032 | 0.051 | 0.043 |
| Min | -3.96 % | -77.12 % | -1.52 % | -63.90 % | -60.70 % | -63.45 % | -56.49 % | -39.04 % |
| Max | 13.67 % | 8.61 % | 54.30 % | 15.64 % | 60.67 % | 14.21 % | 47.50 % | 52.05 % |
| N | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| Probability test | | | | | | | | |
| T stat | 0.304 | -2.683 | 2.741 | -0.955 | 0.648 | -1.682 | 0.209 | 0.414 |
| P-value | 0.766 | 0.0188 | 0.017 | 0.1697 | 0.259 | 0.046 | 0.417 | 0.34 |

*Statistically significant at 95 % confidence level

The sample of companies that used stock payment was quite limited compared to the sample of companies that used cash payment. The average abnormal returns between one-day windows differ quite significantly. Especially there's a large difference between the abnormal return of -7.16 % in AR [1] and 7.31 % in AR [2]. Both are statistically significant. It is especially interesting to notice that there is a large gap between the minimum and maximum returns of AR [2]. Visual examination is provided in histogram 12 below. When looking at the distribution, only one observation obtains negative abnormal returns, and the rest are positive. Thus, the reaction is positive across the sample

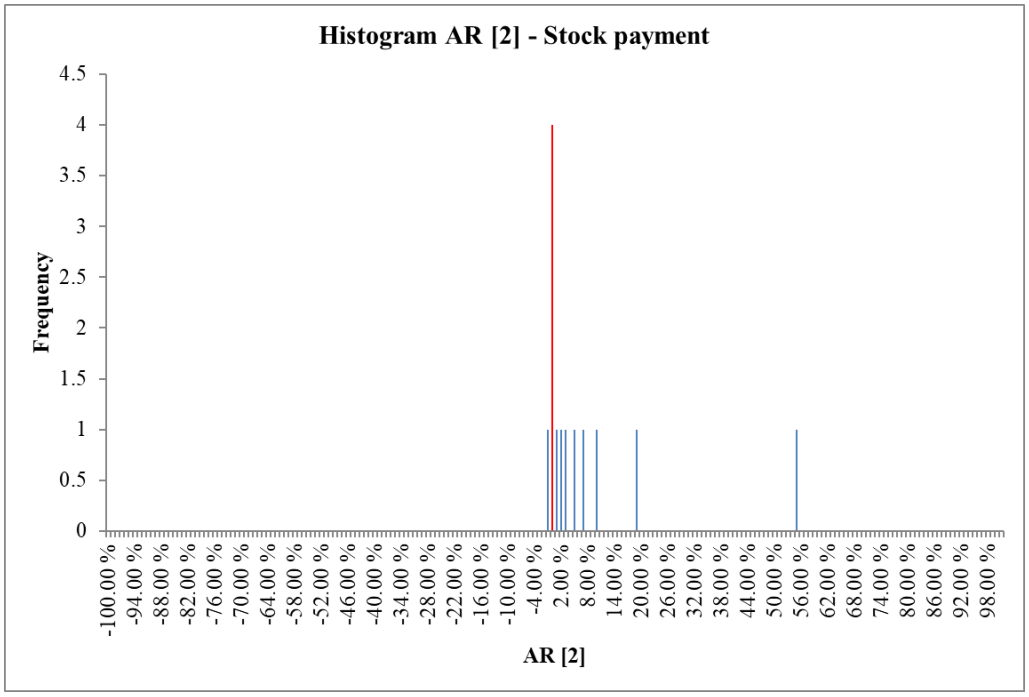


Figure 12. Histogram of the stock-financed acquisitions abnormal returns distribution at time window [2].1

During multiple-day time windows, the results are mixed. However, only the average cumulative abnormal return of -6.34 % during CAR [0, +1] is statistically significant. These results are not entirely in line with prior research since in some time periods, e.g., in AR [2] and CAR [-1, +1] the companies that used stock as a method of payment performed better. Thus, the results are different compared to the research of Datta et.al (1992) and Savor & Lu (2009) who concluded that stock-financed transactions resulted in negative short-term returns regardless of the time window. Due to the small sample size, the data might contain outliers which could bias the results.

Table 9. Short-term stock price reaction – Hybrid payment

| Short-term stock price reaction - Hybrid payment | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.71 % | 4.15 %* | -0.93 % | 5.92 %* | 5.37 %* | 4.86 %* | 3.93 %* | 0.39 % |
| Variance | 0.002 | 0.003 | 0.000 | 0.007 | 0.008 | 0.006 | 0.005 | 0.011 |
| Min | -13.47 % | -6.41 % | -5.27 % | -9.95 % | -7.48 % | -10.04 % | -7.45 % | -23.50 % |
| Max | 8.00 % | 14.03 % | 2.59 % | 23.24 % | 18.76 % | 21.75 % | 18.91 % | 15.82 % |
| N | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Probability test | | | | | | | | |
| T stat | 0.879 | 5.132 | -1.150 | 4.224 | 2.967 | 4.250 | 2.807 | 0.281 |
| P-value | 0.392 | 0.0001 | 0.267 | 0.0000 | 0.002 | 0.000 | 0.003 | 0.39 |

*Statistically significant at 95 % confidence level

Table 9 presents the short-term reaction to acquisitions that are financed with the combination pf cash and stock. Acquisitions that have been financed by hybrid payment generate the highest abnormal returns out of the three different methods of payment. Similar to cash and stock, the average abnormal return during event day is moderate compared to the abnormal returns in AR [1]. Thus, it seems that the markets are reacting to the acquisition one day after the actual event. AR [1] is also the only statistically significant out of one-day time windows. Previous research by Bhagat et.al (2005) suggests that acquirers using hybrid payment have obtained higher short-term returns than acquirers using stock payment. Cumulative average abnormal returns are positive in each time window. Especially high cumulative abnormal returns of 5.92 % and 5.37 % are obtained during time windows of [-1, +1] and [-2, +2] respectively. Similar to the stock payment, the sample is quite small and high short-term returns might be caused by outliers in the sample. Table 10 presents the short-term abnormal returns for larger acquirers.

Table 10. Short-term stock price reaction – Large acquirers

| Short-term stock price reaction - Large acquirers | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.40 % | 0.81 %* | -0.39 % | 1.11 %* | 0.56 % | 1.21 %* | 0.82 %* | 0.90 % |
| Variance | 0.002 | 0.001 | 0.001 | 0.005 | 0.006 | 0.004 | 0.006 | 0.004 |
| Min | -13.47 % | -8.29 % | -24.36 % | -9.95 % | -28.39 % | -10.04 % | -26.80 % | -16.19 % |
| Max | 31.04 % | 16.06 % | 5.01 % | 42.03 % | 38.66 % | 42.56 % | 39.45 % | 29.52 % |
| N | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 59 |
| Probability test | | | | | | | | |
| T stat | 1.744 | 3.587 | -1.729 | 2.823 | 1.105 | 3.770 | 2.079 | 1.612 |
| P-value | 0.086 | 0.0007 | 0.089 | 0.0024 | 0.135 | 0.000 | 0.019 | 0.05 |

*Statistically significant at 95 % confidence level

The short-term returns are positive in each time window, except in AR [2]. However, only AAR [1] and CAARs of [-1, +1], [0, +1], and [0, +2] are statistically significant. The highest return during the one-day time window is 0.81% in AR [1] which is in line with the rest of the sample. When it comes to cumulative abnormal returns, the highest return of 1.11 % was obtained in the 3-day window of [-1, +1]. Table 11 presents the short-term abnormal returns for small acquirers.

Table 11. Short-term stock price reaction – Small acquirers

| Short-term stock price reaction - small acquirers | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.55 % | -0.17 % | 1.15 % | 0.84 % | 1.99 % | 0.34 % | 1.48 % | -0.42 % |
| Variance | 0.001 | 0.014 | 0.006 | 0.012 | 0.020 | 0.013 | 0.017 | 0.017 |
| Min | -5.75 % | -77.12 % | -6.14 % | -63.90 % | -60.70 % | -63.45 % | -56.49 % | -39.04 % |
| Max | 13.67 % | 32.64 % | 54.30 % | 24.89 % | 60.67 % | 31.63 % | 47.50 % | 52.05 % |
| N | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Probability test | | | | | | | | |
| T stat | 0.779 | -0.255 | 1.604 | 0.673 | 1.232 | 0.330 | 0.836 | -0.236 |
| P-value | 0.439 | 0.7997 | 0.114 | 0.2504 | 0.109 | 0.371 | 0.202 | 0.41 |

*Statistically significant at 95 % confidence level

Small acquirers obtain similar returns as large acquirers, but the biggest difference is that none of the returns are statistically significant. The biggest difference during AR [1] is that the return is negative -0.17 % compared to a positive return of 0.81 %, which was obtained by large acquirers during the same time window. Cumulative abnormal returns are positive on almost every time window, but the returns are overall smaller compared to the corresponding returns of large acquirers. Prior literature suggests that small acquirers tend to perform better during short-term windows (Moeller et.al 2004; Kräussl & Topper 2007; Zhao et.al 2018). Thus, the results are contradictory compared to earlier research. However,

the results are in line with the research of Humphery-Jenner & Powell (2014). Table 12 summarizes the short-term abnormal returns of horizontal acquisitions

Table 12. Short-term stock price reaction – Horizontal acquisitions

| Short-term stock price reaction - horizontal acquisitions | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.37 % | 2.15 %* | 0.08 % | 2.57 %* | 2.01 %* | 2.52 %* | 2.60 %* | 2.67 %* |
| Variance | 0.002 | 0.010 | 0.001 | 0.011 | 0.009 | 0.012 | 0.014 | 0.017 |
| Min | -13.47 % | -9.87 % | -24.36 % | -9.95 % | -28.39 % | -10.52 % | -26.80 % | -23.50 % |
| Max | 31.04 % | 91.39 % | 18.16 % | 75.44 % | 38.66 % | 91.16 % | 90.94 % | 112.04 % |
| N | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| Probability test | | | | | | | | |
| T stat | 1.316 | 7.681 | 0.278 | 5.272 | 3.180 | 6.362 | 5.355 | 3.866 |
| P-value | 0.191 | 0.0000 | 0.782 | 0.0000 | 0.001 | 0.000 | 0.000 | 0.00 |

*Statistically significant at 95 % confidence level

According to earlier literature, horizontal acquisitions have created value with synergy creation, increased cost efficiencies, and higher market power. These advantages of horizontal acquisitions have led to higher short-term abnormal returns compared to vertical or conglomerate acquisitions (Huyghebaert & Luypaert 2013). In total 64 % of the acquisitions were horizontal which is also in line with prior research, where the horizontal acquisitions have had the highest share of the total sample (Capron 1999). The result shows that horizontal acquisitions have led to positive short-term abnormal returns in each of the time windows. For one-day time windows, AR [1] had the highest abnormal return of 2.15 % which was also the only statistically significant return out of one-day time windows. Cumulative average abnormal returns were also positive in each of the time windows and especially high during the important time windows of CAR [-1, +1] and CAR [0, +1] where the returns were 2.57 % and 2.52 % respectively. The short-term returns for vertical acquisitions are presented in Table 13 below.

Table 13. Short-term stock price reaction – Vertical acquisitions

| Short-term stock price reaction - vertical acquisitions | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | 0.70 % | -1.96 %* | -0.85 % | -0.72 % | -1.77 % | -1.26 % | -2.14 %* | -3.10 %* |
| Variance | 0.001 | 0.018 | 0.001 | 0.016 | 0.017 | 0.014 | 0.013 | 0.013 |
| Min | -6.05 % | -77.12 % | -8.17 % | -63.90 % | -60.70 % | -63.45 % | -56.49 % | -40.73 % |
| Max | 13.67 % | 12.78 % | 8.99 % | 16.29 % | 18.76 % | 14.21 % | 14.11 % | 16.17 % |
| N | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| Probability test | | | | | | | | |
| T stat | 1.100 | -3.072 | -1.331 | -0.650 | -1.235 | -1.394 | -1.930 | -1.979 |
| P-value | 0.279 | 0.0040 | 0.192 | 0.2579 | 0.108 | 0.082 | 0.027 | 0.02 |

*Statistically significant at 95 % confidence level

For most parts, vertical acquisitions share the same traits as horizontal acquisitions, and researchers such as Goold & Cambell (1998) and Ekkayokkaya & Paudyal (2021) have concluded that in addition to the benefits of horizontal acquisitions, vertical acquisitions could also improve product development and increased capacity utilization. Considering these findings, the results are quite surprising. During one-day time windows, only AR [0] is positive at 0.70 % whereas abnormal returns at AR [1] and AR [2] are negative at -1.96 % and -0.85 % respectively. Results are contrary to horizontal acquisitions in which the returns were positive during each one-day window. The same can be said about cumulative average abnormal returns that are negative on each time window. However, returns during CAR [-1, +1], CAR [-2, +2] and CAR [0, +1] are not statistically significant. The negative returns are partially in line with the research of Ekkayokkaya & Paudyal (2021) who obtained negative cumulative abnormal returns of 0.57 % during CAR [-2, +2]. However, the results indicate that the negative returns are lower in the context of emerging market targets. In addition, a relatively small sample size compared to horizontal acquisitions could decrease the comparability and bias the results. Table 14 presents the short-term returns for conglomerate acquisitions

Table 14: Short-term stock price reaction – Conglomerate acquisitions

| Short-term stock price reaction - conglomerate acquisitions | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | AR [0] | AR [1] | AR [2] | CAR [-1, +1] | CAR [-2, +2] | CAR [0, +1] | CAR [0, +2] | CAR [0, +5] |
| Average | -0.47 % | 0.52 % | 2.31 % | 1.29 % | 3.89 % | -0.04 % | 2.26 % | 2.10 % |
| Variance | 0.002 | 0.002 | 0.011 | 0.006 | 0.026 | 0.005 | 0.015 | 0.024 |
| Min | -17.69 % | -5.81 % | -6.14 % | -17.66 % | -25.56 % | -21.03 % | -20.93 % | -38.19 % |
| Max | 8.49 % | 14.21 % | 54.30 % | 19.69 % | 60.67 % | 12.34 % | 47.50 % | 52.05 % |
| N | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 |
| Probability test | | | | | | | | |
| T stat | -0.393 | 0.429 | 1.914 | 0.618 | 1.444 | -0.026 | 1.084 | 0.710 |
| P-value | 0.697 | 0.6711 | 0.066 | 0.2681 | 0.074 | 0.490 | 0.139 | 0.24 |

*Statistically significant at 95 % confidence level

None of the abnormal returns of conglomerate acquisitions are statistically significant. The results are also quite mixed. In the event day AR [0] the average abnormal return is negative but positive on AR [1] and AR [2]. These results are contradictory with King's (2004) research which saw acquirers obtaining positive returns on the event day. Cumulative average abnormal returns are positive in each time window except for CAR [0, +1] where the CAAR is negative at -0,04 %. It is also important to notice, that the small sample could bias the results.

To further examine the effect of deal and acquirer characteristics, multivariate OLS regression is conducted with CAR of [0, +1] as the dependent variable and method of payment, size of the acquirer, and industry relatedness as independent dummy variables. The results can be seen in Table 15 which presents the results of the two regressions.

Table 15. Results of the OLS regression

Regression with CAR [0, +1] as the dependent variable and deal/acquirer characteristics as the independent variables is presented below. In CAR [0, +1] column, dependent and independent variables are on the left side and coefficient along with standard error in the brackets are displayed on the right side. on Statistical significance column, T-statistic and P-value are presented for each variable All independent variables are categorical.

| **CAR [0, +1]** | | **Statistical significance** | |
|---|---|---|---|
| Intercept | 0.012 | T-Stat | 0.111 |
| | (0,110) | P-value | 0.912 |
| Cash | 0.019 | T-Stat | 0.890 |
| | (0,021) | P-value | 0.375 |
| Stock | -0.055 | T-Stat | -1.513 |
| | (0,036) | P-value | 0.132 |
| Hybrid | 0.056 | T-Stat | 1.649 |
| | (0,034) | P-value | 0.101 |
| Large acquirer | -0.012 | T-Stat | -0.535 |
| | (0,022) | P-value | 0.593 |
| Small acquirer | -0.022 | T-Stat | -0.999 |
| | (0,021) | P-value | 0.319 |
| Horizontal acquisition | 0.008 | T-Stat | 0.073 |
| | (0,109) | P-value | 0.942 |
| Vertical acquisition | -0.024 | T-Stat | -0.214 |
| | (0,110) | P-value | 0.831 |
| Conglomerate acquisition | -0.005 | T-Stat | -0.044 |
| | (0,111) | P-value | 0.965 |
| Observations | 178 | | |
| R2 | 0.074 | | |
| Adjusted R2 | 0.030 | | |

In terms of the coefficients, cash as a payment method has a positive effect on the cumulative abnormal return whereas stock payments have a negative effect. This observation is in line with the prior research (Cebenoyan et.al 1992; Fuller & Glatzer 2003; Danbolt 2004; Datta et.al 2004; Bhagat et.al 2005). Hybrid payments have the highest influence on cumulative abnormal returns.

Both large and small acquirers had a negative effect on the cumulative abnormal return, but large acquirers obtained a higher coefficient. This finding is in line with the research of Humphery-Jenner & Powell (2014) But contradictory to studies of Moeller, Schlingemann & Stultz (2004) and Kräussl & Topper (2007).

Prior research has been quite unanimous that horizontal acquisitions create higher value compared to vertical or conglomerate acquisitions (Huyghebaert & Luypaert 2013; Dutta & Jog 2009; Capron 1999; Bhattacharyya & Nain 2011) Same results are obtained in this study since the horizontal acquisitions have a positive effect to the cumulative abnormal return. Surprisingly conglomerate acquisitions performed better than vertical acquisitions.

However, none of the independent variables are statistically significant which indicates that the examined deal and acquirer characteristics have no influence on the cumulative average abnormal returns. Also, the explanatory power of the regression is quite low with an adjusted R2 of 0.030. Thus, hypothesis H4-H6 can be fully rejected.

## 6.2 Long-term abnormal returns

The event study methodology was also used to examine the long-run buy-and-hold abnormal returns to interpret what has been the long-term effect of the acquisition on the stock price. Thus, this section of the research seeks to find an answer to hypothesis 2. Prior research suggests that on longer periods following an acquisition, the long-run abnormal returns have been negative (Loughran & Vijh 1997d; Gregory 2005; Dutta & Jog 2009). The long-term returns for the whole sample are presented in Table 16.

Table 16. Long-term stock price reaction

| Long-term stock price reaction -whole sample | | | |
|---|---|---|---|
| | BHAR [12] | BHAR [24] | BHAR [36] |
| Average | -0.88 % | -8.65 %* | -13.76 %* |
| Variance | 0.2921 | 0.4347 | 0.7125 |
| Min | -126.30 % | -115.32 % | -139.42 % |
| Max | 391.31 % | 396.79 % | 387.18 % |
| N | 136 | 136 | 136 |
| Probability test | | | |
| T stat | -1.062 | -9.783778958 | -14.67179213 |
| P-value | 0.144 | 6.6E-23 | 4.9E-49 |

*Statistically significant at 95 % confidence level

The results indicate that after 12 months of the acquisition the average return is -0.89 % which indicates a slightly negative return. However, this result is not statistically significant. During 24-month and 36-month periods, the return is also negative at -8.66 % and -13.76 % respectively. During these time periods, the returns are also statistically significant. Thus, it can be concluded that companies that conducted acquisitions have underperformed the selected benchmark index in the long run following the acquisition. The results are in line with prior research (Loughran & Vijh 1997; Gregory 2005; Dutta & Jog 2009). As can be seen from the histogram of BHAR [12] below, there are few outliers but otherwise, it can be visually examined that most of the observations lay between -40 % and 40 %. From the complete sample, 49.26 % of the BHARs are negative and 50.74 % are positive.

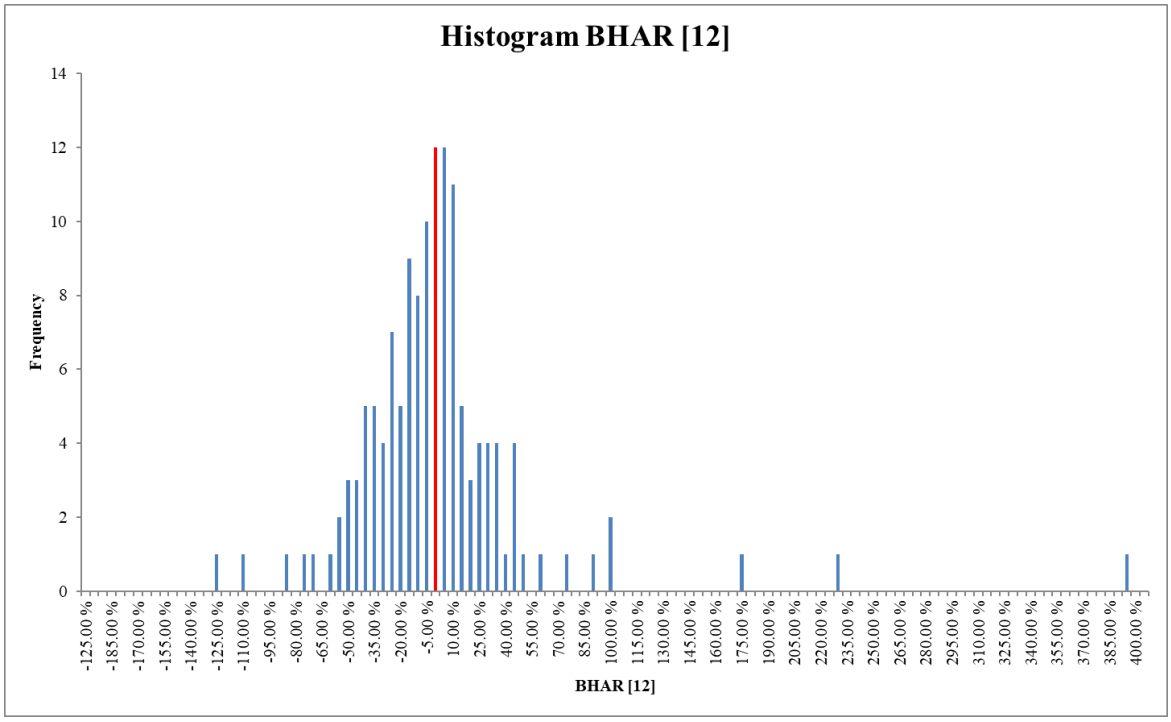


Figure 13. Histogram of the distribution of buy-and-hold abnormal returns during time window of [12].

The visual examination of 24-month buy-and-hold returns is presented in figure 14 below. As can be seen from the histogram, there are more outliers compared to 12-month BHARs. This is however expected since buy-and-hold returns include the compounding effect over time. The BHARs are skewed to the left side, and 61.8 % of the returns are negative and 38.2 % are positive.

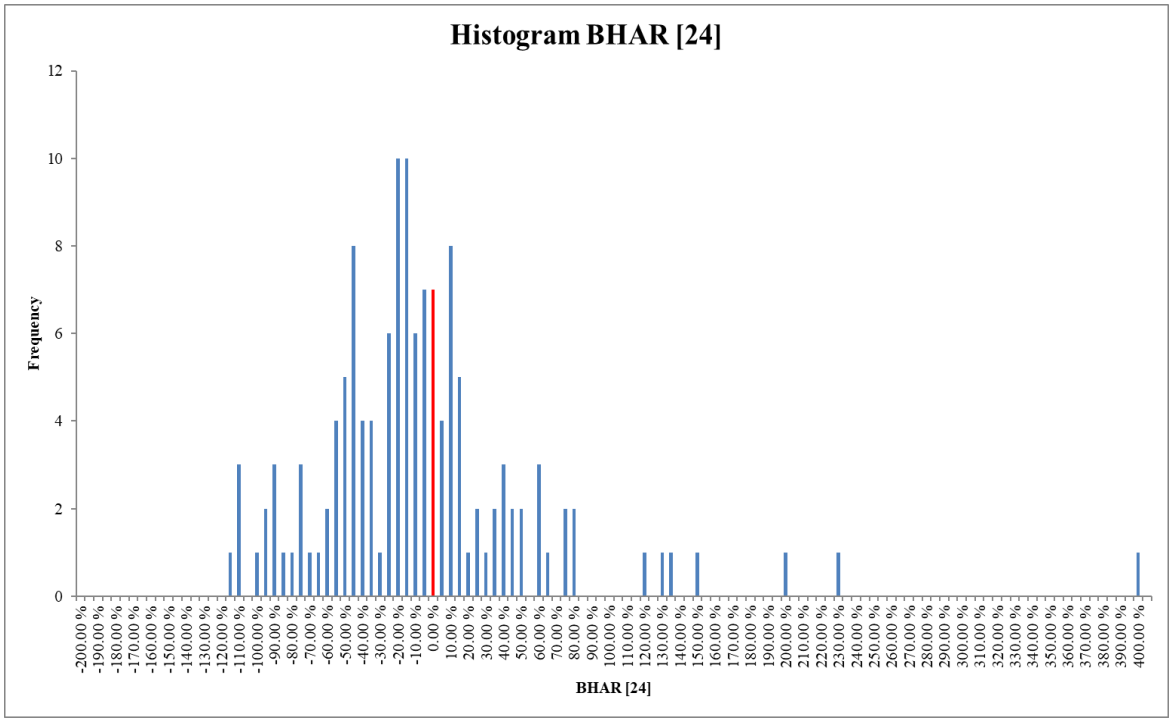


Figure 14. Histogram of the distribution of buy-and-hold abnormal returns during time window of [24].

Finally, a histogram of 36-month buy-and-hold returns is presented in figure 15 below. The BHARs during the longest time period of 36 months are even more skewed to the left compared to 24-month BHARs. This is also observed from the distribution of the BHARs, since 66.29 % of the returns are negative and 33.1 % are positive. Considering these results, hypothesis 3 remains valid.

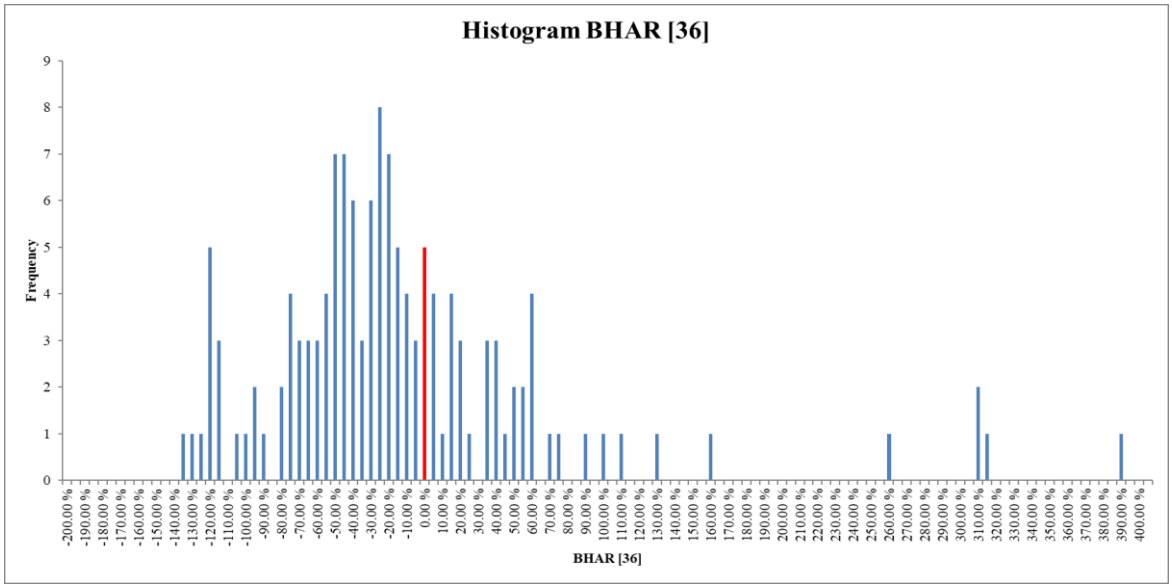


Figure 15. Histogram of the distribution of buy-and-hold abnormal returns during the time window of [36].

When comparing the long-term performance to short-term performance, the results are contradictory since for the whole sample the short-term abnormal returns are positive during each event window whereas the long-run returns are negative during each time period. However, it is important to notice that the sample size is smaller in the calculation of long-run returns which might decrease the reliability of the comparison. This stems from the reason that some acquirers have been delisted during longer time periods.

# 7. Conclusions

The objective of this research was to study the impact of the announcement of acquisition on the share price of the developed market acquirer when the target of acquisition is an emerging market company. In addition to analysing the short-term abnormal returns, the effect of the different deal and acquirer-specific factors were also examined. Long-term stock performance was also analysed. The sample included transactions that were announced during 2014-2016. The theoretical framework was formed to consist of the most relevant theories that are associated with the research topic.

Prior research has stated that announcements of acquisitions have generated zero or negative short-term returns for the acquirers. However, in cases where developed market acquirers have acquired emerging market targets, prior studies have resulted in overall positive short-term returns. This research builds on the existing literature on acquisitions involving developed market acquirers and emerging market targets and the effect of the announcement of an acquisition and its effect on the acquiring company's share price. The prior research has been more focused on acquisitions where both parties have been developed market companies and research has been relatively scarce on transactions involving acquiring companies from developed markets and target companies from emerging markets. The prior research concerning developed market acquirers and emerging market targets has proved that acquisitions with the developed market acquirer and the emerging market target has generated positive abnormal returns as well as positive cumulative abnormal returns. The results of this research are similar to those introduced by prior research, as with the complete sample, announcements of an acquisition generated on average positive short-term abnormal returns.

This research aimed to answer three main research questions:

1) What is the short-term market reaction of the acquirer's stock price, when developed market acquirers conduct acquisitions of target firms from emerging markets?

2) Does short-term market reaction differ between acquisitions with the different deal and acquirer-specific factors?

3) Is there a long-term market reaction of the acquirer's stock price when developed market acquirers conduct acquisitions of target firms from emerging markets?

To answer the research questions, firstly theoretical framework was formed around behavioural theories that included the efficient market hypothesis, agency theory, and hubris. These theories are focused on market reaction and human psychology in explaining how shareholders react to the acquisition and what factors are behind the reaction. Secondly, synergies were examined from a theoretical perspective, since the theory on synergies proposes that the combination of two businesses leads to value creation. The short-term share price development was examined with the market model. The market model was also used to compare short-term returns with the different deal and acquirer-specific factors. OLS linear regression was used to get a more in-depth understanding of the deal and acquirer-characteristics and their impact on cumulative abnormal returns. Long-term share price development was measured with buy-and-hold abnormal returns.

The research questions were thoroughly analysed and answered through three hypotheses. Based on the results, H1: *On average, there is a small and positive reaction to the stock price of the acquirer on the announcement day* remains valid. On average, in every time-window the abnormal returns were positive ranging from 0.24 % AR [1] to 1.58 % CAR [0, +2]. On the announcement day, the average abnormal return was 0.30 %.

Second hypothesis stated that H2: *The abnormal returns will fade away quickly when the stock markets will adapt to the new information.* When examining 21-day cumulative daily abnormal returns, it is visible that cumulative abnormal returns exist also on the days following the announcement of an acquisition. Therefore, H2 is fully rejected. The positive short-term returns might indicate that investors pursue the acquisition as value- adding activity, which is supported by the positive market reaction.

H3: *On average, there is a negative long-term stock-price reaction in three different time periods of [0, +12], [0, +24], and [0, +36] to the developed market acquirers following the acquisition of an emerging-market target* remains valid as well. The long-term buy-and-hold returns were on average -0.88 %, -8.65 %, and -13.76 % during time windows of 12 months, 24 months, and 36 months respectively. The negative returns indicate that in the longer term, the acquisitions might have been pursued as negative actions or acquisitions have not created the expected synergies.

The H4, H5, and H6 were formed as follows *H4: On average, large acquirers generate higher short-term abnormal returns compared to small acquirers. H5: On average, horizontal, and vertical acquisitions lead to higher short-term abnormal returns compared to conglomerate acquisitions, and H6: On average, cash-financed transactions generate higher short-term abnormal returns compared to stock-financed and hybrid-financed transactions.* Overall, large, and small acquirers obtained quite similar results. However, there were large differences between average returns during AR [1] of 0.81 % of large acquirers and -0.17 % of small acquirers. There were also differences between average returns during CAR [-2, +2] of 0.56 % of large acquirers and 1.99 % of small acquirers. When it comes to horizontal, vertical, and conglomerate acquisitions, the results were quite mixed. On the announcement day, vertical and horizontal acquisitions obtained average abnormal returns of 0.70 % and 0.37 % respectively, whereas conglomerate acquisitions obtained a negative average abnormal return of -0.47 %. During multiple-day time window of [-1, +1], horizontal, vertical, and conglomerate acquisitions obtained average abnormal returns of 2.57 %, -0.72 %, and 1.29 % respectively. When examining different methods of payment, the results were interesting. On the announcement day, cash-financed acquisitions obtained the lowest average abnormal return of 0.33 % compared to abnormal returns of 0.81 % and 0.71 % that were achieved with stock and hybrid payments respectively. During multiple day time windows, cash-financed transactions obtained positive average abnormal returns during each time window. However, stock and hybrid-financed acquisitions obtained significantly high average abnormal returns on specific time windows, such as stock-financed transactions with the average abnormal return of 3.86 % on [-2, +2] and hybrid-financed transactions with the average abnormal return of 5.92 % on [-1, +1]. OLS linear regression was also conducted with an average CAR of [0, +1] as the dependent variable and method of payment, size of the acquirer, and industry relatedness as independent dummy variables. As a result, none of the independent variables were statistically significant which indicates that the examined deal and acquirer characteristics have no influence on the cumulative average abnormal returns. Thus, hypotheses 4-6 can be fully rejected.

The results of the study, confirm that acquisitions where developed market acquirers have acquired target companies from emerging markets have generated abnormal returns on the announcement day and the days following the acquisition. This information can be valuable to an investor whose investment horizon is short-term and who intends to capitalize on one-day investments into companies that conduct acquisitions. However, it is important to keep

in mind that emerging market targets are also risky investments which was noticeable from the high difference between min and max abnormal returns as well as from the high variance between the returns. Thus, risk and return seem to have a parallel effect. When it comes to deal and acquirer-characteristics, there wasn't evidence that different characteristics affected the cumulative average abnormal return during [0, +1] from the point of view of OLS linear regression. Thus, these characteristics cannot be used to predict which acquisitions generate higher abnormal returns. During the long-term, acquiring companies obtained negative buy-and-hold abnormal returns which might indicate that acquirers didn't succeed in integration and synergy creation.

The results of this research need to be interpreted with caution since there are potential biases that might affect the results. Firstly, the size of the complete sample is relatively small compared to prior research which might have a sample size consisting of thousands or tens of thousands of acquisitions. Specifically, when observing different deal and acquirer-specific factors, some sub-samples such as stock and hybrid financed acquisition had extremely small sample sizes which decreases the reliability of the comparison. Additionally, the acquisitions that were included in this research, take place over the years 2016-2019. This time frame is relatively short, compared to prior research that might have a 10 or 15-year time frame. When it comes to the abnormal returns obtained from the announcements of acquisitions, the market model that was used in this research might be subject to potential issues. Specifically, the MSCI World stock index that was used in the calculation of benchmark returns also included companies that have conducted acquisitions. Thus, the effect of the announcement of acquisition cannot be isolated completely. This limitation is also present when calculating long-term buy-and-hold abnormal returns.

Potential future research could be extended to a longer time frame along with a larger sample. With a longer time-period, the reliability of the research could be strengthened. Especially with a larger sample that includes more observations from the different deal and acquirer characteristics, more confident and reliable results of the effect of these factors could be expected. Also, it would be interesting to use a sample that spans across multiple centuries to see how the markets would have pursued the announcement of an acquisition that included developed market acquirer and emerging market target. In addition, there could be two samples, one that includes acquisitions between the developed market acquirers and an emerging market target and one that included acquisitions between developed market

acquirers and developed market targets. This would introduce the comparability aspect between these two samples. Abnormal returns could also be calculated with a different model such as with the capital asset pricing model or the three factor-model. Also, a stock index which consists of matched companies could be used to increase the reliability of the research.

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# Appendix 1. Acquisitions included in the sample

| Date Announced | Acquiror Full Name | Acquiror Nation | Target Full Name | Target Nation | Deal Value (USD, Millions) |
|---|---|---|---|---|---|
| 06/01/2014 | Worthington Industries Inc | United States | Worthington Aritas Basincli Kaplar Sanayi AS | Turkey | 36,60 |
| 20/01/2014 | Anheuser-Busch Inbev SA/NV | Belgium | Oriental Brewery Co Ltd | South Korea | 5 801,69 |
| 31/01/2014 | Intrum Justitia AB | Sweden | Profidebt s.r.o. | Czech Republic | 41,82 |
| 03/02/2014 | Nippon Paint Co Ltd | Japan | Guangzhou Nippon Paint Co Ltd | China (Mainland) | 43,52 |
| 04/02/2014 | Sulzer Ltd | Switzerland | Saudi Pump Factory Co | Saudi Arabia | 35,72 |
| 10/02/2014 | Deutsche Telekom AG | Germany | T-Mobile Czech Republic as | Czech Republic | 1 129,30 |
| 13/02/2014 | Rexam PLC | United Kingdom | United Arab Can Manufacturing Co | Saudi Arabia | 122,00 |
| 14/02/2014 | Robinson PLC | United Kingdom | Madrox Sp J | Poland | 22,10 |
| 27/02/2014 | Bayer AG | Germany | Dihon Pharmaceutical Group Co Ltd | China (Mainland) | 580,31 |
| 03/03/2014 | Intertek Group PLC | United Kingdom | International Inspection Services Ltd | United Arab Emirates | 66,00 |
| 10/03/2014 | Senior PLC | United Kingdom | UPECA Technologies Sdn Bhd | Malaysia | 126,51 |
| 11/03/2014 | Koninklijke Ahold NV | Netherlands | SPAR Ceska Obchodni Spolecnost sro | Czech Republic | 265,84 |
| 14/03/2014 | Liberty Global PLC | United Kingdom | VTR GlobalCom SA | Chile | 438,75 |
| 17/03/2014 | Koninklijke Philips NV | Netherlands | General Lighting Co JSC | Saudi Arabia | 235,00 |
| 20/03/2014 | NeuStar Inc | United States | Dot Co Internet SAS | Colombia | 109,00 |
| 21/03/2014 | Hotel Royal Ltd | Singapore | Panali Co Ltd | Thailand | 40,17 |
| 26/03/2014 | CITIC Pacific Ltd | Hong Kong | CITIC Ltd | China (Mainland) | 42 247,46 |
| 28/03/2014 | GlaxoSmithKline PLC | United Kingdom | GlaxoSmithKline PLC-Indonesian Consumer Healthcare Business | Indonesia | 40,95 |
| 31/03/2014 | Straumann Holding AG | Switzerland | MegaGen Implant Co Ltd | South Korea | 29,78 |
| 01/04/2014 | Actavis PLC | United States | Silommedical Co Ltd | Thailand | 100,00 |
| 01/04/2014 | ROC Oil Co Ltd | Australia | Petronas Carigali Sdn Bhd-D35, D21 & J4 Oil Fields | Malaysia | 105,00 |
| 18/04/2014 | Technovator International Ltd | Singapore | Excel Perfect Investments Ltd | China (Mainland) | 17,74 |
| 22/04/2014 | Nitto Boseki Co Ltd | Japan | NITTOBO ASCO Glass Fiber Co Ltd | Taiwan | 24,54 |
| 29/04/2014 | Endo International PLC | United States | Grupo Farmaceutico Somar | Mexico | 268,84 |
| 05/05/2014 | Loccitane International SA | Switzerland | L'Occitane Rus OOO | Russia | 46,19 |
| 07/05/2014 | Amcor Ltd | Australia | Bella Prima Perkasa PT | Indonesia | 25,30 |
| 07/05/2014 | Magna International Inc | Canada | Granite Real Estate Investment Trust-Mexican Property Portfolio | Mexico | 104,96 |
| 08/05/2014 | Tonogold Resources Inc | United States | Mil-Ler Resources & Energy SA | Mexico | 56,27 |
| 12/05/2014 | Shiroki Corp | Japan | Technico Industries Ltd - Window Regulators & Seat Sliders Business | India | 17,00 |
| 13/05/2014 | Parex Resources Inc | Canada | Verano Energy Ltd | Colombia | 217,30 |
| 16/05/2014 | Abbott Laboratories | United States | CFR Pharmaceutical SA | Chile | 3 334,43 |

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|---|---|---|---|---|---|
| 18/05/2014 | CGN Mining Co Ltd | Hong Kong | Beijing Sino-Kazakh Uranium Resources Investment Co Ltd | China (Mainland) | 133,00 |
| 27/05/2014 | Ebix Inc | United States | Unified Health Solution Pvt Ltd | India | 18,50 |
| 29/05/2014 | Honbridge Holdings Ltd | Hong Kong | Triumphant Glory Investments Ltd | China (Mainland) | 74,74 |
| 29/05/2014 | Madalena Energy Inc | Canada | Gran Tierra Energy Inc-argentinean business unit | Argentina | 65,04 |
| 13/06/2014 | Telenor ASA | Norway | Telewings Communications Pvt Ltd | India | 130,65 |
| 25/06/2014 | HB Fuller Co | United States | Tonsan Adhesive Inc | China (Mainland) | 224,56 |
| 27/06/2014 | Monitise PLC | United Kingdom | AGIT Monitise Indonesia PT | Indonesia | 12,58 |
| 30/06/2014 | PPG Industries Inc | United States | Consorcio Comex SA de CV | Mexico | 2 299,06 |
| 14/07/2014 | ConAgra Foods Inc | United States | TaiMei Potato Industry Ltd | China (Mainland) | 93,00 |
| 25/07/2014 | Hitachi Chemical Co Ltd | Japan | CSB Battery Co Ltd | Taiwan | 61,79 |
| 25/07/2014 | TriMas Corp | United States | Lion Holding Pvt Ltd | India | 27,00 |
| 28/07/2014 | Pilgrim's Pride Corp | United States | Tyson de Mexico SA de CV | Mexico | 399,98 |
| 20/08/2014 | Tack Fiori International Group Ltd | Hong Kong | Beijing Xinzhitang Educational Technology Development Co Ltd | China (Mainland) | 60,00 |
| 22/08/2014 | Deceuninck NV | Belgium | PIMAS Plastik Insaat Malzemeleri AS | Turkey | 26,52 |
| 01/09/2014 | Crown Holdings Inc | United States | EMPAQUE | Mexico | 1 224,73 |
| 15/09/2014 | Marine Harvest ASA | Norway | Acuinova Chile SA-Salmon Assets | Chile | 120,04 |
| 16/09/2014 | Peking University Resources (Holdings) Co Ltd | Hong Kong | Fine Noble Global Ltd-Real estate development assets | China (Mainland) | 175,59 |
| 16/09/2014 | U Blox Holding AG | Switzerland | Antcor SA | Greece | 11,02 |
| 19/09/2014 | Toyota Industries Corp | Japan | Tailift Co Ltd-Lift truck operations | China (Mainland) | 91,73 |
| 24/09/2014 | Essentra PLC | United Kingdom | Abric Bhd - Undisclosed Subsidiaries | Malaysia | 45,06 |
| 25/09/2014 | FCC Co Ltd | Japan | Fcc Rico Ltd | India | 80,71 |
| 06/10/2014 | Lundin Mining Corp | Canada | Freeport-McMoRan Inc-Candelaria & Ojos del Salado Copper Mines | Chile | 2 000,48 |
| 05/11/2014 | Imerys SA | France | S&B Industrial Minerals SA | Greece | 655,46 |
| 07/11/2014 | AT&T Inc | United States | Grupo Iusacell SA de CV | Mexico | 2 500,51 |
| 21/11/2014 | Greater China Holdings Ltd | Hong Kong | Oriental Credit Holdings Ltd | China (Mainland) | 11,81 |
| 04/12/2014 | Ichikoh Industries Ltd | Japan | Wuxi Guangsheng Technology Co Ltd | China (Mainland) | 25,19 |
| 09/12/2014 | Hitachi Kokusai Electric Inc | Japan | Kook Je Electric Korea Co Ltd | South Korea | 18,92 |
| 11/12/2014 | Aurum Pacific (China) Group Ltd | Hong Kong | Native Hope Ltd | China (Mainland) | 11,61 |
| 12/12/2014 | NH Foods Ltd | Japan | Ege-Tav Ege Tarim Hayvancilik Yatirim Ticaret ve Sanayi AS | Turkey | 72,00 |
| 18/12/2014 | Timmins Gold Corp | Canada | Goldgroup Mining Inc-Caballo Blanco Project | Mexico | 29,62 |
| 19/12/2014 | Sinocom Software Group Ltd | Hong Kong | Kingworld (Beijing) Technology Co Ltd | China (Mainland) | 58,04 |
| 29/12/2014 | Kerry Logistics Network Ltd | Hong Kong | Able Logistics Group FZCO | United Arab Emirates | 32,00 |
| 06/01/2015 | AVIC Joy Holdings (HK) Ltd | Hong Kong | Shanghai Yin Hui Real Estate Development Co Ltd-Assets | China (Mainland) | 252,08 |
| 06/01/2015 | Rockwell Diamonds Inc | Canada | Bondeo 140 CC-Alluvial Diamond Properties | South Africa | 17,88 |
| 09/01/2015 | Sankyo Tateyama Inc | Japan | Thai Metal Aluminum Co Ltd | Thailand | 84,40 |
| 15/01/2015 | Sound Global Ltd | Singapore | Xingping Hualu Sewage Treatment Co Ltd | China (Mainland) | 15,78 |

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|---|---|---|---|---|---|
| 26/01/2015 | Johnson Controls Inc | United States | Hitachi Home & Life Solutions (India)Ltd | India | 269,96 |
| 29/01/2015 | Perceptron Inc | United States | Next Metrology Software sro | Czech Republic | 15,91 |
| 02/02/2015 | NH Hotel Group SA | Spain | Hoteles Royal SA | Colombia | 74,36 |
| 11/02/2015 | Sembcorp Industries Ltd | Singapore | Green Infra Ltd | India | 170,07 |
| 13/02/2015 | Tubacex SA | Spain | Prakash Steelage Ltd- steel tube division | India | 40,28 |
| 02/03/2015 | Nice SpA | Italy | ET Systems Ltd | South Africa | 13,68 |
| 03/03/2015 | James Fisher & Sons PLC | United Kingdom | Subtech Group Holdings (Pty) Ltd | South Africa | 20,08 |
| 16/03/2015 | Wing Tai Investment Holdings Ltd | Hong Kong | On Growth Global Development Ltd | China (Mainland) | 42,82 |
| 23/03/2015 | Shunfeng International Clean Energy Ltd | Hong Kong | Lattice Power Corp | China (Mainland) | 315,33 |
| 24/03/2015 | SIIC Environment Holdings Ltd | Singapore | Global Envirotech Investment Ltd | China (Mainland) | 272,90 |
| 02/04/2015 | Diageo PLC | United Kingdom | United National Breweries (Sa) (Pty) Ltd | South Africa | 35,99 |
| 08/04/2015 | Alibaba Pictures Group Ltd | Hong Kong | Aurora Media (BVI) Ltd | China (Mainland) | 519,86 |
| 09/04/2015 | China Digital Culture (Group) Ltd | Hong Kong | Dream World Holdings Ltd | China (Mainland) | 35,16 |
| 21/04/2015 | Archer Daniels Midland Co | United States | Eaststarch CV-Wet Corn Mills | Turkey | 257,54 |
| 08/05/2015 | Japan Steel Works Ltd | Japan | SM Platek Co Ltd | South Korea | 21,70 |
| 11/05/2015 | Asahi Group Holdings Ltd | Japan | Lotte Asahi Co Ltd | South Korea | 15,33 |
| 11/05/2015 | Pizu Group Holdings Ltd | Hong Kong | Ample Ocean Holdings Ltd | China (Mainland) | 99,83 |
| 14/05/2015 | Bison Petroleum Corp | United States | Yinhang Internet Technologies Development Inc | China (Mainland) | 17,44 |
| 19/05/2015 | Great Panther Silver Ltd | Canada | Nyrstar Coricancha SA | Peru | 10,10 |
| 22/05/2015 | Minco Silver Corp | Canada | Guangdong Mingzhong Mining Co | China (Mainland) | 13,73 |
| 02/06/2015 | Perrigo Co PLC | Ireland | GlaxoSmithKline Consumer Healthcare Ltd-Brand Portfolio Assets | India | 225,20 |
| 08/06/2015 | Pan African Resources PLC | United Kingdom | Blue Falcon 232 Trading (Pty) Ltd | South Africa | 14,00 |
| 06/07/2015 | Southern Copper Corp | United States | Stingray Copper Inc-El Pilar Copper Development Project | Mexico | 99,98 |
| 07/07/2015 | Golden Agri-Resources Ltd | Singapore | Billford Investment Corp Ltd | Malaysia | 53,60 |
| 17/07/2015 | Valeant Pharmaceuticals International Inc | Canada | Amoun Pharmaceutical Co SAE | Egypt | 800,00 |
| 26/07/2015 | GOME Electrical Appliances Holding Ltd | Hong Kong | Artway Development Ltd | China (Mainland) | 1 086,74 |
| 30/07/2015 | Antofagasta PLC | United Kingdom | Zaldivar Copper Project | Chile | 1 005,02 |
| 31/07/2015 | Fluidra SA | Spain | WaterLinx (Pty) Ltd | South Africa | 18,68 |
| 31/07/2015 | Lafarge SA | France | Heracles General Cement Co SA | Greece | 10,58 |
| 03/08/2015 | Ultra Clean Holdings Inc | United States | MICONEX sro | Czech Republic | 18,67 |
| 05/08/2015 | SolarCity Corp | United States | ILIOSSON SA de CV | Mexico | 14,48 |
| 23/08/2015 | Fresh Express Delivery Holdings Group Co Ltd | Hong Kong | Wuxi Meitong Food Technology Co Ltd | China (Mainland) | 46,37 |
| 27/08/2015 | Goldcorp Inc | Canada | El Morro Copper-Gold Project | Chile | 89,99 |
| 03/09/2015 | Ferro Corp | United States | Al Salomi for Frits & Glazes | Egypt | 36,00 |
| 08/09/2015 | Hikma Pharmaceuticals PLC | United Kingdom | EIMC United Pharmaceuticals | Egypt | 33,78 |

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|---|---|---|---|---|---|
| 24/09/2015 | DyDo Drinco Inc | Japan | Della Gida Sanayi ve Ticaret AS | Turkey | 110,29 |
| 25/09/2015 | LISI Group (Holdings) Ltd | Hong Kong | Mega Convention Group Ltd | China (Mainland) | 268,98 |
| 28/09/2015 | Kellogg Co | United States | Mass Food Group | Egypt | 50,00 |
| 01/10/2015 | Teva Pharmaceutical Industries Ltd | Israel | Representaciones e Investigaciones Medicas SA de CV | Mexico | 2 296,21 |
| 13/10/2015 | HL Technology Group Ltd | Hong Kong | Fortune Grace Management Ltd | China (Mainland) | 903,98 |
| 27/10/2015 | Wirecard AG | Germany | Great Indian (GI) Retail Pvt Ltd-Payments Business | India | 376,23 |
| 28/10/2015 | Agritrade Resources Ltd | Hong Kong | PT Merge Mining Holding Ltd | Indonesia | 153,89 |
| 03/11/2015 | AQ Group AB | Sweden | Anton Kft | Hungary | 27,55 |
| 05/11/2015 | Ontex Group NV | Belgium | Productos Internacionales Mabe SA de CV | Mexico | 434,32 |
| 09/11/2015 | Trelleborg AB | Sweden | CGS Holding AS | Czech Republic | 1 250,51 |
| 12/11/2015 | Cordlife Group Ltd | Singapore | Stemlife Bhd | Malaysia | 14,52 |
| 25/11/2015 | Kunlun Energy Co Ltd | Hong Kong | CNPC Kunlun Natural Gas Co Ltd | China (Mainland) | 2 289,97 |
| 30/11/2015 | Midas Holdings Ltd | Singapore | Huicheng Capital Ltd | China (Mainland) | 158,26 |
| 04/12/2015 | Town Health International Medical Group Ltd | Hong Kong | Nanyang Xiangrui Hospital Management Advisory Co Ltd | China (Mainland) | 82,25 |
| 10/12/2015 | BIC SA | France | Cello Writing Inst & Cont Pvt Ltd | India | 80,78 |
| 10/12/2015 | STADA Arzneimittel AG | Germany | Laboratorio Vannier SA | Argentina | 13,00 |
| 11/12/2015 | Orkla ASA | Norway | HAME sro | Czech Republic | 191,40 |
| 23/12/2015 | Huhtamaki Oyj | Finland | FIOMO as | Czech Republic | 30,68 |
| 24/12/2015 | Great Harvest Maeta Group Holdings Ltd | Hong Kong | Top Build Group Ltd | China (Mainland) | 54,00 |
| 29/12/2015 | Obara Group Inc | Japan | A One Tech Co Ltd | South Korea | 10,42 |
| 06/01/2016 | Blue Sky Power Holdings Ltd | Hong Kong | Beijing Gas Group (Teng County) Co Ltd | China (Mainland) | 22,71 |
| 06/01/2016 | Cooper Tire & Rubber Co | United States | Qingdao Ge Rui Da Rubber Co Ltd | China (Mainland) | 93,12 |
| 08/02/2016 | Associated British Foods PLC | United Kingdom | Illovo Sugar Ltd | South Africa | 367,42 |
| 19/02/2016 | Mueller Industries Inc | United States | Jungwoo Metal Ind Co Ltd | South Korea | 21,74 |
| 01/03/2016 | China Resources Beer (Holdings) Co Ltd | Hong Kong | China Resources Snow Breweries Ltd | China (Mainland) | 1 599,99 |
| 03/03/2016 | Alpha Corp | Japan | Assa Abloy AB-Car Lock Business | Czech Republic | 18,47 |
| 03/03/2016 | Lithium X Energy Corp | Canada | Potasio y Lito de Argentina SA | Argentina | 12,49 |
| 04/03/2016 | Bradken Ltd | Australia | Larsen & Toubro Ltd-Foundry Unit | India | 24,29 |
| 14/03/2016 | Manhattan Resources Ltd | Singapore | PT Kariangau Power | Indonesia | 36,78 |
| 23/03/2016 | Man Sang International Ltd | Hong Kong | Gloryear Investments Ltd | China (Mainland) | 190,22 |
| 25/03/2016 | carsales.com Ltd | Australia | Chileautos Ltda | Chile | 15,04 |
| 30/03/2016 | Actuant Corp | United States | FourQuest MENAC | United Arab Emirates | 60,00 |
| 31/03/2016 | Beijing Enterprises Environment Group Ltd | Hong Kong | Beijing Enterprises Holdings Ltd-Asset | China (Mainland) | 167,83 |
| 18/04/2016 | Recipharm AB | Sweden | Kemwell Biopharma Pvt Ltd-India Pharma Division | India | 119,98 |
| 18/04/2016 | Rockhopper Exploration PLC | United Kingdom | Beach Petroleum (Egypt) Pty Ltd | Egypt | 20,50 |

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|---|---|---|---|---|---|
| 28/04/2016 | OUTSOURCING Inc | Japan | Symphony HRS Sdn Bhd | Malaysia | 13,94 |
| 11/05/2016 | Candelaria Mining Corp | Canada | Timmins Gold Corp-Caballo Blanco Project | Mexico | 17,51 |
| 25/05/2016 | Kansai Paint Co Ltd | Japan | Polisan Boya Sanayi ve Ticaret AS | Turkey | 113,59 |
| 27/05/2016 | CML Microsystems PLC | United Kingdom | Wuxi Sicomm Technologies Ltd | China (Mainland) | 11,00 |
| 02/06/2016 | Meidensha Corp | Japan | Prime Meiden Ltd | India | 26,49 |
| 23/06/2016 | China Everbright International Ltd | Hong Kong | NOVAGO Sp zoo | Poland | 136,57 |
| 30/06/2016 | Metminco Ltd | Australia | Miraflores Compania Minera | Colombia | 12,28 |
| 15/07/2016 | Henkel AG & Co KGaA | Germany | Alfagres SA-Mortars & Adhesives Division | Colombia | 60,06 |
| 22/07/2016 | Relia Inc | Japan | SPi CRM Inc | Philippines | 181,00 |
| 28/07/2016 | Premier Gold Mines Ltd | Canada | Yamana Gold Inc- Mercedes Mine | Mexico | 143,54 |
| 01/08/2016 | Burberry Group PLC | United Kingdom | Burberry Group PLC-Chinese retail operations | China (Mainland) | 71,48 |
| 01/08/2016 | Konica Minolta Inc | Japan | Taeheung Infor Systems Co Ltd-PP Sales Unit | South Korea | 11,69 |
| 01/08/2016 | Mycronic AB | Sweden | Shenzhen Axxon Automation Co Ltd | China (Mainland) | 50,23 |
| 03/08/2016 | CEFC International Ltd | Singapore | CEFC Assets Management & Equity Investment (Hong Kong) Co Ltd | China (Mainland) | 20,50 |
| 23/08/2016 | Albemarle Corp | United States | Jiangxi Jiangli New Materials Science & Technology Co Ltd | China (Mainland) | 145,00 |
| 25/08/2016 | Haydale Graphene Industries PLC | United Kingdom | Innophene Co Ltd | Thailand | 42,13 |
| 29/08/2016 | NMC Health PLC | United Kingdom | As Salama Hospital | Saudi Arabia | 28,00 |
| 12/09/2016 | HP Inc | United States | Samsung Electronics Co Ltd-Printer Business | South Korea | 1 049,71 |
| 19/09/2016 | Store Electronic Systems SA | France | Pervasive Displays Inc | Taiwan | 37,21 |
| 04/10/2016 | Skechers USA Inc | United States | Skechers Korea Co Ltd | South Korea | 31,08 |
| 04/10/2016 | Tri-Stage Inc | Japan | Merdis International PT | Indonesia | 13,00 |
| 10/10/2016 | Coca-Cola Co | United States | Coca-Cola Beverages Africa Pty Ltd | South Africa | 3 143,24 |
| 13/10/2016 | Fumakilla Ltd | Japan | Fumakilla Asia Sdn Bhd | Malaysia | 14,68 |
| 18/10/2016 | Goldlok Toys Holdings (Guangdong) Co Ltd | Hong Kong | Guangdong Fanaizhong Internet Technology Co Ltd | China (Mainland) | 13,36 |
| 28/10/2016 | Mewah International Inc | Singapore | PT Angso Duo Sawit | Indonesia | 10,47 |
| 31/10/2016 | Constellation Brands Inc | United States | Grupo Modelo SAB de CV-Brewery,Obregon | Mexico | 599,72 |
| 09/11/2016 | Purapharm Corp Ltd | Hong Kong | Gold Sparkle Plantation Company Ltd - Assets | China (Mainland) | 26,15 |
| 10/11/2016 | Electrolux AB | Sweden | Kwikot Ltd | South Africa | 236,61 |
| 10/11/2016 | Frutarom Industries Ltd | Israel | Proveedores De Ingenieria Alimentaria Sa De Cv | Mexico | 20,61 |
| 11/11/2016 | Health Management International Ltd | Singapore | Mahkota Medical Centre Sdn Bhd | Malaysia | 130,33 |
| 14/11/2016 | Landing International Development Ltd | Hong Kong | Callisto Business Ltd | South Korea | 379,53 |
| 16/11/2016 | Ajinomoto Co Inc | Japan | Orgen Gida Ticaret ve Sanayi AS | Turkey | 66,88 |
| 23/11/2016 | Advantage Lithium Corp | Canada | Orocobre Ltd-Cauchari Lithium Mining Project | Argentina | 37,81 |
| 07/12/2016 | Asahi Glass Co Ltd | Japan | Vinythai PCL | Thailand | 293,40 |
| 07/12/2016 | Yin He Holdings Ltd | Hong Kong | Beauty Sky Group Ltd | China (Mainland) | 13,93 |
| 14/12/2016 | Ebara Corp | Japan | Yantai Ebara Air Conditioning Equipment Co Ltd | China (Mainland) | 46,39 |

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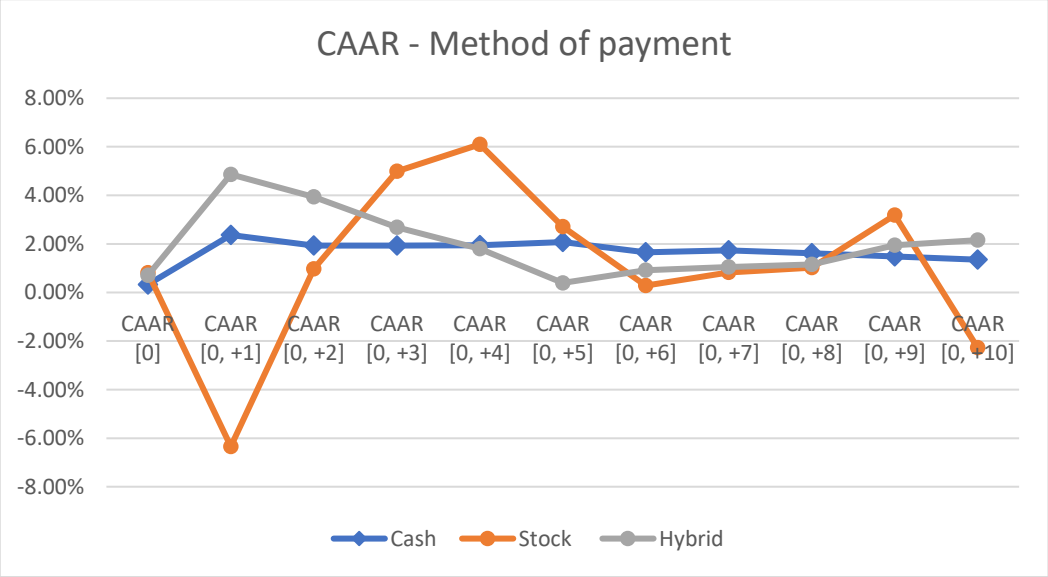
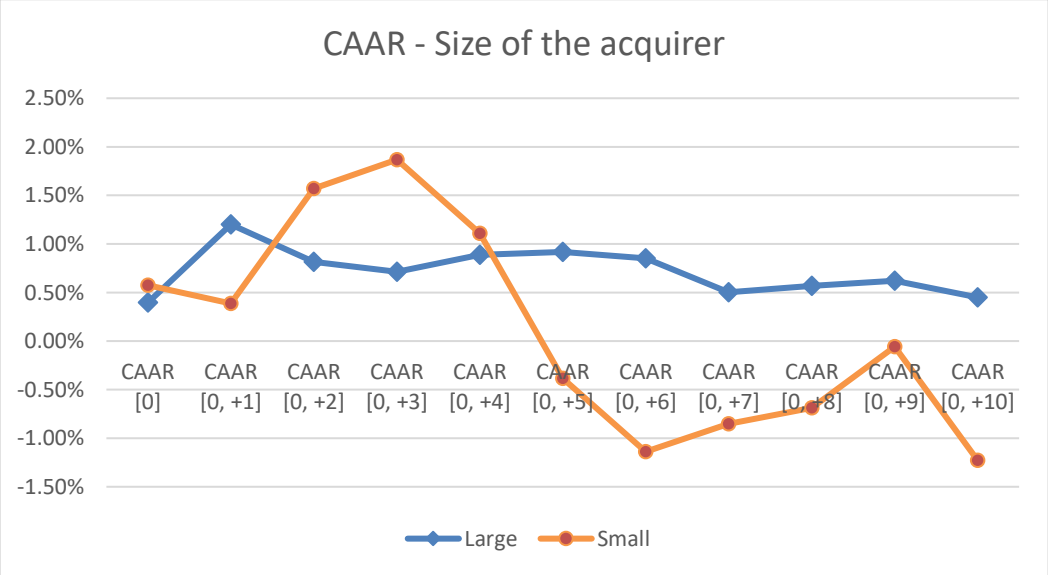
|---|---|---|---|---|---|
| 14/12/2016 | Glencore PLC | Switzerland | Nyrstar NV-Contonga Mine,Ancash,Peru | Peru | 21,00 |
| 15/12/2016 | Baxter International Inc | United States | Claris Injectables Ltd | India | 624,99 |
| 15/12/2016 | RPC Group PLC | United Kingdom | Astrapak Ltd | South Africa | 98,43 |
| 20/12/2016 | Salvatore Ferragamo SpA | Italy | Ferragamo Korea Ltd | South Korea | 13,55 |
| 22/12/2016 | Ushio Inc | Japan | Ushio Korea Inc | South Korea | 13,41 |

Appendix 2. Cumulative CAAR – method of payment




Appendix 3. Cumulative CAAR – Size of the acquirer



Appendix 4. Cumulative CAAR – Type of acquisition