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# Cross-Border Acquisitions Targeting Chinese Firms

- An Empirical Study of Acquirer Returns

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# Abstract

Title:	Cross-Border Acquisitions Targeting Chinese Firms – An Empirical Study of Acquirer Returns
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Five key words:	Cross-Border M&A, China, Intangible Assets, Event study and Cumulative Abnormal Returns (CAR)
Purpose:	The main purpose of this study is to investigate if U.S. firms' acquisition of Chinese firms and U.K. firms are value-enhancing for the U.S. acquirer. The secondary purpose is to investigate if the targets' level of intangible assets has an impact on the return.
Methodology:	In this paper, a quantitative approach have been used with an event study and cross sectional regression analysis.
Theoretical perspective:	This paper evaluates previous studies as well as acknowledged theories within M&A and corporate finance literature.
Empirical foundation:	Using 56 Chinese and 98 U.K. observation of cross-border M&As made by U.S. acquirers between 2003 and 2011.
Conclusions:	We find that there exists a historical acquirer return, amounting to 314 basis points for U.S. firms acquiring Chinese targets and 136 basis points for U.S firms acquiring U.K. targets. These findings are both stated on a five percent statistical significance level. When evaluating the impact of intangible assets, we find no statistical significance. However, the negative relationship with Chinese targets, containing substantial intangible assets, point towards some value destruction. This could indicate that transparency and political risk have a bigger impact on these firms.

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# **1. Introduction**

China, world's second biggest and fastest growing economy and leading destination of foreign direct investments. How does the country stand against other large economies? Does the transparency affect the acquirer's return of Chinese firms? The merger and acquisition flow between U.S. and U.K. is the world's highest. Do the advantages of acquiring transparent and less risky U.K. firms, exceed the potential benefits of accessing the Chinese market?

# 1.1 Background

Foreign direct investments (FDI) have increased rapidly as a mean for companies to move their business into foreign markets. The major part of FDIs consists of cross-border mergers and acquisitions, henceforth cross-border M&As (UNCTAD, 2006). There has been a vast increase of cross-border M&As in the late 1990s which partly can be explained by the East Asian crisis, which caused international firms to acquire financial distressed East Asian firms and assets.

China has become one of the world's leading destinations for FDI, much because of its government's policy change in the late 1990s. Instead of a sole concentration of Greenfield investments, the government accepted foreign investors to acquire Chinese enterprises. Major factors, which have limited the development of cross-border M&As into China, has been the lack of a clear statement of policy and consistency in laws and regulations to govern cross-border M&A activity. (OECD, 2006) Improvements of these factors, have shown to be of great benefit for cross-border M&As into China. However, there are still legislations in the regulatory framework that needs to be more open and transparent.

In 2009, a major amendment to the patent law was adopted to better protect intellectual property. China wanted to upgrade the type of FDI into the country, by attracting acquirers from E.U. and U.S., rather than other Asian countries. This in line with China's efforts to further industrialize the country by encouraging investments from high technology firms. (Ghosh, Havlik, & Ribeiro, 2009)

Furthermore, China is the world's second biggest and fastest growing economy, with an average of ten percent in growth rates over the last thirty years (IMF, 2012). The economic growth is expected to stay above eight percent in 2012 and 2013. Net export is very important to the Chinese economy, with a current account surplus remaining at three to four percent of GDP (IMF, 2012). The government's 12th Five-Year Plan, adopted in March 2011, emphasizes continued economic reforms and a need to increase domestic consumption in order to make the economy less dependent on exports in the future. However, China has only made marginal progress towards these rebalancing goals. (CIA, 2012)

A comparison with a developed country displays several factors, which separate U.S. acquisitions into U.K. from acquisitions in China. The world's biggest M&A flow exists between U.S. and U.K. (Thomson Reuters). Thus, transactions between these two countries ought to be more standardized compared to any other countries. Factors, such as the world's two highest ratios of market capitalization to GDP and the same official language, also have strong correlation to the M&A activity (di Giovanni, 2005). China lacks experience and knowledge of M&A compared to U.S. and U.K., in addition, substantial macroeconomic and political uncertainties in China, indicate that there are several reasons for investors to be skeptical of acquiring Chinese firms.

Even though the capital inflows to emerging markets have increased during the 1990s, there are still barriers that limit foreign investments, resulting in market segmentation. Bekaert (1995) and Bekaert and Harvey (2003) have distinguished three different types of investment barriers; legal barriers, indirect barriers and risk barriers. Legal barriers occur when laws separate foreign investors from domestic investors, in terms of taxes and ownership restrictions. Indirect barriers arise with differences in investor protections, accounting standards and available information. Risk barriers are associated with uncertainties of investments in emerging markets, mainly in the areas of economic risk, political risk, liquidity risk and currency risk. Furthermore, Bekaert points out that indirect barriers, such as a lack of regulatory systems, poor credit ratings and investor protection, most relate to integration measures. In general, investment barriers in emerging markets result in market segmentation and higher costs of capital, thus it lowers firms valuations.

# **1.2 Problem Discussion**

If a wealth effect is created through M&A is a question that has been debated for decades. There are two main questions researchers want to examine; what is the abnormal return in an M&A for the shareholders of the acquiring firm, and what is the abnormal return for the target's shareholders? (Kargin, 2001)

Previous studies, which have examined cross-border M&As and acquirers' return have revealed various results. There have been studies which shown an abnormal return of zero or close to zero (e.g. Moeller & Schlingemann, 2005; Schwert, 2000). Other studies demonstrate a negative abnormal return (e.g. Datta & Puia, 1995; Walker, 2000), where Datta and Puia argue that high cultural differences are the main reason for a negative return. However, in some of the most recent studies, (e.g. Francis, Hassan & Sun 2008; Ellis, Moeller, Schlingemann & Stulz 2011), the negative cross-border effect has switched to a positive abnormal return for the acquirer. One of the main reasons stated for this was the increased number of deals targeting emerging markets.

M&A literature of value creating by cross-border M&As, has previously mainly focused on developed markets. We strive to contribute by adding acquirers' returns created by U.S. firms' cross-border M&As in China. Furthermore, by comparing shareholders' returns of U.S acquisitions targeting U.K. firms with Chinese firms, we want to bridge the gap between shareholder value creation of cross-border M&As in a developed market and the Chinese market. Subsequently, we strive to establish if the potential differences in shareholders' return are linked to characteristics of firms and deals and/or characteristics of the countries. One firm characteristics that could affect the acquirer's return is the level of transparency, which may have an impact on firms with large amounts of intangible assets. Hence, we attempt to examine if the acquirers' return are linked to the amount of intangible assets. This will be done by dividing the acquiring firms into two samples, with listing as the criteria. It is well known that Nasdaq stock exchange and New York stock exchange (NYSE) contain different types of firms. Nasdaq is typically known as a high-tech market which attracts knowledge intensive firms, hence substantial intangible assets, whilst NYSE is perceived to have more conventional firms.

There are numerous of studies that have been made of value creation of U.S. acquirers through cross-border M&As. However, there exist very few, if any, which examines the wealth effect when the target company is Chinese. There exists studies evaluating U.S. firms acquisitions in developed markets as well as emerging markets, but none, to our knowledge, focuses solely on Chinese firms. This seems relevant, since a lot of the characteristics and advantages for acquiring firms in emerging markets are not consistent with the Chinese market. One major factor, that has created value through acquisitions in emerging markets, is weak protection of intangible assets (Coffee, 1999). However, strong state involvement, which protects intangible assets, could make the relationship the opposite in China.

# **1.3 Purpose**

This study aims to contribute to previous M&A literature, by revealing the return for shareholders of U.S. firms, when acquiring Chinese and U.K targets. We want to investigate which determinants that drive abnormal return, and compare these between our two samples to identify distinctions in the Chinese targets. One of these determinants, which will be evaluated, is the target's level of intangible assets and how it affects the acquirer's return.

### **1.4 Demarcations**

In this thesis, we examine cross-border M&As made by U.S. firms, targeting Chinese and U.K. firms. Since we evaluate the announcement effect on share price, that the acquisition brings, U.S. firms have to be publicly listed on either Nasdaq stock market or New York stock exchange. Almost all the Chinese firms, which are involved in cross-border M&As, have a private public status. Hence, for better comparison, all the U.K. and Chinese targets included in the sample are private. Greenfield investments are not studied because the focus of this research is not overarching FDI, only cross-border M&As. We examine U.S. firms' M&As of Chinese and U.K. firms, between 2003 and 2011. Since the year 2003, because M&A flow into China had a major increase this year (UNCTAD, 2006), thus giving the study a substantial sample to examine.

# **1.5 Audience**

This thesis will be of interest to both the academic and the corporate world. For an academic purpose, the thesis strives to engage students as well as researchers within the fields of finance, economics and international business. For a corporate purpose, the thesis attempts to engage analysts and investors as well as managers and employees.

# **1.6 Thesis Outline**

In the first chapter, we have introduced background to the subject, problem discussion, the purpose of the paper and demarcations of this study as well as the audience for which the thesis is written for. Chapter two, reviews the characteristics of China, which increase risks and complicates transactions, when acquiring Chinese firms. In the third chapter, literature review and theoretical framework are represented. Chapter four outlines our initial hypotheses. In chapter five, we present the methodological approach to this study. The chapter includes research approach, data collection and reliability, validity and event study followed by regressions. Chapter six contains empirical findings followed by chapter seven in which we analyze our results. The thesis ends with chapter eight, which contains conclusion and possibilities for further research.

# 2. Characteristics of China

In this chapter, the political risks in China are compared to the four other BRICS (Brazil, Russia, India, China, South Africa) countries. Furthermore, the chapter describes Chinese firms' corporate governance system, ownership structure and accounting standards.

# 2.1 Political Risk in China

Political risk has always been a factor for firms which engage in investments in China. Two major reasons are high state impact and constant threat of protectionist regulations which will favor domestic firms instead of foreign ones. In a study made by Zheng (2011), 12 different indices are gathered to measure the political instability in China and compare them with other BRICS countries. The results demonstrate that political risks are smaller in China, compared to India and Russia, but higher weight against Brazil and South Africa. The study showed that China is ranked the worst in three of the categories, Failed States Index (FSI), Global Political Risk Index (GPRI) and BTI-Status Index. The FSI's drivers are based on 14 indicators, which measure the risks of internal conflicts within the country. In GPRI, the results indicate that China is the worst country when it comes to absorbing external shocks. However, differences between China, India and Russia are small and their differences have no statistical significance in this category. The results of the BTI-Status Index state that China is worst when it comes to political and economic transformation.

## 2.2 Corporate Governance

The Chinese corporate governance is a concept that has grown in importance the last couple of years. Clarke (2003) writes in his paper that the fundamental dilemma of Chinese corporate governance is that it comes from state policy of maintaining a full or controlling ownership interest in enterprises within several sectors. He also writes that there are several problems in the Chinese Company Law. Thus, the special circumstances of state-sector enterprises in Company Law, hamstrung potential private-sector enterprises, in a way which they have to follow rules that only make sense in a state-invested economy.

In addition to problems in corporate governance, ownership structure of publicly traded Chinese firms is extremely complex. Shares are divided into three subcategories, A-shares, B-shares and H-shares, where A-shares are held by domestic residents only and B-shares and H-shares are traded mainly by foreign investors. H-shares are distributed by Chinese companies listed on Hong-Kong stock exchange and A- and B-shares are distributed by companies based in the mainland of China. In 2003, total value of the A-share market was U.S. \$541 billion, whilst B-share market had a value of U.S. \$33 billion (Hong, 2009). Because of this structure, where only a small part of shares are traded among foreign investors, tender offers on cross-border acquisitions are extremely rare, and there exists only a few examples of publicly listed Chinese firms that are acquired by U.S. firms (Thomson Reuters).

To not risk an impact on the result, we choose to exclude deals where target firm is publicly listed, see section 5.4.2.

### 2.3 Accounting Standards

Accounting standards in China can be dated back to 1992, when the Ministry of Finance (MoF) launched standards of domestic companies, Accounting Standards for Business Enterprises (ASBE). Changes in government policy to foreign investors, as mentioned in the background, lead to rapid growth in the Chinese economy. Foreign investment interests, pressured the Chinese government to reform earlier standards and adapt them to market-driven economic forces.

Despite reforms, the quality of the domestic financial statements was insufficient for international investors (Ball, Robin & Wu, 2001). To fill the gaps in the ABSE, China improved the standards, and the third ABSE embraced nearly all of the topics under the current IFRS literature and became mandatory for all listed Chinese companies, in the 1<sup>st</sup> of January 2007 (Deloitte, 2012). Due to the short period of IFRS implementation in China, it is hard to evaluate the success of these standards. Oxelheim (2010) tried to evaluate the IFRS implementation in China by evaluating the success of the IFRS standards adopted in Europe as of January 2005. The analysis for 2005-2007, indicated that the level of transparency failed to meet the information demand from outside stakeholders. He further argues that seen from an outside shareholder the situation in Europe, after a couple of years with IFRS, may still seem far from optimal transparency. Oxelheim also explains that on national level, increased

transparency should be a leading interest of a country's politicians. He states this, since an optimal transparency can be expected to lead to lower agency costs, lower risk premiums, lower cost of capital, increased investments and higher economic growth. Considering the lack of success in improving transparency in Europe with IFRS, there is a major challenge for Chinese authorities to improve their accounting standards and transparency.

The conclusion we draw from the section 2.3, is that transparency of Chinese firms has become better. However, without finding any recent study or research made on Chinese firms' transparency, a comparison with European or U.S. firms cannot be made.

# 3. Literature and Theoretical Framework

This chapter presents the literature which is of importance for our thesis. The chapter starts with general theories concerning M&As and continues with empirical findings of previous studies. At the end of the chapter, we present factors which influence M&A transactions.

# 3.1 Mergers & Acquisitions

The definition of a merger is when two companies join together, either as one of the merging companies, or as a new company (Wüben, 2007). In other words, when two or more enterprises agree to combine their equity capital to form a single new company (Hussey, 1999). Initiative taker is the merging firm which chooses to merge with another company, the target. The merger is carried out by the merging firm, through a purchase of stocks or existing assets, of the target firm. The purchase is made by cash or something of equivalent value, thus it can be shares in the new corporation in exchange for old ones (Berk & DeMarzo, 2007; Hussey, 1999).

Acquisition is defined as when a company buys the whole or part of another company (Wüben, 2007). In other words, one company buys sufficient shares in another company to get total control. One difference between a merger and an acquisition is that an acquisition does not have to be a mutual decision between the board and shareholders. Thus, an acquisition is either friendly or hostile depending on the board's approval. Acquisition can be public or private, depending on if the firm is listed or not. Throughout this thesis, the terms mergers, acquisitions and M&A will be used interchangeably.

#### 3.1.1 Motive theories behind M&As

In this section, we will discuss theories and motives behind M&A. These motives can also be connected with the motives behind cross-border M&A.

There are several reasons why companies choose to grow through M&A. Some motives are to access strategic intangible assets, new markets, increased market power or market dominance, efficiency gains through synergies, diversification and to gain financial benefits (UNCATAD,

2000). A survey, made on CFO's motives behind M&As, reveals synergy to be the main motive and the diversification to be the second (Mukherjee, 2004). The strategy of the company can also be a motivating factor behind companies' choice to grow inorganically via M&As. (Gaughan, 2007).

Trautwein (1999) describes two theories on M&As, monopoly and valuation theory, which are both motivated to create shareholder value. Valuation theory assumes that mergers and acquisitions occurs because managers have an information advantage. Thus, managers possess insider information about the target's value which is not available for the general public. The theory assumes that markets are not efficient. The monopoly theory argues that transactions are made to attain market power, which can be the motive behind horizontal or conglomerate M&As.

## 3.2 Cross-border M&As

Companies that face increased competition in a market which gets more and more mature, often have troubles with preserving organic growth rate on higher levels. Cross-border M&As could be an alternative for companies in order to keep on growing and not lose market shares to other faster growing competitors. Thus, cross-border acquisitions are an alternative for companies to gain new market shares. (Gaughan, 2007) Cross-border acquisitions generate, in most cases, higher synergies than domestic acquisitions. This because of arising diversification synergies from intangible and information based assets, such as brand names, R&D expenditure and technical knowledge, from the target company. (Conn, Cosh, Guest and Hughes, 2003)

#### 3.2.1 Theories concerning Cross-border M&As

There are three common theories, proposed by Madura (2006), which explain why companies expand internationally. These three theories are: the theory of comparative advantage, the imperfect markets theory and the product cycle theory. The theory of comparative advantage states that a company has an advantage when it can produce the same goods and services at a lower opportunity cost than another company. The theory also advises that if two companies specializes in production of products or services, where they have advantages, and transact

with those freely, both companies will benefit. Madura further argues with the imperfect market theory, that resources which are available, differ between companies. Thus, there is no free transfer of those products across companies. This means that there are costs and restrictions on transferring these factors between companies. Thus, because the markets are imperfect, the companies have an incentive to seek out foreign opportunities from cross-border M&As. Firms create products and services to satisfy demand in the home market. Meanwhile, the theory of the product cycle proposes that when home market matures, competition will grow. When a firm reaches this part of the cycle, it will look for new markets abroad.

Another common theory, which explains cross-border M&As, is the internalization theory, developed by Rugman (1979) and Caves (1990). The theory proposes that internalization is expected to be beneficial for a company when it is able to take advantage of valuable intangible assets, such as patents, superior knowledge, brand, marketing, managerial abilities, goodwill etc. These assets have different imperfections, including limited information, monopoly and immobility. The assets are similar to public goods, in which their value is enhanced in direct proportion to the scale of the firm's markets. The assets are based on proprietary information and can therefore not be easily exchanged because a variety of reasons. By internalizing the markets for such assets, the firm can bypass transaction difficulties and thereby increase its value by expanding abroad. (Caves, 1990)

#### 3.2.2 Motives behind Cross-border M&As

Like domestic M&As, some studies have shown that firms aim to achieve economies of scale and scope through cross-border M&A (Buckley & Ghauri, 2002). Another reason companies engage in cross-border M&As is to follow their clients into other countries, to expand their business relationship (Weston, Mitchell, Mark & Mulherin, 2004). In addition to above motivations, some researchers ascertain that the motivations of cross border M&As also include obtaining strategic assets, such as marketing skills, product differentiation, patentprotected technology and superior managerial know-how (Wang & Boateng, 2007). These assets are valuable resources that strengthen firms' competitive advantages (Amit & Schoemaker, 1993). Evidence has proven, that new environments will force companies to change their organization, hence encourage companies to adapt and absorb new knowledge (Crossan, Lane & White, 1999).

#### **3.2.2.1 Access New Markets**

As mentioned, an important motivation for cross-border M&As is to enter new foreign markets. Several studies have been made on cross-border M&As regarding the potential of companies conducting cross-border M&As as a way to enter foreign markets (Harzing, 2002; Luo & Tung, 2007). There are other ways to enter new markets, such as Greenfield investments and establish joint venture and strategic alliance with an existing player in the target market. However, a successful acquisition is defined as the fastest way to enter new markets (Wang & Boateng, 2007). An acquisition will give the acquiring firm more effective control of the operation compared to joint ventures and strategic alliances (Raff, Ryan & Stähler, 2009). An acquisition is also a less time and money consuming way to exploit a mature operation, compared to a Greenfield investment (Gilroy & Lukas, 2006).

#### 3.2.2.2 Cross - border M&As as an Access to Strategic Assets

Another motivation for cross-border M&As are to access strategic assets and resources. The Resource Based View suggests that some resources cannot be traded in the open market. This contributes to a major reason or motivation of companies that conduct M&As, in order to get control of these assets in a faster and more effective way (Amit & Schoemaker, 1993). Based on the resource based model by Barney (1991), the acquiring firm has the possibility to generate resources that are valuable and non-sustainable in an acquisition. Meyer, Estrin, Bhaumik and Peng (2009) propose that foreign buyers can, through an acquisition of local firms, obtain resources that are intangible and organizationally embedded efficiently.

#### 3.2.2.3 Assess to Learning and Learning Ability

Learning is considered to be one of the strategic capabilities of an organization, which seeks to continue the improvements in a dynamic competition (Collins, Holcomb, Certo, Hitt & Lester, 2009). Firms would face issues that differ compared to their regular strategic and organizational context, which would give the acquiring firms opportunities of learning through cross-border M&As. The whole learning process starts from the pre-M&A valuation and negotiation and then goes through the whole M&A process. Further, firms' learning ability will be improved during the learning process. (Haspeslagh & Jemison, 1991)

#### 3.2.3 Macroeconomic Factors on Cross-border M&As

An econometric study of cross-country determinants of international and domestic M&As has been made by Rossi and Volpin (2004). The findings showed that firms in countries with weak investor protection are more likely to be acquired than those with strong investor protection. They also state that acquirers are more likely to be from countries with strong investor protection.

Di Giovanni (2005) estimated in his study, the importance of several macroeconomic, financial and institutional variables in the explanation of international M&A. He found that the size of the financial market, measured by the ratio of stock market capitalization to GDP, has a strong positive correlation to the number of M&As made by the country. He also stated that M&A flows tend to increase when directed to large economies with same official language. In another study, Aminian and Campart (2005) analyzed the macroeconomic determinants of all the M&As between Europe and Asia, announced between 1999-2004. The counties level of openness were identified as one of the most important factor, underlying the activity of M&A.

Further, numerous of studies have examined other macroeconomic factors, such as exchange rate and GDP, with contrasting results (di Giovanni, 2005; Ellis, Moeller, Schlingemann & Stulz, 2011; Madura, 2006). Ellis et al. found no significance of these macroeconomic factors and no further review will be made in this thesis.

# **3.3 Information Asymmetries**

Myers and Majluf (1984) developed a model of how companies decide on financing. They assumed that managers have information that investors do not have, and that this information is used in shareholders' best interest. The financial markets have strong efficiency when all available information is reflected in market price. However, it can be assumed that information which can harm the firm, will not be shared to the market (Yook, 2003). Thus, the financial markets are not fully efficient due to information asymmetry between management and the market.

Zhao, Luo and Suh (2004) state that information asymmetry is particularly high in crossborder M&As, mainly because of higher transaction costs in the deal. Firms will, in most cases, have imperfect information about the seller when conducting an M&A. This is in line with the research of Boeh (2010), who demonstrates that information asymmetry is higher in cross-border M&As compared to domestic M&As. Firms that conduct cross-border M&As face the liability of foreignness, which risks are significant in M&A because of uncertainties driven by incomplete information (Zaheer, 1996). Furthermore, differences in cultural, legal and management norms between countries are all factors that lead to higher transaction costs in cross-border M&As (Markides & Ittner, 1995; Reuer, Shenkar, & Ragozzino, 2004).

# **3.4** Transparency

The meaning of the word transparency can shift in different situations. In this content, the lack of transparency involves information asymmetry that is pervasive. In the political context, this asymmetry often entails a difficulty in understanding current policy and an uncertainty as to what the next step may be. The price for lack of transparency occurs as a political risk premium, which can be translated quantitatively into unrealized growth. Consequently, increased transparency in policymaking results in reduced political risk, a lower risk premium as part of the cost of capital, higher investment and increased economic growth for society as a whole. Thus, politicians have an interest in reducing information asymmetry on both national and regional levels. (Oxelheim, 1996)

In the business world, lack of transparency appears in the communication between insiders and outsiders that have an interest stake in the company. The cost of lack of transparency appears as an agency cost and a risk premium, which result in a lower valuation of the company. Thus, higher cost of capital and lower investments than what the company otherwise would obtain. (Oxelheim, 2010)

According to Oxelheim (2006), there exists a point of optimal transparency for the receiver of information, which is the stakeholder without insight. However, "optimal" depends also on the company's information, sensitive information that reaches competitors ears can hurt the company (Verrecchia, 2001). Oxelheim states thereby that "optimal" transparency has to be seen from both ways.

# 3.5 Managerial Rational Behavior in M&A

Motives for managers, which engage in M&A, can be linked to the principal-agent problem. The purpose of an M&A should be to maximize the shareholder wealth. Value drivers that define firm value are profit margins, capital turnover, growth and cost of capital (Kollar, Goedhart & Wessels, 2010). Thus, managers which engage in acquisitions based on improving these value drivers, have a rational approach, whilst managers which engage in acquisitions for other reasons, are most often considered to act irrationally. According to Bruner (2004), rational managers engage in acquisitions in an effort to exploit competitive advantage and realize synergies and respond rationally to external shocks. Furthermore, when the market periodically is irrational, these managers are expected to use acquisitions as a tool to take advantage of information asymmetries and undervaluation of firms. Alternatively, Roll (1986) introduces a hubris hypothesis, where irrational managers in rational markets are over optimistic and overestimate the potential synergy effects and the firms' ability to realize them.

According to Seth, Song and Petit (2002), there are two primary motives for managers to act irrationally and prioritize personal gains at the expense of shareholders' wealth; empire building and risk reduction. Empire building, since they want to enhance their position in the company and risk reduction since they want to diversify the firm's risks, all at the expense of the shareholders. Further, Seth et al. have found evidence that decisions to engage in acquisitions, based on managers' efforts to reduce risks by diversification activities in integrated markets, are non- value maximizing for the shareholders of the acquirer. This since, in general, shareholders themselves can engage in such activities at a lower cost.

Another theory which explains empire building by managers is the free cash flow problem, introduced by Jensen (1986). Jensen argued that high levels of free cash flow creates conflicts between shareholders and management. Since reducing excess cash will reduce resources for the management and therefore their power, this implies that managers have incentives to minimize the distribution of free cash flow to shareholders. Consequently, firms with high levels of free cash flow are more likely to have managers which engage in value destroying activities, such as an overvaluation of targets in cross-border M&As.

#### **3.6 The Efficient Market Hypothesis**

The efficient market hypothesis (EMH), introduced by Fama (1970), divides the market into three types of market efficiencies; weak, semi-strong and strong. If there is a weak form of efficiency, stock prices will fully reflect all historical data, thus stock prices will not react to new publicly announced information. In semi strong market efficiency, all public information available is reflected in the stock prices, hence announcements of acquisitions will be reflected in the stock prices. On the contrary, in a strong market efficiency, both public and private information are reflected in stock prices, thus announcements of acquisitions will not affect stock prices since they have already been predicted by the market.

There exists a large base of studies, concerning M&As and shareholder return. Most of them focus on the short-term effect of the announcement of the deal, where a semi-strong market efficiency is assumed. Although this method does not verify which value realized through the deal nor the effect of the operational performance of the combined firm, it is still the common way to avoid undesirable biases in the results (Chari, Ouimet & Tesar, 2010). Barber, Lyon and Tsai (1999) state that methods for measuring long-term performances of the firms are extremely sensitive to the sample period and the benchmark selection.

# 3.7 Shareholders Return from Cross-border M&As

Errunza and Senbet (1984) examined various measures of degree of internationalization in a firm and established a positive relationship between global diversification and firm's value. In a comprehensive study, Moeller and Schlingemann (2005) compare abnormal returns of domestic acquisitions with abnormal return from cross-border acquisitions, between the years 1985-1995. The study established, with statistical significance, that U.S. cross-border acquisitions had a positive abnormal return of 0.3 percent, whilst U.S. domestic acquisitions had a positive abnormal return of 1.2 percent. When they divided the sample into two subperiods, 1985-1990 showed no significant difference in return, whilst the period 1991-1995 had a highly significant 1.3 percent higher return, in favor of domestic acquisitions. Francis, Hassan and Sun (2008) obtained results consistent with this for their first sub-period 1991-1995. However, for their second sub-period 1996-2003, there was no statistically significant difference in return when comparing domestic and cross-border acquisitions of U.S. firms.

Other studies, based on recent time periods, have similar results. Ellis et al. (2011) established a significant average abnormal return of 1.5 percent for both U.S. domestic and cross-border acquisitions, in a sample period from 1990 to 2007. Consequently, the negative cross-border effect, established by Moeller and Schlingemann (2005), is no longer present.

#### 3.7.1 Shareholders Return in Emerging Markets

Morck and Yeung (1991) investigated what types of firms that should engage in global diversification. They found a positive and significant abnormal return when the acquiring U.S. firm already possessed substantial intangible assets. Furthermore, they found a negative insignificant return of 0.095 percent, when the target came from an emerging market. However, if the target firms were from a developed market, the return was 0.31 percent positive and significant. They argue that negative factors, like political risk and lack of transparency, have a bigger impact on U.S. investors, when performing acquisitions of emerging markets, compared to the gains from exploiting cheap labor and raw materials. In contrast, Francis et al. (2008) state that one of the main reasons for removal of the negative cross-border effect, are the characteristics of firms involved in the deals. More acquisitions targeted firms from emerging markets. Large U.S. firms acquiring emerging market firms, experienced a significantly higher average abnormal return of 1.46 percent, compared to large firms which acquired developed market firms, with a return of 0.55 percent. Furthermore, a study which strengthens the theory that intangible assets yield a higher return, have been made by Chari, Ouimet and Tesar (2010). They stated, that from 1986 to 2006, developed market acquirers experienced a positive and significant abnormal return of 1.16 percent, on average when there was an emerging market target. They found that the value of foreign control in emerging markets matter most in industries with high levels of intangible assets. They also established, that acquisitions of majority control in emerging markets are more likely to generate value if the control acquisitions are able to overcome weak institutional environment of the emerging market firm.

#### 3.7.2 Corporate Governance in Emerging Markets

Wang and Xie (2007) found that differences in acquirers' returns, could be explained by differences in governance between emerging and developed countries. A study, made by La Porta, Lopez-de-Silanes, Shleifer and Vishny (1999), state that emerging market countries

have higher macroeconomic and political uncertainties, in terms of poorer regulatory quality, control of corruption and legal system as well as worse political stability. All these country characteristics are associated with unique risks, which the cross-border acquirers face when targeting emerging markets. Ellis et al. (2011) state, using a sample of control cross-border acquisitions from 61 countries from 1990 to 2007, that acquirers from countries with a better governance gain more from acquisitions. They also show that gains were higher when the targets were from countries with worse governance. The acquirers also face fewer obstacles when regulation is less burdensome and corruption is weaker. Rossi and Volpin (2004) found similar results in their analysis, though countries with weaker shareholder protection are targets of fewer cross-border acquisitions. They showed that acquirers often come from countries with better accounting standards and stronger shareholder protection than the targets.

Contract enforceability matter most for firms with substantial R&D assets and firms with other types of intangible asset productions (Morck & Yeung, 1992). Emerging markets have weak contract institutions, which make it difficult for firms to write enforceable contracts (Dyck & Zingales, 2004; La Porta et al. 1999). Developed-market firms can increase their value through acquiring control, which can help overcome problems of incomplete contracting (Grossman & Hart 1986; Williamson, 1979). If the developed-market acquirer is able to bring better institutional practice for the emerging market target, it may drive up expected future cash flows (Coffee, 1999).

#### **3.8 Factors influencing the Deal**

There are numerous of studies made, which evaluate how the characteristics of deals correlate with abnormal returns. These factors are not motives behind M&A, instead they are determinants which explain what elements of the acquiring firms that affect abnormal return.

#### 3.8.1 Method of Payment, Private and Public

One of the most common factor evaluated in M&A research, with contrasting results, is method of the payment and its relationship to abnormal return. Andrade, Mitchell and Stafford (2001) argue that transactions that include equity or are solely equity-based, signals

that the acquiring firm's share price is overvalued, which leads to a negative reaction on the share. On the contrary, Chatterjee and Kuenzi (2001) state that transactions that include equity are not seen as a negative signal by the market, since it gives the target extra incentives to make a successful transaction. In a comprehensive study, Chang (1998) examines the wealth effect of equity payment versus cash payment for privately held- and publicly traded targeted firms. He states that equity offerings lead to a positive abnormal return for the acquirer, when the target is private, and a negative abnormal return, when the target is public. Cash offerings had no abnormal return for the acquirer, neither when the target was private or public. Chang argues that the positive wealth effect is related to monitoring activities by the targeted shareholders and reduced information asymmetry.

Francis et al. (2008) establish, with statistical significance, that there is a negative correlation with the target firm being publicly listed and average abnormal return. This is consistent with other studies, both for domestic returns (Chang, 1998) and cross-border returns (Moeller & Schlingemann, 2005). They all argue that the negotiation power is bigger for public firms, which lead to a higher premium for the acquirer.

#### 3.8.2 Deal Size and Market Capitalization

Other factors, which are frequently controlled for in studies, are the relative size of the deal and the market capitalization of the acquiring firm. Relative deal size is the deal's size compared to the market capitalization of the acquiring firm. The majority of studies have found a positive correlation with the relative deal size and the acquirer returns (Bruner, 2004). Some studies argue that the deal size is the most important factor (e.g. Fuller, Netter & Stegemoller, 2002) whereas other studies (e.g. Moeller, Schlingemann & Stultz, 2004) demonstrate that the market capitalization of the acquiring firm has a bigger impact. Furthermore, Moeller et al. show that small firms performing acquisitions have a higher return compared to large firms. Sudarsanam, Holl and Salami (1996) found similar results, stating that smaller deals create more value, with the explanation that smaller target are easier to integrate. Further, in line with Sudarsanam et al., Beishaar, Knight and van Wassenaer (2001) argued that the costs in larger deals outweigh the potential benefits.

#### 3.8.3 Pre-bid Performance

To measure pre-bid market performance, performance is usually measured with market-tobook (MTB) ratios. A high MTB-ratio are often regarded as a positive factor, since it implies expectations of high future cash-flows (Tuch & O'Sullivan, 2007). In spite of this argument, most empirical studies demonstrate negative correlations for acquirers' returns and high MTB ratios. Conn, Cosh, Guest and Hughes (2005) demonstrate a significant relationship where higher MTB ratios lead to lower acquirers' returns. This is in line with studies of Rau and Vermalen (1998); Sudarsanam and Mahate (2003). The authors argue that the hubris hypothesis (Roll, 1986), explained in section 3.5, is the key explanation for their results.

#### 3.8.4 Beta-value

Only a few studies have examined how beta values affect the acquirer's return. Francis et al. (2008) state that there is no difference in mean values of beta for acquirers, between emerging market targets and developed market targets. Furthermore, they show that high beta values generate a higher return compared to low beta values. They argue, that firms which are highly correlated with the market returns are more sensitive to the uncertainty of their own returns. Thus, the acquirer reduces this uncertainty by diversifying geographically and in some cases across industries.

# 4. Hypotheses and Control Factors

This chapter presents hypotheses which to be tested based on the literature review and theoretical framework followed by the determining of control factors.

# **4.1 Cumulative Abnormal Returns of U.S. Acquirers targeting U.K. and Chinese Firms**

As mentioned in the theory part, there have been numerous of studies that examine the abnormal return in cross-border M&A with various results. Recent studies indicate that cross border M&As, targeting emerging markets, are value creating for the acquiring firm (Chari et al. 2010, Francis et al. 2008). In addition, Ellis et al (2011) demonstrate an abnormal return of 1.5 percent for U.S. acquirers, both for domestic and foreign targets, where acquisitions of U.K. targets should have similar characteristics as domestic targets. Haspeslagh and Jemison (1991) argue that pre-M&A valuation and negotiation improves through experiences of cross-border M&A. U.S. firms perform most M&As in the world, which suggests that U.S. firms are highly developed in this area. As mentioned, the negotiation power is bigger when the target is publicly listed. Since all the target firms in our sample are private, it further increases the likelihood of a positive return. Thus, we state that U.S. acquiring U.K. firms and Chinese firms with the two following hypotheses:

Hypothesis 1: Acquisitions of Chinese firms yield, on average, a positive CAR to the shareholders of the acquiring firm.

# Hypothesis 2: Acquisitions of U.K. firms yield, on average, a positive CAR to the shareholders of the acquiring firm.

A lot of previous studies argue that empire building, driven by managers, is the main reason behind M&As (Jensen, 1988). The hubris hypothesis, where managers overestimate the synergy effects and their ability to realize them, is another common problem for managers engaging in M&A (Roll 1986). These are all general problems in M&A transactions, but the

upside potential of acquiring a Chinese firm could increase the risk further for managers to act irrationally.

Francis et al. (2008) argue that the removal of the negative cross-border effect for U.S. firms for their first sub-period (1990-1995) to the positive effect in their second sub-period (1996-2003), is mainly because of the de-regulations in emerging markets, increasing the number of acquisitions made in emerging markets. However, Chinese firms experience strong state interference, which suggests that the weak corporate governance in emerging markets, which leads to better returns for the shareholders (La-Porta et al., 1999), cannot be exploited by the U.S. firms in the Chinese market. Furthermore, Ellis et al. (2011) argue that poor respect of the rule of law and poor control of corruption are threats to successful acquisitions. In addition, same official language and small cultural differences are other arguments that strengthen our belief that U.S. firms, acquiring U.K. firms, yield a higher CAR, compared to acquiring Chinese firms. We therefore state our third hypothesis:

Hypothesis 3: Acquisitions of U.K. firms have a higher CAR compared to acquisitions of Chinese firms.

#### 4.1.1 Listed on Nasdaq

Chari et al. (2010) found that the value of foreign control in emerging markets matter most in industries with high levels of intangible assets. The internalization theory (Caves, 1990), proposed that if firms are able to take advantage of intangible assets abroad, it should increase their value. Coffee (1999) argues, that if the developed market acquirer is able to bring better institutional practice to an emerging-market target, it may create value. However, contract enforceability matters more for a transaction which involves intangible assets. Thus, weak contracting institutions and political risk make it difficult for firms to write enforceable contracts, which could have a negative effect on the transaction. China has, as mentioned in section 2.2, an ineffective corporate governance and Company Law, which indicate that efficiency by a foreign acquirer could create value. However, even though the corporate governance is ineffective, compared to similar acquisitions in emerging markets, there still exist several restrictions for foreign buyers. Hence, the positive factors of acquiring intangible assets may not apply for Chinese targets, whilst negative factors like political risk and lack of transparency are still present. Furthermore, in acquisitions of

tangible assets it may be easier to estimate the value of the assets, whilst the information needed to estimate the value of intangible assets is more comprehensive. Thus, we argue that transparency is more important in industries with high levels of intangible assets. We estimate it to be harder to create value through acquisitions of Chinese firms, which contains a substantial amount of intangible assets and formulate following hypothesis:

Hypothesis 4: The acquirer's CAR from a Chinese acquisition is negatively correlated with the acquiring firm being listed on Nasdaq.

#### **4.2 Determining Control Factors**

In order to establish which characteristics of the deal that influence the correlation between the abnormal returns of Chinese and U.K. targets, we use control variables. We will in this section explain the probable outcome for some of these variables.

#### 4.2.1 Method of Payment

From previous literature, there have been contrasting results of different methods of payment. Targets in emerging markets are often reluctant to accept foreign equity. On the other hand, Chatterjee and Kuenzi (2001) state that transactions, which includes equity, are seen as a positive signal from the market, since it gives the target incentives to make a successful transaction. In addition, Chang (1998) found that equity based payment-methods have a positive abnormal return for the acquirer, when the target is a private firm. Since this study only includes private firms, we argue that the lack of transparency in Chinese firms, which could be a negative factor in cash payments, will be mitigated with a combined or solely equity based payment.

#### **4.2.2 Relative Deal Size**

Most of the studies, which evaluate the effect of the relative deal size, have found the relationship to be positively correlated with abnormal returns. U.S. firms that acquire Chinese targets are, on average, smaller than U.S. firms acquiring U.K. targets. However, the relative deal size is somewhat similar. Fuller et al. (2002) demonstrate that the deal size plays the

biggest role when evaluating relative deal size, whereas Moeller et al. (2004) show that the size of the firm is more important. Both studies show that higher relative deal size has a positive correlation to CAR, which indicates that both U.K. and Chinese targets should have a positive correlation.

#### 4.2.3 Pre-bid performance and Excess Cash Holdings

Previous literature, in general, shows a negative correlation for high market-to-book (MTB) ratio and acquirer returns. This factor could be linked to the theories of agency problems with high cash flows and managerial rational behavior. Both in firms with high cash flows and high MTB-ratios, managers tend to be over confident and overestimate the synergy effects of the deal, which indicate that both these variables are negatively correlated with abnormal return (Roll, 1986; Conn et al. 2005).

### **4.3 Explanatory Variables**

In addition to control for deal specific factors of the acquisition, we chose to include country specific factors, which could have an influence on CAR. These variables are five governance factors; voice and accountability, control of corruption, rule of law, regulatory quality, government efficiency and one average variable of these five indices (see section 5.6.4). Following the findings by Wang and Xie (2007), regarding transfer of corporate governance, we expect to find that differences in returns between acquisitions of the Chinese market and the U.K. market can partly be explained by differences in governance. As mentioned, La Porta et al. (1999) argue that countries with poor legal systems are associated with lower firm valuations, due to a lack of corporate governance. On the other hand, Ellis et al. (2011) argue that poor respect of the rule of law and poor control of corruption are threats to successful acquisitions, but they still state that the level of governance is negatively correlated to the return. As we have argued in H.3 and H.4, we believe that negative factors, like political risk and lack of transparency in China, diminish the positive effects of exploiting inefficient legaland corporate governance systems. Hence, we believe that the negative arguments of Ellis et al. have a bigger impact on China, compared to other emerging markets. In line with our previous arguments and contradictive to previous studies of emerging markets, we expect CAR to be positively correlated to level of governance in China and U.K.

# 5. Methodology

Chapter five runs through methodological approach towards this empirical study. It starts with a research approach as well as data collection, reliability and validity of the thesis. The chapter ends with explanations of the event and explanatory regressions.

# **5.1 Research Approach**

In this thesis a deductive approach is used. We began with collecting and understanding theory about the subject cross-border M&As, which further on was used for formulating the hypotheses. After, the hypotheses were tested with multi regressions and control variables, the thesis ends with an analysis of results and concluding remarks.

The primary purpose of this thesis is to determine if cross border acquisition, made by U.S. firms targeting Chinese firms and U.K. firms, creates value for the acquirer. The secondary purpose is to establish how the level of intangible assets affects the acquirers' returns.

Quantitative data are collected and used to test hypotheses in an appropriate and objective way. Furthermore, the findings are used to decide if the hypotheses are to be rejected or not. To sum up, this study uses an empirical research strategy to test if cross-border M&As, targeting Chinese and U.K. firms, are value creating for the acquirer and if it can be inferred to by some determinants.

# 5.2 Data Collection and Reliability

In a research and event study, there are two major types of data used: primary and secondary. Secondary data is data collected by someone else such as books, journals etc. (Ober, 2007), thus all data in this thesis are secondary.

We have chosen to study cross-border M&As announcements, where acquiring firms are from U.S. and targeted firms are from China and U.K. The U.S. firms have to be listed in order to measure the changes made of the announcement in the stock price. To get our sample of M&A deals we used the database Thomson Reuters 3000Xtra, which is classified as a reliable

database, "the world's leading source of intelligent information for business and professional" (Thomson Reuters, 2012). In order to test the reliability of the database, some observations have been controlled by other sources such as company reports. The two samples consist of cross-border M&As, which fulfils the selection criteria, see section 5.4.2.

The acquiring U.S. firms' stock prices were collected from Thomson Reuters Datastream Advanced, classified as a reliable database, since it is the world's largest financial statistical database (Datastream, 2012). A more comprehensive discussion about Thomson Datastream is written in section 5.5.

Furthermore, the country variables, used in the regressions, were collected from World Development Indicators (WDI), which is the World Bank's primary database. The database consists of development data from officially-recognized international sources (Worldbank, 2012).

The regressions will be run using the ordinary least squares (OLS) method in the econometric software EViews, a tool used in a great number of statistical researches. Statistical calculations, using our data material, should give correct results given our specifications.

# **5.3 Validity**

Validity can be divided into internal and external validity. Internal validity in a study tells how well the measurements, used in a study, truly measure the intended and if one variable actually affects another (Bryman & Bell, 2005). In our case, can we conclude that one variable affects another? What is essential to understand is if the changes in share price are a fair reflection of the changes in the value, and based on this, a model is constructed to calculate the changes in the stock prices, both when the events has and has not taken place. Our study is based on the assumption that the market has semi-strong efficiency (Fama, 1970). However, there is a possibility that the stock price fluctuations depend on more than the announcement effect, which would distort our result. Nevertheless, the method used in our study has been used in similar studies, which increases the validity. The relatively short event window also mitigates the risk of a distorted result.

External validity regards whether the data sample reflects the reality and is applicable in other situations. Our study's main purpose is to measure the potential existence of differences in U.S. firms' abnormal return, between acquisitions of Chinese and U.K. firms. We should start by asking if the stock prices' reactions are the correct way in measuring value creation. We also need to determine if the reactions in stock prices around the event window are due to the announcement of the deal or a result of exogenous factors. To mitigate these uncertainties, we have chosen, for our primary estimations, a narrow event window of 9 (-4, +4) days. This narrow event window is intended to exclude the abnormal return, which is not attributable to the specific event. By using proven methods and sources, we will ensure external validity in our study.

### 5.4 The Event Study

The market is assumed to be efficient in such way that an economic event will immediately be reflected in the stock price (MacKinlay, 1997). We have divided the description of the method used in several steps, following MacKinlay.

#### 5.4.1. Event Window Definition

Central to empirical study is to measure the short-term abnormal return of the acquirer in the days surrounding the announcement of the acquisition. The day of the announcement of the deal is counted as day 0 of the event. In addition to the arguments for using semi-strong market efficiency, this definition of the event is widely used in similar event studies, focusing on M&As (Brown & Warner, 1985). Furthermore, the number of days, which to be included in the event surrounding the announcement day, need to be decided, to capture all abnormal price effect of the stock. Considering the semi-strong market efficiency theorem, only the day of the announcement must be included, to capture the full effect of the event, however most studies choose to expand the window, to capture the total effect of the announcement. MacKinlay (1997) states two arguments for expanding the window. First, by including days after the event, the price effects which take place after the stock market is closed will be captured. Secondly, by including the days before, it will capture the price effects of potential leaks of the deal. Including more days would also balance overreactions of the stock price, which could occur on the announcement day.

Studies similar to ours, such as the one performed by Ellis et al. (2011), applies a five day event window. However, following MacKinlay's arguments, we have chosen to focus on a nine (-4, +4) day event window, considered to be sufficient for capturing the whole effect of the announcement. Further, we will use several short-term intervals, in order to account for problems with biased results that could be a risk, when using a large event window. Therefore, to increase the validity of our study we will also present results based on a three (-1, +1), five (-2, +2) and seven (-3, +3) day windows. However, discussions and conclusions regarding our findings are solely based on a nine day event window.

The size of the estimation window differs between previous studies made on the subject. Moeller and Schlingemann (2005) use -6 to -205 days for their studies and Andrade, Mitchell and Stafford (2001) use a window of -20 to -142 days. For our study, we chose to use the large range, in line with Moeller and Schlingemann (2005), for our estimation window, setting the window to -6 to -205 days, which will incorporate an even 200 days into the window. To have sufficient data that cover our estimation window as well as our event window, we collected stock price data +4 to -205 days surrounding the announcement day.

#### 5.4.2 Selection Criteria and Data filtering

Following section outlines our sample selection and the criteria applied for filtering the data in order to arrive at our samples.

In our thesis, we study the announcement effect on the stock prices of U.S. companies performing cross-border mergers and acquisitions, targeting Chinese and U.K. firms. In order to be able to put this potential effect into perspective, two initial datasets were acquired, containing U.S. acquirers. The sets consisted of cross-border acquisitions, targeting Chinese firms and U.K. firms. We have chosen to narrow down our sample to only include U.S. acquirers, similar approach have been made by Moeller and Schlingemann (2005).

For the sample, Reuters 3000 Xtra database was used, with following restrictions on the data:

- the cross-border M&A was announced between January 1<sup>st</sup> 2003 and December 31<sup>st</sup> 2011
- the acquirer was listed on Nasdaq Stock Exchange or New York Stock Exchange
- the target was based in U.K. or China
- the acquirer and target was in the same industry

- all deals had a known value
- the target public status was private or subsidiary
- the percent owned post-transaction was between 50 percent and 100 percent
- the deal status was complete
- the transaction was classified as a merger or acquisition

Our two samples will include deals which have been announced between 2003-01-01 and 2011-12-31. We start collecting samples from the year 2003, which was the year China were announced to be the largest receiver of FDI (UNCTAD, 2006). Furthermore, the few numbers of M&As made by U.S. firms in China, before the year 2003, made us decide not to include deals before 2003.

Because our study measure changes of shareholder wealth of the acquirers, information about the acquirer's stock price was needed, and thus the acquirer had to be publicly listed during the event window (Moeller et al., 2004). The wealth effect of the targeted firm will not be studied and for better comparison, all the targeted firms' public status was private.

The acquirer and target were required to be in the same industry, because this research focuses on geographic diversification and the difference in the abnormal return between industries. Thus, we excluded transactions which would influence because of industrial diversification.

We only include transactions that were classified as mergers or acquisitions in Reuters 3000 Xtra, not as strategic investments. Firms that are not listed today but were during the event were included, hence, avoiding any survival bias problems. We required the transactions to be completed, similar to Moeller et al. (2004).

We have applied three additional filters to the resulting datasets. Firstly, observation where the acquiring firm held a stake over 49 percent in the target firm, prior to the announcement date, were excluded, thus to ensure acquisitions of control. Secondly, deals with a transaction value below one percent of the acquiring firm's market capitalization, three months before the announcement date, were excluded. This argument follows the recommendations made by Asquith, Bruner and Mullins (1983) which suggest that abnormal returns, associated with too

small deals, are not statistically significant. Thirdly and finally, events where the same acquirer has performed several transactions within the defined event window, -4, +4 day, are excluded from the sample, to avoid distortion of the abnormal return estimates. With these criteria we derived with an initial sample of 86 Chinese observations and 164 U.K. observations.

Furthermore, we also excluded deals which did not have sufficient share price information in Datastream. For instance, firms which might have been listed on a stock exchange just months or weeks prior the announcement of an M&A, thus, not having enough data to be able to fulfill the requirements for an estimation of normal returns. In addition, transactions with illiquid shares were excluded from the samples.

The resulting dataset represent our samples and include 56 observations with Chinese targets and 98 observations with U.K. targets. The difference in sample size is obviously due to the frequency of cross-border transactions involving U.K targets are higher compared to transactions involving Chinese targets. Previous research, made by Chari et al. (2010) and Francis et al. (2008), have shown similar discrepancies in sample size, when comparing developed and emerging markets.

#### 5.4.3 Survivorship Bias

Survivorship bias is a risk that the samples we collect only represent one type of companies, which could occur in this kind of study. As mentioned, we use Thomson Datastream to retrieve stock quote data, which makes us, to some extent, not subject to the case of delisted companies being ignored. The reason of this is that Thomson Datastream reports delisted firms with the last valid data point (Ince & Porter, 2006).

Ince and Porter (2006) state that in regards to the amount of markets covered and securities covered, there is no comparable source to Thomson Datastream. In addition, Thomson Datastream is used in many studies, for to compile samples of all stocks traded within a national market (Ince & Porter, 2006). There are however, some imperfections with Thomson Datastream as a source of data. Ince and Porter found it to be difficult, or near impossible, to correct imperfections without a secondary data source.
Thomson Datastream relies on secondary data, which could suffer from survivorship bias due to misrepresentation in their database or be inconsistent, therefore we have taken on measures to prevent survivorship bias, as mentioned in selection 5.2. We chose to rely on Thomson Datastream, due to the widespread use of their data.

# **5.5 Calculating Cumulative Abnormal Returns**

When calculating cumulative abnormal returns, hereafter CAR, there are three steps that must be implemented. An estimation of the normal return, as a measure of market reactions, is the first step. Secondly, abnormal return, unexpected return, is calculated by comparing the normal return to the actual. Finally, CAR is calculated by summarizing all abnormal returns for a given share at a given day in the event window. Each of the steps and motivations for models and indexes will following be explained more in detail.

## **5.5.1 Normal Returns**

The normal return of a share is defined as the expected return assuming that the acquisition never occurred and, thus, was never announced. In this thesis, the normal returns were calculated for each deal. The actual return and the normal return will be compared within the event window through the abnormal return, in order to test an impact of a certain event. MacKinlay (1997) proposed several methods in how to measure normal returns. To increase the validity of our study, we calculate the normal return with both the Market Model and the Market Adjusted Model.

The Market Adjusted Return Model assumes that the mean of a specific stock is constant through time and the Market Model assumes a stable linear relation between the market return and the stock return (MacKinlay, 1997). Brown and Warner (1980, 1985) state that the Market Adjusted Return Model is the simplest model, however the model often yields similar results of more sophisticated models. According to MacKinlay, the advantage of using the Market Model over the Market Adjusted Return Model is that by removing a portion of the return, which is related to the market's return variation captured in the stock's beta, the variance of the abnormal return is reduced.

The formula for the Market Model is as follows:

$$Re_{i,\tau} = \alpha_i + \beta R_{m,\tau} + \varepsilon_{i,\tau} \quad (1)$$

Where:

$Re_{i,\tau}$ :	the actual return for share $i$ on day $t$
$\varepsilon_{i,\tau}$ :	error term
β:	slope coefficient associated with the return of the market portfolio $(m)$
$\beta R_{m,\tau}$ :	(normal) return on the market portfolio $(m)$ on the announcement day $(t)$
$\alpha_i$ :	intercept term

The Standard and Poor's 500 (S&P 500) index has been chosen for the normal return on the market portfolio. The index has been widely regarded as the best single measurement of the U.S large cap equities market, since the index was first published in 1957 (Standard and Poors, 2012).

The two coefficients  $\alpha_i$  and  $\beta$  are determined by ordinary least squares (OLS) regression and are calculated for each company in our sample, based on a historical pre-event estimation period, see above discussion of estimation window.

The Market Adjusted Return Model is as follows:

$$Re_{i,\tau} = R_{m,t} \tag{2}$$

Where:

 $R_{mt}$ :the return of the market portfolio on day t $E(R_{i,t})$ :normal return on the stock (i) at announcement day (t)

Market Adjusted Return Model has the same arrangements as the Market Model. However, the differences in the Market Adjusted Return Model are the assumptions;  $\beta$  equals to 1,  $\alpha$  equals to 0 and the error term  $\varepsilon$  to be equal to 0.

## **5.5.2 Abnormal Returns**

With our data, we calculate the first step in the CAR calculation, which is the abnormal return (AR). The AR is, as mentioned earlier, the difference between the actual and normal return for a given share on the event day t.

We conduct, as mentioned, both the Market Model and the Market Adjusted Return Model:

$$AR_{i,\tau} = R_{i,\tau} - \hat{\alpha}_i - \hat{\beta}_i R_{m,t} \quad (3)$$
$$AR_{i,\tau} = R_{i,\tau} - R_{m,t} \quad (4)$$

Where:

*ARit:* the abnormal return for share *i* on day *t* 

We proceed by determining the abnormal return for each acquiring firm's stock. Datastream provides return data directly so we do not need to convert prices into returns. The return data from Datastream has also been adjusted for dividends, stock issues and splits. Each stock's return is aggregated for the event windows, which gives us the CAR for each specific security.

## **5.5.3 Estimation Period**

To be able to estimate the parameters of the market model, we need to use historical pre-event data. A choice needs to be made regarding the measurement period and how frequently the returns should be measured.

There exist some arguments concerning beta estimates. Merton (1980) argues that beta estimation is improved the more frequently the returns are measured. However, Scholes and Williams (1977) argue that non-synchronous trading can result in biased estimates when using daily stock data. They argue that beta estimates will see a downward biased for assets with infrequent trading and upward biased for assets with frequent trading. Scholes and Williams solution to these problems is to use less frequent data, such as weekly and monthly returns instead of daily. However, Brown and Warner (1985) argue that Scholes and Williams paper

does not imply that non-synchronous trading will result in a misspecification of an event study, using OLS estimates of alpha and beta. By definition, OLS regression forces the residuals to sum up to zero by including the intercept alpha. Thus, the biased beta will be compensated with offsetting biasness in the alpha.

We use log returns in our study and assume stationary in our returns, which leads us to assume that the excess return of any specific assets has a zero mean unconditional on the market return. Even though the excess return on a given asset may be biased, it does not necessarily imply a misspecification of the event study itself, since the overall average bias should be zero, as shown by Brown and Warner (1985). Referring to the discussion above, we have decided to use the daily frequency on our return data.

## 5.5.4 Hypothesis Testing

To determine if abnormal returns exist, the average abnormal return, AR, is calculated of each security in every period in the event window. Further, each individual security's abnormal return is aggregated for all the event windows which give us the CAR for each specific security.

$$\overline{AR_{\tau}} = \frac{1}{N} \sum_{i=1}^{N} AR_{i\tau}$$
(5)  
$$\overline{CAR}(\tau_1 \dots \tau_2) = \sum_{\tau=1}^{\tau_t} \overline{AR_{\tau}}$$
(6)

The CARs are calculated for four different periods [-1, 1], [-2, 2], [-3, 3] and [-4, 4] around the announcement date. Further, the average abnormal returns are aggregated over time for each event window.

The null hypothesis and the alternative hypothesis are formulated as:

# H0: CAR = 0 H1: CAR $\neq 0$

In order to establish if the null hypothesis can be rejected we perform a t-test. This requires us to estimate the variance in the sample returns. Using historical estimations of variance in the respective asset's price would be to assume that the event does not induce additional variance. We have reasons to believe that the event does induce additional variance in the returns but we are only interested in the value creating mean effect. Thus, we may, incorrectly reject the null hypothesis by basing our variance estimates on past returns. To solve this problem Campbell, Lo and MacKinlay (1997) recommend using the cross-sectional approach to estimate the variance. We follow this method and estimate our sample variance in the following way:

$$\widehat{Var}[\overline{CAR}(\tau_1,\tau_2)] = \frac{1}{N^2} \sum_{i=1}^{N} \left( \left( CAR_i \left( \tau_1, \tau_2 \right) \right) - \overline{CAR} \left( \tau_1, \tau_2 \right) \right)^2$$
(7)

An assumption of uncorrelated abnormal returns is needed, in order for this variance estimator to hold. Brown and Warner (1985) show in their paper that this assumption holds when the event day is not the same for all firms in the sample, which hold for our study. Given the variance, we can test our null hypothesis, using the central limit theorem of natural distribution. The test statistic is formulated as:

$$t = \frac{\overline{CAR}(\tau_1, \tau_2)}{\sqrt{\overline{VAR}} \left[\overline{CAR}(\tau_1, \tau_2)\right]}$$
(8)

# **5.6 Explanatory Regression**

We intend to find an explanation for the potential difference in abnormal return, between Chinese transactions and U.K. transactions, upon the announcement of a deal. We first have to establish, that such a potential discrepancy between the two samples is not a product of factors influencing returns on a deal-by-deal basis, but rather a result of low transparency. To do this we have performed cross-sectional regressions, using the cumulative abnormal returns (CAR) as the dependent variable and a Chinese dummy variable [CHINADUM] as the independent variable. We control for several deals specific as well as acquirer specific factors, which expect to affect bidder returns. Two regressions will test the effect of transparency by using the acquiring firm's listing and method of payment as a control variable. We will also try to identify country specific factors driving the occurrence of abnormal returns. It is important to notice that the regressions, based on country specific factors, are kept completely isolated from the previous regressions. This due to a high correlation between the Chinese dummy variable and the country specific factors, see appendix A.4.4 correlation matrix.

The cumulative abnormal returns for each security are further tested to see if they are related to some firm- or deal specific variables. By using cross-sectional regression analysis, we test several variables effects on the firms' CARs, around the announcement day. The following dependent and independent variables are included:

# 5.6.1 Dependent Variable - CAR

The dependent variable in our regression is the cumulative abnormal return (CAR). The CAR for each deal is collected and used in the regression. We have chosen to run explanatory regressions with CAR from the Market Model, with the event window (-4, 4), as this has shown to capture most of the announcement effect, see table 6.1 and 6.2.

# 5.6.2 Independent Variables

## Chinese target

Firms targeting Chinese firms are assumed to create a positive CAR. To test the relationship between CAR and when the target firm is Chinese, we create a dummy variable:

CHINADUM = Value 1 was assigned if the target was from China and 0 from UK

# **Transparency**

Low transparency is assumed to affect the CAR negatively. Acquiring firms, listed on Nasdaq, assumes to buy firms with high levels of intangible assets. Firms which buy intangible assets, are more affected by low transparency. We formulate following dummy variables:

NQDUM = Value 1 was assigned if the firm were listed on Nasdaq and 0 if listed on NY

To test how the CAR differs when the acquiring firm, listed on Nasdaq stock exchange, target a Chinese firm, we create the control dummy variable:

NQCHDUM = Value 1 was assigned when the firm was listed on Nasdaq and the target was Chinese and 0 if otherwise

Another control variable was created to test how CAR was affected when the acquiring firm, listed on Nasdaq, target a U.K. firm:

NQUKDUM = Value 1 was assigned when the firm was listed on Nasdaq and the target was from U.K. and 0 otherwise

# **5.6.3** Control Variables

# Method of Payment

The control variable was stated that combined, or solely equity payment method outperform cash transactions. The method of payment in the transactions was classified as a complete cash, complete equity or as combined method of payment. The following dummy variables are created:

MIXPDUM = Value 1 was assigned if the payment included a combination of cash and equity or solely equity and 0 if otherwise

To see if there is a relationship between CAR and when the transaction contained a Chinese target we created another dummy variable:

MIXPCHDUM = Value 1 was assigned if the payment included a combination of cash and equity or solely equity and the target was a Chinese firm and 0 if otherwise

# **Pre-bid Performance of Acquirer**

As a proxy for pre-bid performance, the Market-to-Book ratios (MTB) were used. Companies with high MTB ratios were assumed to receive less abnormal returns than companies with low ratios. The factor is also meant to capture the potential effect on cumulative abnormal returns, due to the classification of companies as growth companies or value companies. We state following control variable:

MTB = Bidder's market-to-book ratio in deal *i* 

# **Relative Deal Size**

Another control factor is relative deal size. The factor is meant to capture the potential effect between size and cumulative abnormal return. We defined relative deal size as the deal value divided by the acquiring firm's market capitalization to get a ratio to show the size of the deal, as a percentage of the acquirer's market value:

DEALSIZE = The ratio of deal value to bidder's market value

# Excess Cash holdings

As mentioned in section 4.2.3, high cash flows are assumed to be negatively related to CAR. To test this assumption, the acquirer's enterprise value was divided by its earnings before interest, taxes, depreciation and amortization to get the firm's ratio of excess cash. What is important to notice with our estimation is that a high ratio of EV/EBITDA shows a low excess of cash holdings. We formulate following control variable:

 $EV\_EBITDA = Cash$  flow ratio of the acquirer in deal *i* 

#### Market capitalization

For the more firm specific factors, we have chosen a variable of the acquirer's market capitalization. The variable aims to control the acquirer's size, through its market capitalization. We expect a negative relationship with CAR. Following variable is created:

MARKETCAP = The market capitalization of the acquirer one year before the deal i

#### Beta and Standard Deviation

The last two factors, which are going to be controlled for, are standard deviation and beta. These two factors are based on stock data for the estimation window and are intended to control for momentum effects as well as the systemic risk faced by the acquiring firm's stock holders.

STDDEV = The acquiring firm's standard deviation before the deal i

BETA = Beta for the acquirer before the deal I

# 5.6.4 Explanatory Variables

The country specific factors consist of five governance factors, sourced from World Databank, intended to reflect the overall governance level in the target country, see appendix A.3.1. Although the factors are maintained by the World Databank, they were originally developed by Kaufmann et al. (2009). The five different factors take on values based on units of the standard normal distribution, ranging from approximately -2.5 to 2.5, where higher values indicate a stronger level of governance. First one of these factors is Voice and Accountability [VOICE\_ACC], which captures perceptions of the extent to which the citizens of the target country are able to participate in choosing their government, as well as their freedom of expression and autonomy of the media. A higher value of this factor indicates a greater freedom of expression. The next governance factor is Control of Corruption [CTRL\_CORR] and measures the perception about the extent that public power is exercised for private gain, where a higher value indicates better control of corruptions of the extent to which agents have assurance in and abide of society rules. In particular the quality of contract enforcement and property rights are measured, as well as the likelihood of

crime and violence. The fourth governance factor is Regulatory Quality [REG\_QUQL] and it measures the ability of the target country government to formulate and implement sound policies and regulations allowing for private sector development. The fifth and last governance control variable is named Government Effectiveness [GOV\_EFF] and intends to capture the perception of the quality of public service and its independence from political pressure. It also measures the quality of policy formulation and implementation and the government's commitment to follow such policies.

In addition to the five governance factors, we have also constructed a variable consisting of the average of the governance variables [AVE\_GOV]. The variable is intended to capture the overall governance level of target countries.

Because World Databank only shows governance values for the year of 2009, we will only use deals between the years 2003-2009 when we examine country variables.

# 5.6.5 Cross-Sectional Regression Models – Control Variables

To see if the potential relationship between cumulative abnormal returns and Chinese transactions hold, after controlling for factors that are expected to affect the abnormal return, four multi-factor regression models have been developed. Model one contains the Chinese dummy variable [CHINADUM] and is meant to control how the CAR is affected when the targeted firm is Chinese. Regression Model two contains a combination of factors that theoretically should have an effect on CAR. Model three and four are identical to model two, with the exception that Model three has a dummy for acquiring firms listed on Nasdaq targeting Chinese firms [NQCHDUM]. The same goes for Model four, except it has a dummy for U.K. targets [NQUKDUM]. The fifth and last model is the same as model two, except it contains a dummy variable for method of payment for firms targeting Chinese firms [MIXPCHDUM].

We test above explanatory variables against CAR with the following multivariate regression models. We chose, as mentioned, the event window (-4, +4). The mathematical representation for each of the five models is shown below:

# Model 1

 $CAR_{i} = \alpha + \beta 1 CHINADUM$ 

# Model 2

 $CAR_{i} = \alpha + \beta_{1}CHINADUM + \beta_{2}BETA + \beta_{3}DEALSIZE + \beta_{4}EV\_EBITDA + \beta_{5}MARKTCAP + \beta_{6}MIXPDUM + \beta_{7}MTB + \beta_{8}NQDUM + \beta_{9}STDDEV + \varepsilon_{i}$ 

# Model 3

 $\begin{aligned} \text{CAR}_{i} &= \alpha + \beta_{1} CHINADUM + \beta_{2} BETA + \beta_{3} DEALSIZE + \beta_{4} EV\_EBITDA + \beta_{5} MARKTCAP + \\ \beta_{6} MIXPDUM + \beta_{7} MTB + \beta_{8} NQDUM + \beta_{9} STDDEV + \beta_{10} NQCHDUM + \varepsilon_{i} \end{aligned}$ 

# Model 4

 $\begin{aligned} \text{CAR}_{i} &= \alpha + \beta_{1} CHINADUM + \beta_{2} BETA + \beta_{3} DEALSIZE + \beta_{4} \text{EV}\_\text{EBITDA} + \beta_{5} MARKETCAP \\ &+ \beta_{6} MIXDUM + \beta_{7} MTB + \beta_{8} NQDUM + \beta_{9} STDDEV + \beta_{10} NQUKDUM + \varepsilon_{i} \end{aligned}$ 

# Model 5

 $CAR_{i} = \alpha + \beta_{1}CHINADUM + \beta_{2}BETA + \beta_{3}DEALSIZE + \beta_{4}EV\_EBITDA + \beta_{5}MARKTCAP + \beta_{6}MIXPDUM + \beta_{7}MTB + \beta_{8}NQDUM + \beta_{9}STDDEV + \beta_{10}MIXPCHDUM + \varepsilon_{i}$ 

The parameters  $\alpha$  and  $\beta$  will be estimated using the ordinary least squares (OLS) method. Several tests will be run on the models to make sure the assumptions of the classic linear regression model are fulfilled. The first assumption is that the average error term is zero. Because of the constant intercept term in the model, the assumption is fulfilled (Brooks, 2002, p.146). The second assumption is the variance of error is constant, it is homoscedastic. The White's test (1980) has been chosen to test the model of homoscedastic residual.

That the errors are normally distributed is another assumption. A Jarque-Berra test (Jarque & Berra, 1987) is used to check if the residuals are normally distributed. The Jarque-Bera test is a goodness-of fit measure of departure from normality, based on the sample kurtosis and skewness. It is necessary that the explanatory variables are non-stochastic. Because of the independent error term and the explanatory variables, this assumption is fulfilled.

An implicit assumption is made when using the OLS model that the explanatory variables are not correlated (Brooks, 2008). If the variables would be correlated, the multi-collinearity

problem would occur, which would lead to inflated R2 and high standard errors for the coefficients. The variables would not be significant and the coefficients would be very sensitive when removing or adding a variable, also, the significance test would not give appropriate conclusions. To test for multicollinearity a correlation matrix is made for the regression variables. The rule of thumb, where all levels, under 0.8, are treated as non-problematic (Brooks. 2008), is used. The last assumption, of the OLS method, is that the correct model is linear in the parameters. The Ramsey RESET test is used and is a general test for misspecification of the functional form (Ramsey, 1969).

These assumptions and tests are done for all of our five models, even though, only the tests of model 2 are presented in appendix (A.4.1, A.4.2 and A.4.3). Furthermore, results from the tests are analyzed in section 6.2.2.

#### 5.6.6 Cross-Sectional Regression Models – Explanatory Variables

In the previous section, we test to see if the Chinese dummy variable [CHINADUM] holds significance over and above the controlling deal specific and acquirer specific factors. In the following section, we try to explain such potential correlation on the basis of country specific factors. Regressing the cumulative abnormal return on to country specific factors will provide us with a coefficient that, in combination with those differences between the samples, can help us draw conclusions about the relevance of such factors to the creation of cumulative abnormal returns. For the entire sample, we use each country specific variables individually in cross-sectional regression models with the abnormal return as the dependent variable. This approach results in one model for each of the six factors.

# **6.** Empirical Findings

This chapter presents the empirical findings. We first present some sample distribution and deal characteristics followed by the results for CAR and then the results for the explanatory variables. The chapter ends with an explanation for the results of the multiple regressions.

# 6.1 Acquirer Returns

In figure 6.1 and 6.2 we present the average abnormal returns for nine event days included in the event window for China and U.K. The p-value for the announcement day, day T, is demonstrated for both the market adjusted return model and the market model.

# Figure 6.1







As shown, the two different models yield similar results. A comparison of the two samples indicates that information leaks when acquiring Chinese targets, and the abnormal return is captured before and on day T. The abnormal return is significant at a five percent level on day T. U.K. targets have an under reaction on day T, which leads to the high abnormal returns the days after the announcement. One strong similarity between the samples is the negative abnormal return on day T-1, which shows uncertainty in the market before the announcement is made. We proceed by evaluating CAR for the two different models. Table 6.1 and 6.2 shows the CAR and the significance for our four different event windows.

#### Table 6.1

#### China

## **Cumulative Abnomal Returns**

	Event Window			
	[-1,1]	[-2,2]	[-3,3]	[-4,4]
Market Adjusted return model	0,632%	1,03%	2,26%	2,81%
	[15%]	[10%*]	[4,6%]**	[2,4%]**
Market Model	0,683%	1,57%	2,56%	3,14%
	[15%]	[6,5%*]	[3,9%]**	[2,0%]**

Cumulative Abnomal Returns					
		Event Window			
	[-1,1]	[-2,2]	[-3,3]	[-4,4]	
Market Adjusted return model	-0,18%	0,68%	1,27%	1,44%	
	[33%]	[6,1%*]	[1,7%]**	[1,1%]**	
Market Model	-0,20%	0,63%	1,16%	1,36%	
	[34%]	[7,0%*]	[2,5%]**	[1,6%]**	

# U.K. Cumulative Abnomal Returns

*P*-values are displayed in parenthesis \*, \*\*, \*\*\* are *p*-values at the 10%, 5% and 1% level.

The CARs for both China and U.K. shows that to capture the full effect of the announcement we need to include a nine day (+4,-4) event window. The results show no statistical significance in neither of the two samples for the three day event window (+1,-1), most likely due to the negative reaction on day T-1 and T+1. For the other event windows, we get statistical significance for both models and both countries. The five day event window is significant at a ten percent confidence level, the seven and nine day event windows are significant at a 5 percent confidence level for China and U.K.<sup>1</sup>

The positive CAR in our samples is in line with earlier cross-border M&A studies based on recent time periods, e.g. Francis et al. (2008) and Ellis et al. (2011). The positive return for the Chinese targets of 3.14 percent supports our first hypothesis. The U.K. sample also shows a positive return of 1.36 percent, which supports the second hypothesis. The results for both samples show statistical as well as economic significance. The P-values below 5 percent infers that the null hypothesis; H0: CAR=0 is rejected.

<sup>&</sup>lt;sup>1</sup> The results discussion will, henceforth, solely be referred to the market model nine day (+4,-4) event window.

# **6.2 Explanatory Regressions**

#### **6.2.1** Analysis of the Determinants

We start our regression analysis by evaluating the deceptive statistics of our determinants to spot contingent problems. Appendix A.2.1 and A.2.2 presents the different dummy variables and the numerical determinant variables divided into yearly data. The table shows that there is no skewness in any of the dummy variables. Next, we analyze the numerical determinant variables. Appendix A.2.3 presents mean, median, max, min, and standard deviation of the variables. Since the max and min values of the MTB-ratio [MTB] and deal size [DEALSIZE] are far from the mean and median, we create dot plots to identify outliers, see Appendix A.2.4 and A.2.5. The variable enterprise value divided by EBITDA [EV\_EBITDA] has three companies with negative EBITDA. Since it will not be plausible to evaluate this variable with negative values, these companies have been removed from the sample. The beta [BETA] and standard deviation variable [STDDEV] have no clear outliers and no sample has been removed. In total, six samples, three from China and three from the U.K., have been removed from the regression, see Appendix A.2.6. Removing these deals could lead to deceptive results and losses of important information. However, we have to make a trade-off between losses of information and the exaggerated impact on the parameter estimates and we chose to remove these samples. Consequently, the final regressions will be made by a sample of 148 deals, 95 U.K. targets and 53 Chinese targets.

#### **6.2.2 Cross-Sectional Regression Results**

Several statistical tests, explained in section 5.6.4, were conducted on the five regression models. To summarize, we found no sign of heteroscedasticity by using White's tests, see Appendix. A.4.1. Thus, regressions are run without standardized robust errors. We did not find any non-normality in our residuals with the Jarque-Bera test, see Appendix A.4.2. No sign of incorrect specification of the models were shown by the Ramsey-RESET tests, see Appendix A.4.3. We chose to only include results of these tests made on model 2 in the Appendix, because the same tests on the four other models produced similar results. With the variance- covariance matrix and auxiliary regressions no evidence of multicollinearity was revealed in the firm or deal specific variables, see Appendix A.4.4. However, the country

specific variables are highly correlated with each other as well as with the dummy for Chinese firms, hence these variables are not included in the multi regressions. In line with Ellis et al. (2011), the country specific regressions only include one variable at a time.

When controlling the regression results we primarily look at the significance of the variables, where a p-value equal to or less than 0.1; 0.05 and 0.01 shows significance. Furthermore, the  $R^2$  and F-statistics are also analyzed. The  $R^2$  and F-statistics show how well the models fit as to describe the relationship between the variables. The  $R^2$  should be as close to one as possible for the model to perceive as well fitted.

#### **6.2.3 Control Variables**

To conclude that the results given in section 6.1 are robust to the inclusion of other variables, expected to affect acquirer return, we have performed several regressions. Each of the four deal and firm specific regressions includes the Chinese dummy variable as well as control variables.

#### Table 6.3

Dependent Variable: CAR Method: Least Squares Date: 04/25/12 Time: 15:47 Sample: 1 148 Included observations: 148

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C CHINADUM	0.003632 0.007807	0.006335 0.010586	0.573266 0.737503	0.5673 0.4620
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.003712 -0.003112 0.061745 0.556615 203.1460 0.543911 0.462000	Mean depende S.D. dependen Akaike info crite Schwarz criterie Hannan-Quinn Durbin-Watson	nt var t var erion on criter. stat	0.006427 0.061649 -2.718189 -2.677686 -2.701733 0.010654

Table 6.3 shows model 1 where only the dummy variable for acquiring firms targeting Chinese firms [CHINADUM] is present. As shown, we find no statistically significant relationship between CAR and the independent control variable.

Dependent Variable: CAR Method: Least Squares Date: 04/27/12 Time: 11:12 Sample: 1 148 Included observations: 148

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	0.014485	0.014294	1.013297	0.3127
CHINADUM	0.006272	0.010929	0.573850	0.5670
BETA	0.005738	0.007954	0.721342	0.4719
DEALSIZE	0.000969	0.019695	0.049175	0.9609
EV_EBITDA	-6.20E-05	0.000201	-0.308546	0.7581
MARKETCAP	-3.02E-06	1.14E-06	-2.643368	0.0092
MIXPDUM	0.008076	0.011187	0.721945	0.4715
MTB	0.002642	0.002583	1.023158	0.3080
NQDUM	-0.011283	0.010718	-1.052665	0.2943
STDDEV	-0.366624	0.188361	-1.946394	0.0536
R-squared	0.085089	Mean depende	ent var	0.006427
Adjusted R-squared	0.025421	S.D. depender	nt var	0.061649
S.E. of regression	0.060860	Akaike info crit	erion	-2.695291
Sum squared resid	0.511151	Schwarz criteri	on	-2.492776
Log likelihood	209.4515	Hannan-Quinn	criter.	-2.613010
F-statistic	1.426036	Durbin-Watsor	n stat	1.901348
Prob(F-statistic)	0.182597			

As seen in table 6.4, model 2 includes the deals characteristic variables relative size [DEALSIZE], method of payment [MIXP\_DUM] and the firm characteristic variables of the acquirer; market capitalization [MARKETCAP], market-to-book [MTB] and enterprise value through EBITDA [EV\_EBITDA]. The model also contains the stock characteristic variables beta [BETA] and standard deviation [STDDEV]. As seen in the table, the significance for the Chinese dummy variable [CHINADUM] does not get any better. However, CAR does in fact have two statistical significant variables, namely the independent variables; market capitalization [MARKETCAP] and standard deviation [STDDEV]. Market capitalization [MARKETCAP] is significant at a one percent level and standard deviation [STDDEV] is significant at a ten percent level. Even though the market capitalization variable [MARKETCAP] shows a statistical significance with CAR, the value of the coefficient is extremely small, hence there is no economic significance.

Model 3 is identical to model 2 with the exception that the dummy variable for Nasdaq listed acquirer targeting Chinese firms [NQCHDUM] is added, see Appendix A.5.1. This model also gives significance to the control variables market capitalization [MARKETCAP] and

standard deviation [STDDEV] on the same level as model 2. However the model does not show significance to any other variable.

In model 4, the dummy variable U.S. firms listed on Nasdaq targeting Chinese firms [NQCHDUM] has been replaced with the dummy variable [NQUKDUM]. This variable examines the correlation of the acquiring firm being listed on Nasdaq and the target is a U.K. firm, see Appendix A.5.2. The model shows the same significance for market capitalization [MARKETCAP] and standard deviation [STDDEV] as model two and three. The new dummy variable U.S. firms listed on Nasdaq targeting U.K. firms [NQUKDUM] shows no significance.

In model 5, controlling for deal specific variables, the dummy variable U.S firms listed on Nasdaq targeting U.K. firms [NQUKDUM] has been replaced with the dummy variable mixed payment [MIXPCHDUM]. This dummy variable tests if there is any relationship between CAR and a mixed or solely equity based method of payment, when acquiring a Chinese firm, see Appendix A.5.3. The model shows almost the same results as model 3 and 4. Market capitalization [MARKETCAP] and standard deviation [STDDEV] show the same level of significance and the mixed payment China dummy [MIXPCHDUM] shows no significance.

Even though two of the variables from the above presented regressions are significant, the Fstatistic demonstrates that none of the models show significance and the low  $R^2$  decreases the validity further. The low  $R^2$  could indicate that we are using the wrong type of variables or that we should include more variables, however that could make us lose the goal of this thesis. The adjusted  $R^2$  level is highest in model 2 which indicates that the variables included in that model explains the CAR relationship best of the five models. The adjusted  $R^2$  level is highest in the second model which indicates that the variables included in that model explains the CAR relationship best of the five models.

# **6.2.4 Explanatory Variables**

#### Table. 6.5

Dependent Variable: CAR Method: Least Squares Date: 05/11/12 Time: 15:18 Sample (adjusted): 1 147 Included observations: 128 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C AVE_GOV	0.013303 -0.005105	0.007574 0.005518	1.756430 -0.925118	0.0814 0.3567
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.006747 -0.001136 0.063809 0.513013 171.6229 0.855843 0.356673	Mean depende S.D. depender Akaike info crit Schwarz criteri Hannan-Quinn Durbin-Watsor	ent var It var erion on criter. It stat	0.008626 0.063772 -2.650357 -2.605795 -2.632251 1.821022

Table 6.5 shows the average of government indices [AVE\_GOV]. The five country governance variables are voice and accountability [VOICE\_ACC], control of corruption [CTRL\_CORR], rule of law [Rule\_LAW], regulatory capital [REG\_QUQL] and government efficiency [GOV\_EFF]. Appendix A.5.4-A.5.8 presents the results of these regressions. The model tests if there is any relationship between CAR and the level of governance but as we can see, there is no statistical significance. These models and variables will be analyzed at the end of the following chapter.

# 7. Analysis

Following discussion and analysis are based on the results presented in the previous chapter. The results are discussed and analyzed with concerns to what is described and written in all previous chapters. The discussion and analysis aim to answer our hypotheses.

# 7.1 Summary of Expectations and Findings

Varialble	Expected result	Finding
CAR China	+	+
CAR U.K.	+	+
CHINADUM	-	(+)
NQCHDUM	-	(-)
NQUKDUM	+	(+)
MIXPDUM	+	(+)
MIXPCHDUM	+	(+)
DEALSIZE	+	(+)
MARKETCAP	-	-
EV_EBITDA	+	(+)
MTB	-	(+)
BETA	-	(+)
STDDEV	-	-
AVE_GOV	+	(-)

#### Table 7.1

The results displayed in parentheses are not statistically significant, hence these are not findings, only the value of the coefficient.

Our findings are in line with the latest studies, which examine the wealth effect of crossborder M&As. The acquisitions of Chinese targets have higher returns compared to U.K targets, which is in line with recent studies of emerging market targets, e.g. Chari et al. (2010), but contrasting towards our hypotheses. However, acquisitions made by Nasdaq listed firms are negatively correlated to CAR for the Chinese targets. This is the opposite to the results of Chari et al. and Francis et al. (2008), where high levels of intangible assets were positive for emerging market targets. As mentioned in section 6.2.3, the only variables from the regressions with statistical significance are standard deviation [STDDEV] and market capitalization [MARKETCAP], hence no firm conclusions can be made about the other coefficients.

# 7.2 Discussion and Analysis of Empirical Results

In our first hypothesis [H1] we proposed that acquisitions of Chinese firms yield a positive CAR. We developed this hypothesis based on studies made in recent time periods by Francis et al. (2008) and Ellis et al. (2011), where the announcement effect, of cross-border M&As, generate a positive CAR. Furthermore, Chari et al. (2010) studied the effect of developed market firms which acquires emerging market firms. The results demonstrated a positive CAR, both for the acquirer and the target. However, our study only focuses on the acquirer's shareholders' return, since the targets are private firms. Francis et al. (2008) show that targeted private firms have a positive correlation with CAR, which further strengthens our belief that CAR should be positive. Our result corresponds with these studies and the U.S. firms' average return, when acquiring Chinese firms, generates a positive CAR of 3.14 percent, see table 6.1. The result is significant at a five percent level.

For our second hypothesis [H2] we suggested that acquisitions of U.K. firms yield a positive CAR. This hypothesis is based on the same arguments as the first one, that cross-border M&A, on average, generates a positive CAR. Cross-border M&As between two developed countries is a more widely researched area, hence this hypothesis is based on more established previous research, e.g. Moeller and Schlingemann (2005). This hypothesis is also consistent with earlier studies. The result shows that U.S. firms' average return, when acquiring U.K. firms, generates a positive CAR of 1.6 percent, see table 6.2. The result is significant on a five percent level.

For the third hypothesis [H3], the result differed compared to our proposed hypothesis. The Chinese target [CHINADUM] has a positive correlation to CAR in all our models. However this result has no statistical significance. Even though there is no statistical significance in the regression models, the higher CAR of the Chinese targets, see table 6.1 and 6.2, as well as the positive correlation, see table 6.3, indicates that Chinese targets have a higher return. This weakens our arguments that the negative impact of lack of transparency and political risk are greater compared to the positive factors of acquiring a Chinese target, e.g. the huge potential

market and cheap labor. This suggests that the relationship between weak corporate governance and positive returns (La-Porta et al., 1999) also holds for China. It is possible that Chinese private firms do not have the same state impact, protecting the firms, as the publicly listed firms. The result is in line with Ellis et al. (2011), which stated that, acquiring targets in emerging markets with weak corporate governance yields higher returns.

The result of the fourth hypothesis [H4] shows that U.S. firms, being listed on Nasdaq acquiring Chinese firms [NQCHDUM], have a negative correlation to CAR, see appendix A.5.1. This corresponds with our proposition that a high level of intangible assets should have a negative correlation to CAR, when acquiring Chinese firms. Appendix A.5.2 shows that Nasdaq listed firms which acquires U.K. targets [NQ DUM] yields contrasting results with a positive correlation. As mentioned earlier, none of these variables have statistical significance. Still, the negative coefficients are contradictive to previous studies that investigate firms with high levels of intangible assets in emerging markets. Chari et al. (2010) state that developed market acquirers, which are able to bring better investor protection to emerging market targets, generate a positive return. This applies especially when the acquisitions were in industries with high levels of intangible assets. Francis et al. (2008) found corresponding results for U.S. acquirers.

Our results indicate that lack of transparency is a problem when Nasdaq listed firms acquires Chinese targets. The result suggests that it is easier to estimate the value of tangible assets and that the information is insufficient when valuing Chinese firms with high level of intangible assets. Another factor which could affect the returns for Nasdaq listed acquirers, is the Chinese state's involvement and the fact that China wants to protect intellectual property within the country e.g. through the recently introduced patent law, mentioned in section 1.1. The possibility of higher state involvement for Nasdaq listed targets could lead to a better state protection of these firms, hence if this is the case, the negative correlation is in line with theories of La-Porta et al. (1999).

#### Mix Method of Payment

The regression results, from table 6.4, shows that the coefficient for the dummy variable for deals that include equity [MIXPDUM] is positive. This result supports the theory put forward by Chatterjee and Kuenzi (2001), which stated that transactions that include equity are seen as a positive signal from the market. The result also strengthens Chang's (1998) theory were

equity offerings produce a positive abnormal return when acquiring private firms. On the other hand, the result contradicts to Andrade et al. (2001), where they argue that transactions with mixed payment or solely equity-based payment, signals an overvaluation of the stock for the acquirer, which leads to negative abnormal returns.

The coefficient was also positive for the dummy variable which controlled for payment that included equity when the target was Chinese [MIXPCHDUM], see Appendix A.5.3. We interpret this as a mixed method of payment or solely equity based payment mitigates information asymmetry and generates positive returns. The result contradicts to Chari et al. (2004) which stated that emerging countries are reluctant to accept foreign equity. From our results it appears that deals that include equity are the best solution for cross-border M&As concerning both Chinese and U.K. targets.

# Relative deal size

In line with what we expected, the relative size of the deal variable [DEALSIZE] coefficient is positively related to CAR, as shown in table 6.4. Hence, our result supports the studies made by Fuller et al. (2002) and Moeller et al. (2004) which stated a significant positive correlation between the relative deal size and acquirer's return.

## Market capitalization

The result was also in this case in line with what we expected. The market capitalization [MARKETCAP] of the firms has a small but negative correlation with CAR, demonstrated in table 6.4 The result strengthens the theories put forward by Moeller et al. (2004) where acquisitions performed by smaller firms, on average, results in positive abnormal returns, whilst acquisitions done by larger firms, on average, results in negative abnormal returns. Furthermore, Sudarsanam et al. (1996) argue that smaller deals create more value because of an easier integration process. However, the results contradict to Bieshaar et al. (2001), which argued that bigger deals have more potential synergies and thus also more value creating. Our results are statistically significant but the coefficient is extremely small. Since the market capitalization is presented in millions of dollars, an increase of one million dollars decreases CAR with 0.000003 units, hence the coefficient is economically insignificant.

#### Excess Cash holdings

To test whether there was any relationship between CAR and the firms' excess of cash holdings we created the variable [EV\_EBITDA]. The variable is made by the firms' enterprise values divided by its earnings before interest, taxes, depreciation and amortization. Hence, this variable must be interpreted as a firm with a high EV/EBITDA ratio is a firm with low excess of cash holdings. We formed our expected sign after previous studies of the free cash flow problem by Jensen (1986). Jensen argued that firms with higher levels of free cash flow are more likely to have managers acting irrational, such as engaging in value destroying M&As when there is no profitable investment opportunities.

With our enterprise value divided by EBITDA variable [EV\_EBITDA] we expected to find a positive relationship with CAR, hence a positive relationship with CAR when the firms have low cash holdings. The coefficient was in line with our expectations, table 6.4, and it suggests that Jensen's arguments holds for U.S acquisitions targeting Chinese and U.K. firms.

# Pre-bid Performance of Acquirer

The result of the pre-bid performance is not in line with our expectations. We expected that the MTB-ratio, as a proxy for pre-acquisitions performance of the acquirer, would be negatively related to CAR. Previous research, made by Conn et al. (2005), demonstrated a significant relationship that higher MTB-ratios lead to lower acquirer returns. Our result showed a positive relationship between the market-to-book variable [MTB] and CAR, table 6.4. The result thus seems to be more in line with Tuch and O`Sullivan's (2007) arguments where high MTB-ratios are often regarded as a positive factor, since it implies expectations of high future cash-flows. As we have mentioned before, no conclusions can be drawn since no significance is found.

#### Beta and Standard Deviation

Both the beta variable [BETA] and the standard deviation variable [STDDEV] are intended to control for momentum effects as well as systemic risk, faced by the acquiring firm's shareholders. The expected sign of the correlation between the beta variable [BETA] and CAR was negative. Francis et al. (2008) argue that high beta values are positively related to CAR, since firms with high correlation to market returns are more sensitive to uncertainty of their own returns. The acquirer reduces the uncertainty by diversifying geographically. However, acquiring a Chinese firm should not reduce the risk due to the political risk and

lack of transparency. Our findings show though, in line with Francis et al. (2008), that there is a positive relationship between beta and CAR, which could be because acquisitions of U.K. targets reduces the risks for firms with high beta-values.

Further, we continued with same expected sign and reasoning for the standard deviation variable [STDDEV]. Thus, that the expected relationship between standard deviation and CAR is negative. With higher beta values, shares are usually more volatile, hence the risks are higher. By increasing the risks with a cross-border acquisition and especially with a Chinese target, we expected a negative relationship. The coefficient corresponds to our expectations and shows a negative value of 0.367 units, table 6.4. The average standard deviation is 0.0268, appendix A.2.3, and an increase of one unit decreases the CAR with 0.367 units. Hence, the coefficient is economically as well as statistically significant.

# **Explanatory Variables**

The difference in medians of our country specific variables, between the U.K. market sample and the Chinese market sample, are highly significant across the board, see Appendix A.3.2. Therefore, these factors are assumed to be of relevance in the classification of U.K. market and Chinese market and the coefficients can help us draw conclusions about the influence of such factors to the formation of abnormal returns. As mentioned, in section 5.6.6, and in line with previous research, the multicollinearity between the country specific variables led to that we only include one country specific variable at a time. The results of the country specific variables do not show statistical significance in any of the regressions, see Appendix A.5.4-A.5.8. The average government variable [AVE\_GOV], which represents the arithmetic mean of the five government indices, has a negative coefficient, same as the other five variables. The results suggest, in accordance with previous research of emerging market targets (Ellis et al., 2011; Rossi & Volpin, 2004), that level of governance is negatively correlated with CAR. The result differs to our proposed expected sign and suggests that the positive effects of low level of governance outweighs the negative impact of political risk. In line with the analysis of our third hypothesis, the result suggests that U.S. firms are able to transfer corporate governance of Chinese firms, which may be, directly or indirectly, a result of countrywide governance.

# 8. Concluding Remarks

In this last chapter we present concluding remarks from our findings and suggest possibilities for further research.

# 8.1 Conclusions

In this thesis we have presented evidence showing that cross-border mergers and acquisitions, made by U.S. firms, targeting Chinese and U.K. firms yield acquirer returns. Furthermore, our study shows that acquiring Chinese firms have historically yielded higher returns compared to acquisitions of U.K. firms. In addition to the limited research on the Chinese M&A market, existing today, our findings provide additional insight on the acquirers' returns from cross-border mergers and acquisitions targeting Chinese firms.

Another purpose with this thesis was to establish how the level of intangible assets affects the abnormal returns for the acquirer. Thus, we used the listing of the acquiring firm to test how the abnormal returns were related to the level of intangible assets and link it to the level of transparency and state impact. The control factor for Nasdaq listed companies indicates a negative economic significant relationship when the target firms were from China and a positive relationship when the target firms were from U.K. However, finding no statistically significance we cannot draw any firm conclusions.

When using determinants to explain the abnormal returns, we found that the market capitalization and the standard deviation have statistical significance, even though there was no economic significance in the market capitalization. These variables show significance in all models where several deals specific, acquirer firm specific and stock specific factors are included which enhance the robustness of these results

To sum up, we conclude that cross-border acquisitions, made by U.S. firms, yield a significant average abnormal return in line with previous studies made by Ellis et al. (2011). However, as mentioned before, we could not find any statistical significance that the level of transparency would have an impact on the acquirers' return. Thus, we cannot contribute to

increase the generality of evidence on the impacts of transparency, but rather expose new questions about it.

# **8.2 Suggestions for Further Research**

The findings that are presented in this thesis are tested with several controlling factors that are expected to explain acquirer returns. Although we have considered a variety of variables related to M&A deals, there still exist factors that are relevant to explore. We believe that goodwill from the balance sheet, as a proxy for historical M&A activity, would be suitable to test how the firms' experiences affect the return. Another approach could be to quantify the acquiring firms' managerial experiences of cross-border M&As.

An alternative approach would be to look into the characteristics of the target firms. For example to investigate the ownership structure of the Chinese firms pre-time the transaction. How does state ownership affect the abnormal return for the acquiring company? In terms of the target firm, it is more difficult to test for the control factors since it requires the sample of the target firms to be publicly listed. This would limit the sample size substantially which would make it necessary to expand the number of countries to include in the study. Furthermore, it would be relevant to repeat our study in the future. With a bigger sample size it would be possible to divide the sample into two time-periods, to see if there existed a first mover premium in the Chinese market.

How the lack of transparency affects domestic and cross-border mergers and acquisitions is still a relevant question in the business world. We tried to find a relationship between intangible assets and the impact of transparency on acquirers' return. However, studying accounting standards between countries could be another approach which to examine how transparency affects abnormal returns in M&A deals.

Lastly, research on the difference between abnormal returns from cross-border M&As into China as well as other emerging countries, is still limited. To further study Chinese characteristics in M&As, an interesting approach would be to turn the question around and study Chinese firms cross-border M&As into U.S. and Europe.

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#### **Databases:**

Reuters 3000 Xtra

Thomson Datastream

World Databank

# Appendices

# Appendix 1 Sample

# A.1.1 Overwiew: Cross-border M&As conducted by U.S. firms targeting U.K. and Chinese firms between 2003-2011, marketcap in millions of dollar.

Announcement date	Acquirer	Target	DEALSIZE	МТВ	EV/EBITDA	MARKETCAP	CAR	Beta	StdDev
2003-01-06	Genencor International, Inc	U.K.	0,022	1,840	11,340	425,8	0,006	0,930	0,040
2003-01-06	EVERCEL.INC	С	0,296	2,200	95,500	18,575	-0,088	-0,060	0,079
2003-01-14	AMETEK, Inc.	U.K.	0,016	2,250	8,570	5036,3	0,017	0,890	0,016
2003-02-19	Euronet Worldwide, Inc.	U.K.	0,085	2,340	10,750	891,3	-0,146	-0,260	0,052
2003-06-02	REMEC, Inc	С	0,011	1,130	146,500	180,8	0,082	1,274	0,038
2003-08-12	BioReliance Corporation.	U.K.	0,024	2,130	6,140	1766,5	0,043	0,350	0,027
2003-08-18	Superior Energy Services, Inc	U.K.	0,041	1,790	8,580	749,3	0,064	0,690	0,026
2003-11-04	CheckFree Corporation	U.K.	0,014	1,670	12,270	1993,8	-0,046	1,150	0,032
2003-11-17	New Brunswick Scientific Co., Inc	U.K.	0,326	1,270	6,790	10,1	0,076	0,038	0,038
2003-12-10	Iron Mountain Incorporated	U.K.	0,077	3,120	12,920	1993,8	0,023	0,657	0,012
2003-12-12	Perrigo Company	U.K.	0,030	1,970	10,820	432,6	-0,026	0,490	0,019
2003-12-17	Plato Learning, Inc	U.K.	0,174	0,690	17,120	39	-0,046	0,907	0,037
2003-12-22	The Lubrizol Corporation	U.K.	0,178	1,670	5,940	745,6	0,056	-0,180	0,013
2004-01-07	Zions Bancorporation	U.K.	0,011	1,760	12,620	9043,3	-0,055	0,910	0,009
2004-01-16	Whole Foods Market, Inc.	U.K.	0,010	4,740	14,160	4585,3	0,004	0,699	0,018
2004-02-23	Hartcourt Cos Inc (The)	С	0,025	0,060	52,510	98,5	-0,132	1,322	0,063
2004-02-27	SINA Corporation	С	0,083	7,500	38,310	1514	-0,011	2,130	0,050
2004-03-03	Fisher Scientific International Inc	U.K.	0,065	0,930	15,910	5105,5	0,000	0,620	0,019
2004-04-08	The Sherwin-Williams Company	С	0,014	3,280	8,330	4487,5	-0,015	0,812	0,010
2004-04-19	P. H. Glatfelter Company	U.K.	0,062	2,030	10,810	1043,9	0,025	1,729	0,016
2004-04-19	Sonoco Products Co	С	0,012	2,060	9,100	2887,3	0,024	0,760	0,010
2004-05-17	Curtiss-Wright Corporation	U.K.	0,018	1,730	9,830	1227,9	-0,003	0,810	0,012
2004-10-14	CNET Networks, Inc	С	0,011	8,690	61,770	1507,7	-0,029	3,071	0,034
2004-10-21	Celgene Corporation	U.K.	0,031	8,940	94,960	3598	-0,060	1,710	0,020
2004-11-15	Eaton Corporation	С	0,010	2,390	9,290	9845,2	0,005	1,554	0,010
2004-12-08	Chordiant Software, Inc	U.K.	0,060	4,550	47,000	316,1	0,101	2,630	0,050
2005-02-08	OSI Systems, Inc.	U.K.	0,029	1,140	25,130	286	0,020	1,274	0,028
2005-02-09	The Toro Company	U.K.	0,018	4,620	9,410	1967,6	-0,026	1,383	0,014
2005-02-28	SunGard Data Systems Inc.	U.K.	0,021	2,770	90,110	10128,8	-0,021	1,060	0,130
2005-03-30	INTL.DISPLAYWORKS SUSP, N	С	0,028	7,600	101,760	281,7	0,095	0,696	0,038
2005-04-13	Actuant Corporation	U.K.	0,050	4,700	11,660	1860,9	-0,012	1,299	0,018
2005-04-18	R.R. Donnelley & Sons Company	U.K.	0,105	1,720	7,460	9420,4	-0,010	0,650	0,009
2005-04-20	CNET Networks, Inc.	С	0,011	5,490	38,660	1035,4	0,091	2,176	0,026
2005-05-02	Diebold, Incorporated	U.K.	0,012	2,770	11,050	3048	-0,003	1,220	0,012
2005-05-02	Macdermid, Incorporated.	U.K.	0,071	2,760	9,130	1151,7	0,082	1,580	0,016
2005-05-17	CRA International, Inc	U.K.	0,035	2,290	10,390	443,6	-0,004	1,050	0,020
2005-06-20	H. J. Heinz Company	U.K.	0,053	4,810	11,180	16206,7	-0,014	0,880	0,006
2005-07-28	FactSet Research Systems Inc.	U.K.	0,016	7,410	13,250	1522,4	0,003	-0,130	0,020

2005-07-28	Varian Medical Systems Inc	ЦΚ	0.010	6 650	13 140	4164 5	0.028	0 977	0.016
2005-08-25		υ.к.	0.024	3 300	13,000	3185 1	0.031	1 090	0.011
2005-08-25	Polycom Inc	с	0.015	1 800	16 260	1902.4	0.077	0.960	0.019
 2005-09-06	Progressive Gaming Intern. Corp.	U.K.	0.097	2,480	15,000	278.2	0.140	1.016	0.029
2005-09-06	A. O. Smith Corporation	C	0.016	2,430	9,270	1112.6	0.041	1,270	0.019
 2005-10-18	The Bank of New York Mellon Corp.	U.K.	0.010	2,210	9,990	24145.5	0.005	1,780	0.035
2005-12-06	Cephalon, Inc.	U.K.	0.113	4.320	43,140	3180.6	0.100	0.700	0.014
2005-12-07	Automatic Data Processing, Inc.	U.K.	0.012	4.380	12,750	24740	-0.015	1.390	0.015
2005-12-16	Esterline Technologies Corporation	U.K.	0.149	1,330	7,770	806.6	0.009	1,510	0.015
2006-01-19	Origin Agritech Limited	C	0.023	5,490	65.140	213.3	0.101	0.047	0.025
2006-02-06	Verint Systems Inc.	U.K.	0.017	5.530	31.590	952.6	0.039	-0.220	0.022
2006-02-27	FactSet Research Systems Inc.	U.K.	0.010	5.790	13.280	1717.2	0.000	1.290	0.015
2006-03-01	AmerisourceBergen Corporation	U.K.	0.011	2.360	13.580	9156.9	-0.018	0.110	0.009
2006-03-09	Esterline Technologies Corporation	U.K.	0,052	1,550	9,660	1142,8	-0,062	-0,170	0,018
2006-04-03	Rochester Medical Corporation	U.K.	0,256	3,260	41,680	62,6	-0,027	0,185	0,020
2006-05-05	Powerwave Technologies, Inc.	U.K.	0,200	1,950	13,640	1489,4	-0,144	0,550	0,291
2006-06-13	Grant Prideco, Inc	U.K.	0,024	4,610	16,210	6569	-0,068	1,786	0,025
2006-07-07	FTD Group, Inc	U.K.	0,243	1,310	7,460	498,8	0,065	0,700	0,017
2006-07-11	Dragon International Group Corp.	с	0,082	1,170	75,800	13,84	-0,039	0,850	0,097
2006-07-19	Barnes Group Inc.	U.K.	0,032	1,950	9,760	1265,2	-0,105	-0,080	0,018
2006-09-06	Advanced Analogic Tech. Inc.	С	0,046	3,230	61,130	473,4	-0,118	1,438	0,026
2006-10-03	Johnson Outdoors Inc.	U.K.	0,012	0,870	8,460	207,7	-0,001	-0,003	0,010
2006-10-16	Bottomline Technologies (de), Inc.	U.K.	0,090	2,230	30,720	245,5	0,019	0,520	0,030
2006-10-16	Cobra Electronics Corporation	U.K.	0,366	1,030	5,500	58,5	0,117	0,120	0,030
2006-11-13	Ever-Glory International Group, Inc.	С	0,496	1,440	16,840	24,2	0,114	0,177	0,030
2006-11-14	Checkpoint Systems, Inc.	U.K.	0,010	2,180	15,780	940,7	0,045	1,600	0,023
2006-11-20	Kenexa Corporation	U.K.	0,023	3,820	44,450	325,4	-0,065	0,014	0,032
 2006-11-27	NeuStar, Inc.	U.K.	0,070	6,780	17,920	1991,4	0,046	-0,065	0,021
2006-12-04	ValueClick, Inc.	U.K.	0,018	2,780	15,100	1473,7	0,047	-0,300	0,027
 2007-01-03	Cirrus Logic, Inc.	С	0,026	2,390	15,600	403,6	0,048	-0,560	0,027
2007-01-23	Superior Energy Services, Inc.	U.K.	0,014	3,090	7,010	3461,1	0,019	1,767	0,025
 2007-02-07	Hudson Highland Group, Inc.	С	0,017	12,690	1,960	351,2	0,085	1,514	0,036
2007-02-12	Prologis, Inc.	U.K.	0,059	2,220	17,020	9851,5	0,030	0,960	0,009
 2007-02-12	UNIVERSAL TRAVEL GROUP	С	0,130	3,300	4,320	13,8	0,149	2,450	0,100
2007-02-16	General Cable Corporation	С	0,012	4,430	10,240	3266,9	0,106	3,032	0,022
 2007-03-01	Symmetry Medical Inc.	U.K.	0,021	2,610	13,280	647,7	-0,023	0,877	0,019
2007-03-01	CNET Networks, Inc.	С	0,052	2,630	30,030	1335,5	0,025	2,170	0,021
 2007-03-16	Exponent, Inc	U.K.	1,466	2,320	8,760	238,4	0,015	1,160	0,019
2007-03-27	UCBH Holdings, Inc.	С	0,056	1,860	16,900	3687,6	0,002	1,399	0,011
2007-04-16	Carlisle Companies Incorporated	С	0,011	2,390	19,130	1809,7	-0,007	1,119	0,013
2007-04-16	LINCOLN ELECTRIC HDG. N	С	0,010	2,380	8,430	2579,7	-0,030	1,074	0,011
 2007-04-18	Anixter International Inc.	U.K.	0,024	2,430	8,340	3332,9	0,061	-0,330	0,019
2007-04-19	Superior Essex Inc	С	0,010	1,960	6,390	964,9	-0,118	2,350	0,022
 2007-04-25	MapInfo Corporation	U.K.	0,064	2,570	8,450	199,7	0,004	1,370	0,015
2007-05-21	Equinix, Inc.	U.K.	0,178	3,420	32,900	2810,1	-0,018	2,085	0,017
2007-05-21	Sigma-Aldrich Corporation	U.K.	0,010	3,380	11,380	5842,2	0,088	0,870	0,006

2007-06-13	NetSol Technologies, Inc	U.K.	0,112	1,520	18,950	28,7	-0,044	1,036	0,056
2007-06-13	Puda Coal, Inc.	с	0,108	1,620	4,460	77,55	0,123	2,148	0,068
2007-07-05	Albemarle Corporation	С	0,011	3,200	14,330	4568,6	0,041	1,170	0,015
2007-08-03	Navigant Consulting, Inc.	U.K.	0,011	3,100	10,110	1198,1	0,131	1,010	0,061
2007-08-06	Federal Signal Corporation	U.K.	0,125	1,770	10,130	917,8	0,128	1,520	0,012
2007-09-03	The Lubrizol Corporation	U.K.	0,026	2,060	8,110	4540,1	-0,004	0,820	0,013
2007-09-03	ALPharma Incorporated	С	0,011	2,000	6,560	925,5	-0,039	1,558	0,019
2007-11-30	GSI Commerce, Inc	U.K.	0,018	4,210	26,390	990,7	-0,012	1,200	0,023
2007-11-30	MICROS Systems, Inc.	U.K.	0,017	4,050	15,200	1902,7	0,028	1,390	0,019
2008-01-08	OMNOVA Solutions Inc.	С	0,047	3,480	11,530	348,3	-0,003	0,718	0,027
2008-01-09	Perrigo Company	U.K.	0,021	3,990	16,770	4164,7	0,012	1,090	0,016
2008-01-22	Fair Isaac Corporation,	U.K.	0,021	2,180	8,190	1517	0,074	0,510	0,016
2008-02-01	GFI Group Inc.	U.K.	0,100	3,860	8,150	1654	-0,031	1,440	0,021
2008-02-15	Tennant Company	U.K.	0,084	3,590	10,080	808,6	-0,002	1,129	0,019
2008-03-03	Chemtura Corporation	U.K.	0,010	3,710	8,670	2654,7	-0,019	1,320	0,020
2008-03-14	Trident Microsystems, Inc.	С	0,025	1,230	1,430	77,3	0,058	0,756	0,049
2008-04-10	AngioDynamics, Inc	U.K.	0,012	0,870	10,500	329,2	0,019	0,730	0,040
2008-04-25	Regal Beloit Corporation	С	0,026	1,370	6,110	1640,9	0,087	1,210	0,017
2008-06-04	Ingram Micro Inc.	С	0,013	1,020	4,800	2665,8	0,061	0,833	0,016
2008-07-10	Insight Enterprises, Inc	U.K.	0,011	1,940	5,950	740,7	0,004	1,390	0,036
2008-09-08	Rofin-Sinar Technologies Inc.	С	0,054	3,220	10,730	1177,1	-0,090	1,265	0,026
2008-09-17	NBTY, Inc.	U.K.	0,013	2,320	5,490	1926,2	-0,011	0,640	0,027
2008-09-29	PPG Industries, Inc.	С	0,013	3,110	8,660	14242,4	-0,089	0,834	0,013
2008-10-08	Symantec Corporation	U.K.	0,050	3,670	8,930	13991,5	-0,136	0,847	0,017
2008-10-08	Monster Worldwide, Inc.	С	0,069	2,690	8,370	2530	0,075	1,200	0,025
2008-10-08	MTS Systems Corporation	С	0,097	2,640	6,740	450,9	0,048	1,230	0,023
2009-01-22	Gen-Probe Incorporated	U.K.	0,072	3,220	10,230	1890,6	0,087	0,630	0,023
2009-01-30	Moog Inc.	U.K.	0,010	0,980	6,740	1627,1	0,049	1,232	0,023
2009-02-24	Integral Systems, Inc	U.K.	0,068	1,240	7,940	155,7	-0,138	-0,074	0,053
2009-02-27	Triumph Group, Inc.	U.K.	0,024	0,790	5,390	1094,5	-0,066	1,135	0,030
2009-03-19	BlackRock, Inc.	U.K.	2,701	0,660	4,830	5626,8	-0,051	1,390	0,033
2009-03-19	Alere Inc.	С	0,055	0,820	10,950	3609	0,009	0,869	0,034
2009-06-12	Global Payments Inc	U.K.	0,133	2,580	9,890	2306,2	0,022	0,730	0,023
2009-06-17	Watson Pharmaceuticals, Inc	U.K.	0,488	1,040	6,570	3583,9	0,094	0,623	0,019
2009-08-12	The Bank of New York Mellon Corp.	U.K.	0,018	1,240	10,270	20929,9	0,044	1,200	0,009
2009-09-17	A. O. Smith Corporation	С	0,068	1,650	6,450	1126,5	-0,026	1,055	0,022
2009-09-23	NETGEAR, Inc	С	0,028	1,700	5,670	500,4	-0,007	1,010	0,029
2009-10-12	Perot Systems Corporation	С	0,024	1,220	4,720	1449,8	-0,061	0,675	0,038
2009-11-09	Ball Corporation	С	0,013	2,530	7,830	6680,9	0,001	1,060	0,016
2009-12-01	Neogen Corporation	U.K.	0,022	2,430	12,170	300,1	-0,018	0,698	0,024
2009-12-14	Alberto Culver Company	U.K.	0,209	1,870	9,260	1870,4	-0,035	0,510	0,014
2009-12-21	Curtiss-Wright Corporation	U.K.	0,010	1,420	6,910	1816,7	-0,109	1,060	0,017
2009-12-28	II-VI Incorporated	С	0,192	1,860	6,030	429,8	0,022	1,180	0,020
2009-12-30	Nuance Communications, Inc	U.K.	0,031	1,690	19,610	3320,7	0,008	0,030	0,027
2010-02-18	Albany Molecular Research, Inc	U.K.	0,098	1,100	81,350	194,3	0,043	1,050	0,023
2010-06-21	H. J. Heinz Company	с	0,010	7,690	9,190	17161,9	-0,028	0,610	0,007

CD International Enterprises, Inc	С	0,148	2,690	203,240	44,7	0,034	1,409	0,047
Atheros Communications Inc.	С	0,032	3,120	26,920	2263,1	-0,066	1,718	0,017
Maxim Integrated Products, Inc.	U.K.	0,015	2,710	13,900	4951,5	-0,011	1,540	0,012
Omnicom Group Inc.	С	0,011	3,930	8,290	13708,4	0,046	1,130	0,009
The Blackstone Group L.P.	U.K.	0,011	0,830	75,610	11122,6	-0,088	0,030	0,024
Cardinal Health, Inc.	С	0,038	3,400	8,010	12498,2	0,011	0,840	0,011
L & L Energy, Inc.	С	0,074	1,180	4,210	282,1	0,022	1,640	0,037
Korn/Ferry International	U.K.	0,077	1,680	9,980	894,2	-0,049	2,010	0,020
SciClone Pharmaceuticals, Inc	С	0,816	2,420	5,270	128,4	0,020	-0,240	0,038
Jacobs Engineering Group Inc.	С	0,012	1,830	12,770	6227,8	-0,020	1,567	0,013
NVIDIA Corporation	U.K.	0,032	2,690	24,970	11516,9	-0,069	1,424	0,029
Hologic, Inc.	С	0,025	1,940	15,299	5354,4	0,008	0,920	0,013
Evercore Partners Inc.	U.K.	0,276	1,760	7,210	513,2	0,036	1,350	0,018
Trimble Navigation Limited	С	0,014	3,860	28,020	6260,3	-0,084	1,400	0,017
Convio, Inc.	U.K.	0,037	2,830	12,800	89,5	0,037	1,000	0,022
The Western Union Company	U.K.	0,075	14,960	8,560	13005,8	-0,027	1,058	0,010
Scripps Networks Interactive, Inc.	U.K.	0,062	3,980	9,510	8870,2	0,039	1,100	0,012
Ball Corporation (Ball)	С	0,015	3,250	8,690	9432,2	-0,006	1,005	0,009
	CD International Enterprises, Inc Atheros Communications Inc. Maxim Integrated Products, Inc. Omnicom Group Inc. The Blackstone Group L.P. Cardinal Health, Inc. L & L Energy, Inc. Korn/Ferry International SciClone Pharmaceuticals, Inc Jacobs Engineering Group Inc. NVIDIA Corporation Hologic, Inc. Evercore Partners Inc. Trimble Navigation Limited Convio, Inc. The Western Union Company Scripps Networks Interactive, Inc.	CD International Enterprises, IncCAtheros Communications Inc.CMaxim Integrated Products, Inc.U.K.Omnicom Group Inc.CThe Blackstone Group L.P.U.K.Cardinal Health, Inc.CL & L Energy, Inc.CKorn/Ferry InternationalU.K.SciClone Pharmaceuticals, IncCNVIDIA CorporationU.K.Hologic, Inc.CEvercore Partners Inc.U.K.Trimble Navigation LimitedCConvio, Inc.U.K.Scripps Networks Interactive, Inc.U.K.Ball Corporation (Ball)C	CD International Enterprises, IncC0,148Atheros Communications Inc.C0,032Maxim Integrated Products, Inc.U.K.0,015Omnicom Group Inc.C0,011The Blackstone Group L.P.U.K.0,011Cardinal Health, Inc.C0,038L & L Energy, Inc.C0,074Korn/Ferry InternationalU.K.0,077SciClone Pharmaceuticals, IncC0,816Jacobs Engineering Group Inc.C0,012NVIDIA CorporationU.K.0,025Evercore Partners Inc.U.K.0,276Trimble Navigation LimitedC0,014Convio, Inc.U.K.0,037The Western Union CompanyU.K.0,062Ball Corporation (Ball)C0,015	CD International Enterprises, IncC0,1482,690Atheros Communications Inc.C0,0323,120Maxim Integrated Products, Inc.U.K.0,0152,710Omnicom Group Inc.C0,0113,930The Blackstone Group L.P.U.K.0,0110,830Cardinal Health, Inc.C0,0383,400L & L Energy, Inc.C0,0741,180Korn/Ferry InternationalU.K.0,0771,680SciClone Pharmaceuticals, IncC0,8162,420Jacobs Engineering Group Inc.C0,0121,830NVIDIA CorporationU.K.0,0322,690Hologic, Inc.C0,0121,940Evercore Partners Inc.U.K.0,2761,760Trimble Navigation LimitedC0,0143,860Convio, Inc.U.K.0,0372,830The Western Union CompanyU.K.0,0623,980Ball Corporation (Ball)C0,0153,250	CD International Enterprises, IncC0,1482,690203,240Atheros Communications Inc.C0,0323,12026,920Maxim Integrated Products, Inc.U.K.0,0152,71013,900Omnicom Group Inc.C0,0113,9308,290The Blackstone Group L.P.U.K.0,0110,83075,610Cardinal Health, Inc.C0,0383,4008,010L & L Energy, Inc.C0,0741,1804,210Korn/Ferry InternationalU.K.0,0771,6809,980SciClone Pharmaceuticals, IncC0,8162,4205,270Jacobs Engineering Group Inc.C0,0121,83012,770NVIDIA CorporationU.K.0,0322,69024,970Hologic, Inc.C0,0143,86028,020Convio, Inc.U.K.0,0372,83012,800The Western Union CompanyU.K.0,0623,9809,510Ball Corporation (Ball)C0,0153,2508,690	CD International Enterprises, Inc C 0,148 2,690 203,240 44,7   Atheros Communications Inc. C 0,032 3,120 26,920 2263,1   Maxim Integrated Products, Inc. U.K. 0,015 2,710 13,900 4951,5   Omnicom Group Inc. C 0,011 3,930 8,290 13708,4   The Blackstone Group L.P. U.K. 0,011 0,830 75,610 11122,6   Cardinal Health, Inc. C 0,038 3,400 8,010 12498,2   L & L Energy, Inc. C 0,074 1,180 4,210 282,1   Korn/Ferry International U.K. 0,077 1,680 9,980 894,2   SciClone Pharmaceuticals, Inc C 0,816 2,420 5,270 128,4   Jacobs Engineering Group Inc. C 0,012 1,830 12,770 6227,8   NVIDIA Corporation U.K. 0,032 2,690 24,970 11516,9   Hologic, Inc. C 0,012 1,860 <	CD International Enterprises, Inc C 0,148 2,690 203,240 44,7 0,034   Atheros Communications Inc. C 0,032 3,120 26,920 2263,1 -0,066   Maxim Integrated Products, Inc. U.K. 0,015 2,710 13,900 4951,5 -0,011   Omnicom Group Inc. C 0,011 3,930 8,290 13708,4 0,046   The Blackstone Group L.P. U.K. 0,011 0,830 75,610 11122,6 -0,088   Cardinal Health, Inc. C 0,038 3,400 8,010 12498,2 0,011   L & L Energy, Inc. C 0,074 1,180 4,210 282,1 0,022   Korn/Ferry International U.K. 0,077 1,680 9,980 894,2 -0,049   SciClone Pharmaceuticals, Inc C 0,816 2,420 5,270 128,4 0,020   Jacobs Engineering Group Inc. C 0,012 1,830 12,770 6227,8 -0,026   Hologic, Inc. <td< td=""><td>CD International Enterprises, Inc C 0,148 2,690 203,240 44,7 0,034 1,409   Atheros Communications Inc. C 0,032 3,120 26,920 2263,1 -0,066 1,718   Maxim Integrated Products, Inc. U.K. 0,015 2,710 13,900 4951,5 -0,011 1,540   Omnicom Group Inc. C 0,011 3,930 8,290 13708,4 0,046 1,130   The Blackstone Group L.P. U.K. 0,011 0,830 75,610 11122,6 -0,088 0,030   Cardinal Health, Inc. C 0,074 1,180 4,210 282,1 0,022 1,640   Korn/Ferry International U.K. 0,077 1,680 9,980 894,2 -0,049 2,010   SciClone Pharmaceuticals, Inc C 0,816 2,420 5,270 128,4 0,020 -1,244   Hologic, Inc. C 0,012 1,830 12,770 6227,8 -0,020 1,575   NVIDIA Corporation</td></td<>	CD International Enterprises, Inc C 0,148 2,690 203,240 44,7 0,034 1,409   Atheros Communications Inc. C 0,032 3,120 26,920 2263,1 -0,066 1,718   Maxim Integrated Products, Inc. U.K. 0,015 2,710 13,900 4951,5 -0,011 1,540   Omnicom Group Inc. C 0,011 3,930 8,290 13708,4 0,046 1,130   The Blackstone Group L.P. U.K. 0,011 0,830 75,610 11122,6 -0,088 0,030   Cardinal Health, Inc. C 0,074 1,180 4,210 282,1 0,022 1,640   Korn/Ferry International U.K. 0,077 1,680 9,980 894,2 -0,049 2,010   SciClone Pharmaceuticals, Inc C 0,816 2,420 5,270 128,4 0,020 -1,244   Hologic, Inc. C 0,012 1,830 12,770 6227,8 -0,020 1,575   NVIDIA Corporation

# Appendix 2 Descriptive Statistics of Variables

# A.2.1

Chinese dummy variables								
Year	Deals	MIXPDUM	NQDUM					
2003	2	2	2					
2004	6	3	3					
2005	4	1	3					
2006	4	2	3					
2007	12	2	7					
2008	8	1	2					
2009	6	2	3					
2010	5	2	2					
2011	6	2	4					
Count	53	17	29					

### A.2.2

U.K. dummy variables								
Year	Deals	MIXPDUM	NQDUM					
2003	11	3	7					
2004	7	3	4					
2005	17	5	8					
2006	16	4	7					
2007	14	6	7					
2008	9	4	4					
2009	12	6	4					
2010	3	0	2					
2011	6	3	2					
Count	95	34	45					

#### A.2.3

	CAR	BETA	EV_EBITDA	<u>STDDEV</u>
Mean	0.006427	0.999232	19.80939	0.026810
Median	0.004500	1.043000	10.61500	0.020000
Maximum	0.148824	3.071000	203.2400	0.291000
Minimum	-0.146000	-0.560000	1.430000	0.006000
Std. Dev.	0.061649	0.659475	26.86794	0.028144

<u>MTB</u>	DEALSIZE	MARKETCAP
3.852237	0.152857	3303.640
2.390000	0.027225	1515.500
91.94000	9.166667	24740.00
-16.73000	0.010038	10.10000
9.835467	0.781282	4665.515
	<u>MTB</u> 3.852237 2.390000 91.94000 -16.73000 9.835467	MTBDEALSIZE3.8522370.1528572.3900000.02722591.940009.166667-16.730000.0100389.8354670.781282



A.2.4 Scatter

plot



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# A. 2.5 Scatter plot



#### A.2.6

Announcement day	Companies	Outliers	Target country
2007-01-29	CTI GROUP HDG	Dealsize	U.K.
2008-09-22	EASTBRIDGE INV.GROUP	MTB-ratio	China
2003-12-01	HERCULES	MTB-ratio	China
2007-01-02	HARTCOURT	MTB-ratio	China
2003-08-29	EARTHLINK	EV/EBITDA	U.K.
2005-07-25	VERTICALNET	EV/EBITDA	U.K.
2006-11-29	3COM	EV/EBITDA	China

# Appendix 3 Country variables

#### A.3.1

Country	Variable	2003	2004	2005	2006	2007	2008	2009
China	VOICE_ACC	-1,533	-1,461	-1,517	-1,679	-1,719	-1,681	-1,653
China	CTRL_CORR	-0,376	-0,616	-0,736	-0,522	-0,599	-0,458	-0,528
China	Rule_LAW	-0,433	-0,349	-0,418	-0,524	-0,450	-0,326	-0,348
China	REG_QUQL	-0,350	-0,239	-0,198	-0,276	-0,183	-0,147	-0,199
China	GOV_EFF	-0,101	-0,046	-0,206	0,028	0,206	0,152	0,116
China	AVE_GOV	-0,559	-0,542	-0,615	-0,595	-0,549	-0,492	-0,522
U.K.	VOICE_ACC	1,287	1,601	1,472	1,370	1,334	1,322	1,306
U.K.	CTRL_CORR	2,006	1,882	1,856	1,779	1,716	1,676	1,544
U.K	Rule_LAW	1,636	1,594	1,517	1,703	1,658	1,628	1,706
U.K.	REG_QUQL	1,630	1,722	1,575	1,820	1,801	1,712	1,537
U.K	GOV_EFF	1,804	1,855	1,722	1,689	1,622	1,585	1,476
U.K.	AVE_GOV	1,640	1,700	1,605	1,668	1,627	1,584	1,523

#### A.3.2

Country	VOICE_ACC	CTRL_CORR	Rule_LAW	REG_QUQL	GOV_EFF	AVE_GOV
China	-1,653	-0,528	-0,418	-0,199	0,028	-0,549
U.K.	1,334	1,779	1,636	1,712	1,689	1,627
P-value	0,000***	0,000***	0,000***	0,000***	0,000***	0,000***

*P*-values show the statistical significance of difference in median values between China and U.K. for the country specific variables.

# **Appendix 4 Regression Outputs**

#### A.4.1 Heteroscedasticity tests

Heteroskedasticity Test: White

F-statistic	1.395787	Prob. F(51,96)	0.0805
Obs*R-squared	63.01637	Prob. Chi-Square(51)	0.1205
Scaled explained SS	51.32122	Prob. Chi-Square(51)	0.4611

Test Equation: Dependent Variable: RESID^2 Method: Least Squares Date: 04/27/12 Time: 11:14 Sample: 1 148 Included observations: 148 Collinear test regressors dropped from specification

Variable	Coefficient	Std. Error t-Statistic Prob.
С	-0.003780	0.003996 -0.946133 0.3465
CHINADUM	0.002145	0.003515 0.610216 0.5432
CHINADUM*BETA	0.001061	0.001875 0.566113 0.5726
CHINADUM*DEALSIZE	-0.003958	0.016848 -0.234911 0.8148
CHINADUM*EV_EBITDA	0.000132	7.28E-05 1.816534 0.0724
CHINADUM*MARKETCAP	1.23E-07	3.28E-07 0.373790 0.7094
CHINADUM*MIXPDUM	-0.003251	0.002371 -1.371262 0.1735
CHINADUM*MTB	-0.001357	0.000842 -1.611068 0.1104
CHINADUM*NQDUM	-0.000105	0.002157 -0.048537 0.9614
CHINADUM*STDDEV	-0.011180	0.091169 -0.122632 0.9027
BETA	0.000699	0.002544 0.274796 0.7841
BETA^2	0.001285	0.000817 1.572213 0.1192
BETA*DEALSIZE	-0.008733	0.010180 -0.857939 0.3931
BETA*EV_EBITDA	-8.75E-06	5.38E-05 -0.162790 0.8710
BETA*MARKETCAP	-3.41E-07	3.41E-07 -0.998819 0.3204
BETA*MIXPDUM	-0.001598	0.001851 -0.863341 0.3901
BETA*MTB	-0.000410	0.000518 -0.791487 0.4306
BETA*NQDUM	0.001256	0.001821 0.689452 0.4922
BETA*STDDEV	-0.043263	0.061837 -0.699618 0.4859
DEALSIZE	0.033901	0.021863 1.550614 0.1243
DEALSIZE^2	-0.000294	0.007745 -0.037964 0.9698
DEALSIZE*EV_EBITDA	0.000220	0.000521 0.422346 0.6737
DEALSIZE*MARKETCAP	1.90E-06	2.83E-06 0.671496 0.5035
DEALSIZE*MIXPDUM	-0.015110	0.013106 -1.152851 0.2518
DEALSIZE*MTB	-0.005276	0.006982 -0.755672 0.4517
DEALSIZE*NQDUM	0.010314	0.013568 0.760174 0.4490
DEALSIZE*STDDEV	-0.484570	0.654300 -0.740593 0.4607
EV_EBITDA	4.65E-05	8.04E-05 0.577542 0.5649
EV_EBITDA^2	-1.03E-07	5.06E-07 -0.204499 0.8384
EV_EBITDA*MARKETCAP	7.45E-09	1.25E-08 0.596165 0.5525
EV_EBITDA*MIXPDUM	-8.53E-05	0.000102 -0.838877 0.4036
EV_EBITDA*MTB	-8.08E-06	1.09E-05 -0.741702 0.4601

EV_EBITDA*NQDUM	4.14E-05	8.10E-05	0.511069	0.6105
EV_EBITDA*STDDEV	-0.002639	0.001226	-2.151782	0.0339
MARKETCAP	-8.70E-09	6.34E-07	-0.013726	0.9891
MARKETCAP^2	1.88E-12	1.92E-11	0.097828	0.9223
MARKETCAP*MIXPDUM	3.86E-07	3.02E-07	1.277972	0.2043
MARKETCAP*MTB	1.06E-07	9.49E-08	1.112718	0.2686
MARKETCAP*NQDUM	9.59E-08	2.61E-07	0.367763	0.7139
MARKETCAP*STDDEV	-1.05E-05	1.17E-05	-0.896912	0.3720
MIXPDUM	0.001821	0.003600	0.505801	0.6142
MIXPDUM*MTB	-0.000337	0.000872	-0.385997	0.7004
MIXPDUM*NQDUM	-0.001030	0.002162	-0.476697	0.6347
MIXPDUM*STDDEV	0.127322	0.091103	1.397570	0.1655
MTB	-0.000410	0.000981	-0.418171	0.6768
MTB^2	-1.67E-05	7.57E-05	-0.220419	0.8260
MTB*NQDUM	0.000657	0.000780	0.841849	0.4020
MTB*STDDEV	0.039991	0.045557	0.877812	0.3822
NQDUM	-0.001411	0.003612	-0.390632	0.6969
NQDUM*STDDEV	-0.144946	0.086944	-1.667112	0.0988
STDDEV	0.277593	0.161033	1.723826	0.0880
STDDEV^2	-0.157372	0.557993	-0.282032	0.7785
R-squared	0.425786	Mean dependent var	0.003454	
Adjusted R-squared	0.120735	S.D. dependent var	0.004743	
S.E. of regression	0.004448	Akaike info criterion	-7.723006	
Sum squared resid	0.001899	Schwarz criterion	-6.669931	
Log likelihood	623.5024	Hannan-Quinn criter.	-7.295144	
F-statistic	1.395787	Durbin-Watson stat	1.879931	
Prob(F-statistic)	0.080542			

A.4.2 Jarque-Bera test



#### A.4.3 Ramsey RESET Test

#### Ramsey RESET Test Equation: UNTITLED Specification: CAR C CHINADUM BETA DEALSIZE EV\_EBITDA MARKETCAP MIXPDUM MTB NQDUM STDDEV Omitted Variables: Squares of fitted values

Value df Probability t-statistic 0.576779 137 0.5650 F-statistic 0.332674 (1, 137) 0.5650 Likelihood ratio 0.358949 1 0.5491 F-test summary: Mean Sum of Sq. df Squares Test SSR 0.001238 0.001238 1 **Restricted SSR** 0.511151 138 0.003704 Unrestricted SSR 0.509913 137 0.003722 Unrestricted SSR 0.509913 137 0.003722 LR test summary: df Value Restricted LogL 209.4515 138 Unrestricted LogL 209.6310 137

Unrestricted Test Equation: Dependent Variable: CAR Method: Least Squares Date: 04/27/12 Time: 11:15 Sample: 1 148 Included observations: 148

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.011394	0.015298	0.744761	0.4577
CHINADUM	0.005358	0.011070	0.483985	0.6292
BETA	0.006323	0.008038	0.786697	0.4328
DEALSIZE	-2.16E-05	0.019817	-0.001089	0.9991
EV_EBITDA	-8.61E-05	0.000206	-0.418340	0.6764
MARKETCAP	-2.70E-06	1.27E-06	-2.115413	0.0362
MIXPDUM	0.008368	0.011225	0.745493	0.4573
MTB	0.002855	0.002615	1.091858	0.2768
NQDUM	-0.012193	0.010860	-1.122784	0.2635
STDDEV	-0.215561	0.322874	-0.667633	0.5055
FITTED^2	-5.473136	9.489140	-0.576779	0.5650
R-squared	0.087305	Mean depend	ent var	0.006427
Adjusted R-squared	0.020685	S.D. depende	nt var	0.061649
S.E. of regression	0.061008	Akaike info cri	iterion	-2.684203
Sum squared resid	0.509913	Schwarz crite	rion	-2.461437
Log likelihood	209.6310	Hannan-Quini	n criter.	-2.593693
F-statistic	1.310494	Durbin-Watso	n stat	1.908358
Prob(F-statistic)	0.230716			

A.4.4 Correlation matrix

	AVE_GOV	BETA	CHINADUM	CTRL_CORR DEALSIZ	E EV_EBITDA GOV_EFF M	MARKETCAP N	AIXPCHDUM MIXPDUM	MTB	NQCHDUM N	арим идикр	UM REG_QUAL	RULE_LAW S	STDDEV V	OICE_ACC
AVE_GOV	1.000000													
BETA	-0.265098	1.000000												
CHINADUM	-0.680042 (	0.174347	1.000000											
CTRL_CORR	0.997028 -(	0.275085	-0.675273	1.00000										
DEALSIZE	0.087690 -(	0.009185	0.064312	0.080387 1.00000	0									
EV_EBITDA	-0.202501 (	0.062399	0.210122	-0.188091 -0.06126	3 1.000000									
GOV_EFF	0.992961 -(	0.253356	-0.676144	0.994772 0.07161	5 -0.229156 1.000000									
MARKETCAP	0.139861 (	0.094819	-0.047049	0.139470 -0.03440	3 -0.093513 0.141279	1.000000								
MIXPCHDUM	-0.319808 (	0.032595	0.481113	-0.310466 0.26903	3 0.297619 -0.338162	-0.109491	1.000000							
MIXPDUM	-0.026210 (	0.016144	-0.050359	-0.027942 0.22331	5 0.093655 -0.038766	-0.054222	0.464554 1.000000							
MTB	-0.052486 (	0.222367	0.067565	-0.057645 -0.16383	0.262696 -0.049538	0.042885	-0.126796 -0.197357 1.0	000000						
NQCHDUM	-0.438794 (	0.125903	0.651903	-0.440777 0.13474	3 0.284982 -0.447455	-0.119371	0.395250 0.019075 0.1	187295	1.000000					
NQDUM	0.021734 -(	0.053498	0.044203	0.025129 0.12259	3 0.191838 0.020327	-0.161738	0.082853 0.142916 0.1	137559	0.462748 1.0	00000				
NQUKDUM	0.378079 -(	0.159121	-0.479742	0.383320 0.02241	0.024878 0.383574	-0.076777	-0.230810 0.137706 -0.0	04051	-0.312745 0.6	97298 1.000	000			
REG_QUAL	0.996026 -(	0.265913	-0.676865	0.988678 0.08702	3 -0.214594 0.986095	0.124265	-0.331413 -0.033729 -0.0	047367	-0.435376 0.0	20879 0.374:	1.000000			
RULE_LAW	0.996237 -(	0.277067	-0.680430	0.989082 0.10484	4 -0.216780 0.982146	0.131915	-0.317839 -0.021614 -0.0	070521	-0.438035 0.0	15524 0.370	312 0.995152	1.000000		
STDDEV	-0.064618 (	0.008757	0.003119	-0.060537 0.05889	3 0.238036 -0.066616	-0.136713	0.115120 0.026886 -0.0	062975	0.114065 0.1	75947 0.096:	291 -0.062865	-0.064558 1.	000000	
VOICE_ACC	0.997597 -(	0.251416	-0.678381	0.993058 0.08962	3 -0.179460 0.985978	0.152701	-0.306960 -0.016155 -0.0	040371	-0.429339 0.0	24282 0.373	164 0.991681	0.994017 -0.	067000	1.000000

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# **Appendix 5 Regression Results**

#### A.5.1

Dependent Variable: CAR Method: Least Squares Date: 04/27/12 Time: 11:17 Sample: 1 148

Included observations: 148

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	0.011329	0.014986	0.755950	0.4510
CHINADUM	0.013746	0.015145	0.907605	0.3657
BETA	0.006102	0.007985	0.764181	0.4461
DEALSIZE	0.001837	0.019768	0.092928	0.9261
EV_EBITDA	-4.38E-05	0.000203	-0.215659	0.8296
MARKETCAP	-3.12E-06	1.15E-06	-2.705216	0.0077
MIXPDUM	0.008064	0.011207	0.719605	0.4730
MTB	0.002784	0.002595	1.072876	0.2852
NQDUM	-0.006222	0.012864	-0.483698	0.6294
STDDEV	-0.367002	0.188697	-1.944930	0.0538
NQCHDUM	-0.015305	0.021428	-0.714247	0.4763
R-squared	0.088483	Mean depende	ent var	0.006427
Adjusted R-squared	0.021949	S.D. depender	nt var	0.061649
S.E. of regression	0.060969	Akaike info crit	erion	-2.685494
Sum squared resid	0.509254	Schwarz criteri	on	-2.462728
Log likelihood	209.7266	Hannan-Quinn	criter.	-2.594985
F-statistic	1.329892	Durbin-Watsor	n stat	1.906429
Prob(F-statistic)	0.220476			

#### A.5.2

Dependent Variable: CAR Method: Least Squares Date: 04/27/12 Time: 12:14 Sample: 1 148 Included observations: 148

Variable	Coefficient	Std. Error	t-Statistic	Prob.
С	0.011329	0.014986	0.755950	0.4510
CHINADUM	0.013746	0.015145	0.907605	0.3657
BETA	0.006102	0.007985	0.764181	0.4461
DEALSIZE	0.001837	0.019768	0.092928	0.9261
EV_EBITDA	-4.38E-05	0.000203	-0.215659	0.8296
MARKETCAP	-3.12E-06	1.15E-06	-2.705216	0.0077
MIXPDUM	0.008064	0.011207	0.719605	0.4730
MTB	0.002784	0.002595	1.072876	0.2852
NQDUM	-0.021527	0.017917	-1.201515	0.2316
NQUKDUM	0.015305	0.021428	0.714247	0.4763
STDDEV	-0.367002	0.188697	-1.944930	0.0538
R-squared	0.088483	Mean depende	ent var	0.006427
Adjusted R-squared	0.021949	S.D. depender	nt var	0.061649
S.E. of regression	0.060969	Akaike info cri	terion	-2.685494
Sum squared resid	0.509254	Schwarz criter	ion	-2.462728
Log likelihood	209.7266	Hannan-Quinr	o criter.	-2.594985
F-statistic	1.329892	Durbin-Watsor	n stat	1.906429
Prob(F-statistic)	0.220476			

Dependent Variable: CAR				
Method: Least Squares				
Date: 04/27/12 Time: 11:16				
Sample: 1 148				
Included observations: 148				

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C CHINADUM BETA DEALSIZE EV_EBITDA MARKETCAP MIXPDUM MTB NQDUM STDDEV MIXPCHDUM	0.014702 0.005619 0.005790 0.001002 -6.66E-05 -3.02E-06 0.007408 0.002660 -0.011242 -0.367612 0.002037	0.014558 0.013252 0.008005 0.019770 0.000208 1.15E-06 0.013564 0.002600 0.010767 0.189376 0.023204	1.009865 0.424020 0.723290 0.050679 -0.319610 -2.633237 0.546135 1.023209 -1.044058 -1.941174 0.087793	0.3143 0.6722 0.4707 0.9597 0.7498 0.0094 0.5859 0.3080 0.2983 0.0543 0.9302
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.085140 0.018362 0.061080 0.511122 209.4557 1.274975 0.250438	Mean depende S.D. dependen Akaike info crit Schwarz criteri Hannan-Quinn Durbin-Watson	ent var it var erion on criter. stat	0.006427 0.061649 -2.681833 -2.459068 -2.591324 1.899315

#### A.5.4

Dependent Variable: CAR Method: Least Squares Date: 05/11/12 Time: 13:45 Sample (adjusted): 1 139 Included observations: 128 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C VOICE_ACC	0.010044 -0.003633	0.005850 0.003980	1.716800 -0.912861	0.0885 0.3631
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.006570 -0.001314 0.063814 0.513104 171.6115 0.833316 0.363059	Mean depende S.D. dependen Akaike info crit Schwarz criteri Hannan-Quinn Durbin-Watson	nt var t var erion on criter. stat	0.008626 0.063772 -2.650180 -2.605617 -2.632074 1.877915

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C CTRL_CORR	0.013318 -0.004641	0.007647 0.005108	1.741601 -0.908648	0.0840 0.3653
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.006510 -0.001375 0.063816 0.513135 171.6076 0.825641 0.365271	Mean depende S.D. dependen Akaike info crit Schwarz criteri Hannan-Quinn Durbin-Watson	ent var t var erion on criter. stat	0.008626 0.063772 -2.650119 -2.605556 -2.632013 1.879587

#### A.5.6

Dependent Variable: CAR Method: Least Squares Date: 05/11/12 Time: 13:47 Sample (adjusted): 1 139 Included observations: 128 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C RULE_LAW	0.014396 -0.005970	0.008007 0.005885	1.797871 -1.014397	0.0746 0.3123
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.008101 0.000228 0.063765 0.512314 171.7102 1.029001 0.312337	Mean depende S.D. depender Akaike info crit Schwarz criter Hannan-Quinn Durbin-Watsor	ent var ht var erion on criter. h stat	0.008626 0.063772 -2.651722 -2.607159 -2.633615 1.881769

Dependent Variable: CAR					
Method: Least Squares					
Date: 05/11/12 Time: 13:48					
Sample (adjusted): 1 139					
Included observations: 128 after adjustments					

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C REG_QUAL	0.014383 -0.005404	0.008788 0.006325	1.636712 -0.854511	0.1042 0.3944
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.005762 -0.002129 0.063840 0.513522 171.5595 0.730190 0.394444	Mean depende S.D. depender Akaike info crit Schwarz criteri Hannan-Quinn Durbin-Watsor	ent var ht var erion on criter. h stat	0.008626 0.063772 -2.649366 -2.604804 -2.631260 1.876027

#### A.5.8

Dependent Variable: CAR Method: Least Squares Date: 05/11/12 Time: 13:48 Sample (adjusted): 1 139 Included observations: 128 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C GOV_EFF	0.016001 -0.006422	0.010236 0.007438	1.563118 -0.863419	0.1205 0.3895
R-squared Adjusted R-squared S.E. of regression Sum squared resid Log likelihood F-statistic Prob(F-statistic)	0.005882 -0.002008 0.063836 0.513460 171.5672 0.745492 0.389548	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion Hannan-Quinn criter. Durbin-Watson stat		0.008626 0.063772 -2.649487 -2.604924 -2.631381 1.876376

# Acquisitions of Chinese firms create shareholder value

*Cross-border U.S. acquisitions of Chinese and U.K. firms – do they create shareholder value? How does the level of transparency affects acquirer's return?* 

The subject concerning whether crossborder acquisitions create shareholder value or not, has been debated for decades. Evidence from this study state that cross-border mergers and acquisitions of U.S. firms, targeting Chinese and U.K. firms, yield acquirer The results indicate that returns. acquisitions of Chinese firms have vielded historically higher returns, compared to acquisitions of U.K. firms.

The primary purpose of the study was to determine if cross border acquisitions, made by U.S. firms targeting Chinese and U.K. firms, created value for the acquirer. An additional purpose was to establish how the level of intangible assets affects the acquirer's returns. We chose to study cross-border M&As announcements, where the acquirer were U.S. firms listed on Nasdaq or New York stock exchange and the targets were Chinese and U.K. private firms. We found that both acquisitions of Chinese and U.K. targets created shareholder value for the U.S. acquirer. Further, the results showed that acquisitions of Chinese targets yield, on average, abnormal returns of 314 basis points and U.K. targets average abnormal return were 136 basis points. The positive returns are in line with earlier cross-border M&A studies, based on recent time periods, by Francis, Hassan and Sun (2008) and Ellis, Moeller, Schlingemann and Stulz, (2011).

Another purpose of the study was to establish how the level of intangible assets affects the abnormal returns for the

#### Information about the study made by Sinclair and Sjöström

- 56 Chinese and 98 U.K. observation of cross-border M&As made by U.S. acquirers between 2003 and 2011 are used in the study.
- A quantitative approach with an event study and cross sectional regression analysis have been used.
- The explanatory regressions are used with CAR from the Market Model, with the event window (-4, 4)

#### **Appendix 6 Article**

acquirer. Nasdaq is typically known as a high-tech market which attracts knowledge intensive firms, thus firms with high levels of intangible assets. Furthermore, New York stock exchange is perceived to have more conventional firms, with mainly tangible assets. Thus, we used the listing of the acquiring firm to test how the abnormal returns were related to firms with high levels of intangible assets. We test this by evaluating if transparency and political risk have a bigger influence on these firms. The results showed a negative economic significant relationship for firms listed on Nasdaq, when acquiring Chinese firms, and a positive relationship, when acquiring U.K. firms. However, we found no statistical significance, thus we cannot draw any firm conclusions.

China has in the recent years improved their regulatory framework, which has increased cross-border M&A into the country. However, a comparison with a developed country displays several factors which separate U.S. firms' acquisitions into U.K. from China. Factors such as the world's two highest ratios of market capitalization to GDP and same official language have a strong correlation to M&A activity. China also lacks experience and knowledge of M&A compared to U.S. U.K. and Further, substantial macroeconomic and political uncertainties

in China, indicate that there are several reasons for investors to be skeptical of acquiring Chinese firms. With these arguments in mind, we believed the relationship between Chinese and U.K acquisitions would be the opposite to what we found.

When evaluating how the level of intangible assets affects the return. previous studies of emerging market targets have found contrasting results to ours. Chari, Ouimet and Tesar (2010) found that the value of foreign control in emerging markets matter most in industries, which contains high level of intangible assets. Further, Coffee (1999) argued, that if a developed market acquirer is able to bring better institutional practice to an emerging market target, it may create value. However, the contract enforceability matters more for transactions which involves intangible assets. Thus, weak contracting institutions and political risk make it difficult for firms to write enforceable contracts, which could lead to a negative impact on the transaction. China has an ineffective corporate governance and Company law, which indicate that efficiency by a foreign acquirer could create value. However, even though the corporate governance is ineffective compared to similar acquisitions in emerging markets, there are several

#### **Appendix 6 Article**

restrictions for foreign buyers. Thus, positive factors of acquiring intangible assets in emerging markets may not stand for Chinese targets, whilst negative factors political risk, weak contracting like institutions and lack of transparency are still present. In acquisitions of tangible assets it may be easier to estimate the value of the assets, whilst the information needed to estimate the value of intangible assets is more comprehensive. We therefore argued that transparency was more important in industries with high levels of intangible assets. Our results point towards a negative impact on the acquirers' return when buying a Chinese firm with a high level of intangible assets. However, as stated, we could not find statistical significance.

A summarized conclusion of our study is that cross-border acquisitions, made by U.S. firms, yield a significant average abnormal return in line with previous studies. The higher returns for Chinese firms indicate that U.S. firms are able to transfer corporate governance between these firms, which may be, directly or indirectly, a result of countrywide governance. However, this seems to be harder to accomplish in Chinese firms with high level of intangible assets.

Furthermore, how the lack of transparency affects domestic and cross-border mergers and acquisitions is a relevant question in the business world. Studying accounting standards between countries is another approach, which could reveal more on how transparency differs between countries in a more comprehensive way, compared to our evaluation. Thus, this study cannot contribute to increase the generality of evidence on the impacts of transparency, but rather expose new questions about it.

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