

# Collection of Essays on Mergers & Acquisitions

Submitted by Karolina Ploskonka, to the University of Exeter as a thesis for the degree of Doctor of Philosophy in Finance, February 2015.

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(Signature) .....

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## **MOTIVATION FOR THIS RESEARCH**

This PhD thesis consists of three essays which are interlinked by two themes – the problem of risk and information asymmetry in cross-border mergers and acquisitions carried out by UK investors. Majority of empirical research in finance, and in particular in mergers and acquisitions focuses on the US outward investments. However, UK investors are the second most active when it comes to international acquisitions. The country's physical proximity to continental Europe and common legal system make UK transactions a particularly interesting dataset.

In the first essay we try to understand how UK investors decide in which country to invest. We investigate in which cases increased level of risk and higher information asymmetry are desired by UK investors and find that higher corporate governance standards, more stringent accounting standards and strong creditor and shareholder protection deter investors. Legal system seems to be of no statistical significance indicating that the law of the host country does not fully reflect the level of such standards, while lack of significance of media coverage indicates that investors are not concerned about the public scrutiny.

The second paper looks at how increased risk and information asymmetry impact the likelihood of using a contingent payout agreement and if investors always will use this method to reduce the risk of overpaying for the target. The evidence shows that deal-specific features reflecting higher asymmetry of information and risk increase the chances of using an earnout contract. However, cross-border transactions do not involve earnout contracts more often than the domestic ones which is most likely due to potential enforcement issues resulting from different legal systems.

The last chapter of this thesis looks at the ways in which the acquirer can structure the transaction to reduce the risk that the offer will be rejected. Our results stress the importance of bilateral negotiations. Although the size of the premium is significant, its importance is fairly negligible when compared with the impact of hostile transactions, competing bids and the inclusions of a termination fee. From the above we can infer that carefully planned bilateral negotiations leading to a high premium would maximise the chances of deal completion.

Recapitulating, in this collection of essays we try to answer the questions of how risk and information asymmetry influence UK investors' decision where to invest, how to pay for the target and whom and how to acquire in order to maximise the chances that the transaction will be successfully finalised.



## COLLECTION OF ESSAYS

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## **Country-level Corporate Governance:**

What attracts UK investors and how does it affect target shareholders' behaviour in cross-border acquisitions?

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## ABSTRACT

Only in 2012 the value of M&A transactions in the UK and Ireland accounted for almost 22% of the total European M&A (Mergermarket, 2013). More than half of this amount can be attributed to cross-border outbound investments. Given, the above we decided to study how corporate governance of the host country influences investors' choices where to invest. "At a general level corporate governance can be described as a problem involving an agent – the CEO of the corporation – and multiple principals – the shareholders, creditors, suppliers, clients, employees, and other parties with whom the CEO engages in business on behalf of the corporation" (Becht *et al.*, 2002, p. 8). Despite the benefits of good corporate governance standards, we put forward that investors will be more inclined to take over companies in countries which enable them to extract additional benefits from their investments. The pillars on which corporate governance is based include Shareholder Protection, Legal System, Ownership Concentration, Creditor Rights and Accounting Standards. Furthermore, we extend the usual definition of corporate governance to include insider trading and other media/analyst coverage. The inclusion of the first additional variable is motivated by our belief that insider trading is a pivotal violation of good corporate governance whereas media can help lower the cost of information acquisition and act as corporate monitors. We study cross-border takeovers by UK acquirers which took place between 1993 and 2012 and where there was a change of control in the foreign target. The number of host-countries is reduced to 48 which were initially analysed by La Porta *et al.* (1998). The values of the transactions for a given year and a given country are summed together and divided by the value of all outbound UK acquisitions in a given year to get a percentage of UK funds attracted by every country every year. Our sample includes 960 country-year observations. We regress the independent variable computed

as described above on different measures of corporate governance, using a fractional logit model, as advised by Papke and Wooldridge (1996).

Based on the results of our analysis we conclude that higher corporate governance standards reflected in lower ownership concentration, more stringent accounting standards and strong creditor and shareholder protection deter investors. Legal system is of no statistical significance indicating that the law of the host country does not fully reflect the level of such standards. The same result was obtained for media coverage, indicating that investors are either not concerned about the public scrutiny or they do not require the information provided by the journalists while the opposite is true for analyst coverage. However, this result suffers from a potential problem of causality identification. Lastly, investors do not seem to benefit from the introduction and/or enforcement of insider trading regulation. This might be due to the fact that such laws do not necessarily impact the financial markets as predicted in the extant literature.

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# 1. INTRODUCTION

## 1.1. M&A TRENDS

Researchers believe that cross-border acquisitions generate significant synergies and help to rapidly grow the business in a foreign country (Bebchuk and Weisbach, 2010). Statistics show that managers from all over the world seem to agree with this notion. The most recent data provided by the United Nations on foreign direct investment shows that cross-border M&A has accounted for 29% of FDI inflows but this percentage is still significantly below the pre-crisis average of 47% (WIR, 2015). The worldwide flow of funds has been growing at a staggering rate. Between 1990 and 2014 the level of global foreign direct investment increased 4 times and the same magnitude of change has been observed in cross-border mergers and acquisitions (WIR, 2015). Only in 2012, the UK and Ireland accounted for almost 22% of the European M&A activity by value of completed deals (Mergermarket, 2013). More than half of this amount can be attributed to cross-border outbound investments. Looking at our data on transactions carried out by UK acquirers in the last twenty years, we can see that the most popular foreign target country destination is the USA which obtained around one-third of UK funds, followed by Germany and France with approximately 9% each. Australia and Sweden close the list of top five most popular locations for cross-border acquisitions. Given the increased levels of globalisation and the growing importance of acquisitions of foreign targets, this paper analyses how national-level corporate governance impacts the attractiveness of a particular country against other potential host nations. In order to do so, we look at various definitions of corporate governance and investigate the importance of introduction of such standards for investors.

## 1.2. CORPORATE GOVERNANCE

“At a general level corporate governance can be described as a problem involving an agent – the CEO of the corporation – and multiple principals – the shareholders, creditors, suppliers, clients, employees, and other parties with whom the CEO engages in business on behalf of the corporation” (Becht *et al.*, 2002, p. 8). Financial literature particularly focuses on the principal-agent problem. It looks at the difficulty of ensuring that the CEOs work towards achieving Pareto efficiency which in most financial frameworks is defined as shareholder value maximisation. This goes back to the idea that a firm is effectively a nexus of contracting relationships between all the stakeholders but only shareholders have a claim on residual returns (Jensen and Meckling, 1976) and therefore “all powers granted to a corporation or to the management of a corporation, or to any group with the corporation, whether derived from statute or charter or both, are necessarily and at all times exercisable only for the ratable benefit of all the shareholders as their interest appear” (Berle, 1931, p. 1049). Jensen (1986, 1989) proposed to solve the problem by leveraging the firm as much as possible and thereby limiting the management’s discretion when it comes to the allocation of free cash flows. However, despite the aforementioned advantages, potential costs of financial distress are high, hence companies have to finance their activities by issuing equity (Myers 1977). Given the need for the existence of stock in the capital structure and the fact that the level of protection of shareholders is lower than of other parties (Williamson, 1984, 1985), there is a strong need for corporate governance, especially when free-market mechanisms such as reputation building are not attainable (Kreps, 1990; Diamond, 1989).

The literature provides a number of ways in which one can improve corporate governance. It has been proposed that one way of achieving this is through carefully

designed contracts. However, such agreements are most often incomplete and therefore do not assure that the shareholder value is maximised. This is because the parties may be unable to specify in the contract all the possible contingencies in sufficient detail, which would allow enforcement of such an agreement by third parties (courts), or may create contracts whose conditions are impossible to verify (Hart and Moore, 1988). Additionally, CEOs or the shareholders are likely to create an inefficient contract if all the stakeholders involved are not present during negotiations of such an agreement, or even when this is achieved parties may amend the terms of the contract in their favour at a later point in time (Becht *et al.*, 2002). Changes are particularly likely when the shareholders are not active at monitoring the company because they own only a small stake (Shleifer and Vishny, 1986). Furthermore, a poorly designed compensation package may incentivise risk-taking or even lead to the expropriation of shareholders, as many performance criteria such as stock price or sales volumes can be manipulated (Bebchuk and Fried, 2003, 2005; Bebchuk *et al.*, 2001, 2002).

Consequently, other solutions to the principal-agent problem have been proposed and these include the introduction of the board of directors, or legal enforcement of duties but the above may also pose some difficulties during their implementation. For example, a very important question with regard to the introduction of the board of directors is who monitors the monitor and how do we assure there is no collusion between the board and the management. The existing empirical literature on the effect of independent boards of directors is rather mixed (see for example, Hermalin and Weisbach, 2003). Managers can also limit the negative implications of enforcement of fiduciary duties by taking out insurance, whereas court proceedings in general tend to be quite costly for the shareholders (Becht *et al.*, 2002) and this may discourage them from taking legal action.



Generally, it has been pointed out that “the core purpose of corporate governance is to build long-term sustainable growth in corporate and shareholder value” (Lipton and Nussbaum, 2012, p. 3). When looking at shareholder protection it has to be kept in mind that such rules should also take into account potential expropriation of minority shareholders which can arise when large shareholders decide to collude with the management. Hence, for the regulation to be effective it has to reach the optimal trade-off between managerial discretion and protection of small investors. However, high levels of corporate governance are not always sought after by international investors, as those limit the potential for extraction of private benefits, in many cases having a substantial effect on the amount of capital being attracted by a given country. As a result, we put forward that the level of corporate governance can have a significant impact on the direction of the flow of funds in cross-border mergers and acquisitions and this forms a basis for our research motivation.

### 1.3. RESEARCH MOTIVATION

Building on this assumption we chose to investigate how different corporate governance features affect the acquirer’s decision regarding the location of the target to be acquired. We put forward that investors will be more inclined to take over companies in countries which enable them to extract additional benefits from their investments. Our definition of corporate governance includes eight dimensions: 1) Legal System, 2) Ownership Concentration, 3) Shareholder Protection, 4) Creditor Protection, 5) Accounting Standards, 6) Insider Trading, and 7) Media and 8) Analyst Coverage. The legal system indicates whether a given country focuses more on protecting shareholders or stakeholder, whereas ownership concentration provides us with an insight into the level of proactive monitoring and the potential problem of free-riding in case of an

acquisition. Protection of shareholders and creditors reflects the ease of expropriation of minority shareholders and debtholders, respectively. Increased transparency resulting from accounting standards, strong regulation of insider trading and thorough media coverage may act as a deterrent to investors who may prefer to have more discretion with regard to their investments, thus not wishing to disclose too much information and thereby making themselves subject to public scrutiny. However, we recognise that better accounting standards and analyst coverage facilitate cheaper acquisition of information about potential takeover targets. Overall, we propose that countries with lower level of corporate governance will attract more funds as they offer the possibility of extraction of additional benefits also through greater asymmetry of information. We hope that our analysis can provide a better understanding of choices made by investors regarding where they decide to pursue acquisitions. Furthermore, we wish to draw some conclusions concerning potential regulatory changes which can make countries more attractive to investors looking to acquire foreign targets.

#### 1.4. METHODOLOGY REVIEW

Without doubt the spectrum of corporate governance literature is quite extensive, however for the purpose of this research we analyse the concept as it has been defined by La Porta *et al.* (1998). Hence, the pillars on which corporate governance is based include Shareholder Protection, Legal System, Ownership Concentration, Creditor Rights and Accounting Standards. The four latter measures are adopted directly from their paper. However, newer literature points out the shortcomings of the methodology adopted by La Porta *et al.* (1998) for the estimation of the first variable. We, therefore, opt for an index which we believe provides a more accurate depiction of the shareholder protection standards around the world as proposed by Spamann (2010). Furthermore,

we extend the definition of corporate governance to include insider trading and other variables aimed at measuring the degree of information asymmetry. The inclusion of the first additional variable is motivated by our belief that insider trading is a pivotal violation of good corporate governance standards and hence we incorporate the findings of Bhattacharya and Daouk (2002) into our framework. Additionally, we look at analyst coverage and the freedom of press which are seen as detrimental elements in achieving good corporate governance, as media lower the costs associated with the acquisition of information by investors, act as corporate monitors and can facilitate regulatory changes (Dyck and Zingales, 2002). We study cross-border takeovers by UK acquirers which took place between 1993 and 2012 and where there was a change of control in the foreign target. The number of host-countries is reduced to 48 which were initially analysed by La Porta *et al.* (1998). The values of the transactions for a given year and a given country are summed together and divided by the value of all outbound UK acquisitions in a given year to get a percentage of UK funds attracted by every country every year. Our sample includes 960 country-year observations. We regress the independent variable computed as described above on different measures of corporate governance, using a fractional logit model, as advised by Papke and Wooldridge (1996).

## 1.5. GENERAL FINDINGS

Our analysis has shown that higher corporate governance standards reflected in lower ownership concentration, more stringent accounting standards and strong creditor and shareholder protection deter investors. Legal system is of no statistical significance indicating that the law of the host country does not fully reflect the level of such standards. The same result was obtained for media coverage, indicating that investors are either not concerned about the public scrutiny or they do not require the information

provided by the journalists while the opposite is true for analyst coverage. However, this result suffers from a potential problem of causality identification. Lastly, investors do not seem to benefit from the introduction and/or enforcement of insider trading regulation. This might be due to the fact that such laws do not necessarily impact the financial markets as predicted in the extant literature.

## 1.6. STRUCTURE OVERVIEW

The existing literature on corporate governance determinants and our predictions are discussed in the *Literature Review & Hypotheses*. It is followed by the *Data & Methodology* section. The results are summarised in section 4 of this paper and the next section is devoted to robustness checks of our analysis. This section is then followed by *Limitations*, whereas the final remarks are presented in the *Conclusion*.

## **2. REVIEW OF LITERATURE AND HYPOTHESES**

### **2.1. LEGAL SYSTEM**

#### ***A. Common vs. Civil Law***

The corporate governance systems around the world can be divided into the market-based and the blockholder-based. The first one is typical for the US, UK and the Commonwealth countries and the latter is characteristic for countries located in continental Europe and their former colonies. The market-based system relies on common law framework and on effective enforcement of shareholder rights. It was established on fiduciary duty which allows for more discretion when dealing with previously unencountered problems and evolves depending on the rulings made by the judges. Those decisions are later on incorporated in the written law (Coffee, 1999). On the other hand, the blockholder-based system puts more emphasis on the rules protecting stakeholders rather than shareholders (Goergen *et al.*, 2005). Civil law is based on the Roman system which centres around statutes and comprehensive legal codes and requires from the judges a more mechanical approach to court cases and leaves little room for interpretation and extension to new problems (Reese and Weisbach, 2002).

Although these two systems are quite different in their nature, significant changes have been observed in the takeover regulation over the past decade which brought the UK and continental Europe closer together (Georgen *et al.*, 2005). Martynova and Renneboog (2008) claim that countries from Continental Europe have made improvements and a step towards the English legal system, while it has been also noted

that cross-border M&A activity became an important channel for effective worldwide convergence in corporate governance standards (Coffee, 1999).

### ***B. Spillovers***

The Spillover Hypothesis developed by Martynova and Renneboog (2008) states that: “a full takeover means a change of nationality of the acquired company and that the corporate governance standards of the bidder may be imposed on the target; what develops from here is that a target with poor corporate governance will benefit from the reformed system as the target’s improved standards may be a part of the total synergy value of the takeover” (p. 18). This is supported by Albuquerque *et al.* (2013) who provide evidence that positive spillovers of corporate governance do exist which may also affect the target’s rivals. Conversely, according to the Negative Spillover by Law Hypothesis, the bidders with weaker corporate governance than the target will underperform in the post-acquisition phase as the standards of the target are likely to become less strict. The assumption that the direction of the spillover is from the bidder to the target is shared by Starks and Wei (2013), who also expect a higher premium to be paid, if the bidder is coming from a weaker corporate governance system than the seller. Such premium functions as a compensation for the additional risk taken by the target shareholders, if they decide to keep the shares, or as a discount for the bidder in exchange for the provision of a better governance framework in a reversed scenario. Given the above, we would expect value-maximising UK bidders to be more attracted to markets which generally offer weaker corporate governance standards. Although the legal origin does provide us with some general indication on the level of such standards, the following sections of the literature review discuss in more detail the channels through which the legal system and corporate transparency affect M&A decisions regarding the location of the acquirer’s next target.

### ***C. Legal System: Summary***

Overall, civil law puts more emphasis on protecting the stakeholders rather than shareholders, than in the case of common law (Benabou and Tirole, 2010; this might be due to different directions of the development of the financial markets in both legal regimes). Additionally, the former requires a more mechanical approach from judges (Reese and Weisbach, 2002) and does not evolve as easily as common law (Coffee, 1999). However, in the past decade we have observed a significant convergence of the UK and continental European systems which resulted from regulatory changes (Martynova & Renneboog, 2011), but this legal evolution can also be partially attributed to the cross-border M&A activity and the spillover of corporate governance (Coffee, 1999). It has been argued that corporate governance standards of the bidder may be imposed on the target (Martynova and Renneboog, 2008). Hence, bidders from countries characterised by higher corporate governance standards can extract additional synergies by acquiring targets whose standards are not as high, even when the target's poor corporate governance standard may sometimes make the acquisition more costly. Given the above, we expect that UK investors will be more attracted to markets which generally offer weaker corporate governance resulting from civil law.

#### Hypothesis 1

*More UK funds will be allocated to countries governed by civil law*

## 2.2. OWNERSHIP CONCENTRATION

### ***A. Free-riding***

An important problem arises when the ownership is dispersed. If the shareholders invest only a small proportion of their wealth they are unlikely to bear the costs associated

with effective monitoring of the management. Given that corporate decisions attract so little oversight, managers may choose to act in their own interest rather than in the interest of the shareholders. In theory, this situation can be corrected through a hostile takeover, where the acquirer replaces the incumbent management, improves the inefficiencies and therefore increases the overall value of the firm. However, as pointed out by Grossman and Hart (1980), when the ownership is dispersed investors have a very high incentive to free-ride, also in case of a takeover offer. That is they are not willing to tender their shares hoping that majority of the shareholders will, which would enable them to benefit from the post-acquisition increase in the firm value. Hence, in such a situation shareholders will only dispose of their shares if the price includes the post-acquisition improvements. This reduces the acquirer's gain to zero at which point he becomes indifferent whether the acquisition is finalised or not, so no transaction takes place. Grossman and Hart (1980) and Bradley (1980) show that this leads to an inefficient M&A market.

### ***B. Reasons for Existence of Dispersed Ownership***

However, why is ownership actually dispersed? The first reason mentioned by Becht *et al.* (2002) as to why we have numerous investors is the fact that their wealth might be relatively small when compared with the size of the company in question. Therefore, they can only afford to own a relatively small stake of the overall corporation. Secondly, even when individual investors have enough wealth to obtain a large block of shares in a firm they may choose not to and invest instead in multiple projects, thus diversifying and limiting their exposure. What is more, acquiring a large stake may be a lot easier than selling it in the future (Becht *et al.*, 2002). The disposal might be especially problematic when the secondary market is characterised by low liquidity. This hypothesis has been first introduced by Warshaw (1924) who has shown that the



number of shareholders in the US has increased 2.5 times between 1900 and 1923. Also, Berle and Means (1932) found that already in 1929 none of the largest 200 US corporations had large investors which lead them to believe that there is a clear separation of control and ownership. This hypothesis has been supported for both the US and the UK by many academics (Lerner, 1966; Herman, 1981; La Porta *et al.*, 1999; Cubbin and Leech, 1983; Leech and Leahy; 1991), but others have found contradicting evidence (Eisenberg, 1976; Demsetz and Lehn, 1985). Goergen and Renneboog (2001) claim that in the UK, a large proportion of the voting power is held by 1 to 5 institutional investors and the general consensus is that in the US, UK and the Commonwealth countries the ownership is rather dispersed. On the other hand, in continental Europe the majority of shares in most companies is held either by one or a few investors. Also, Faccio and Lang (2002) agree that “concentration of ownership or control is the dominant form of corporate governance arrangement in continental Europe and other OECD countries” (Becht *et al.*, 2002, p. 17). This is in line with the point of view of La Porta *et al.* (1999) who argue that the ownership structure is primarily determined by investor protection standards prevailing in a given country.

### ***C. Benefits of Large Investors***

Blockholders can be beneficial because higher ownership results in greater influence on the management (Walkling and Edmister, 1985). Their voting power enables them to select directors who represent their interests. When their control is sufficiently large, they can even appoint majority of the board, which gives them the power to control the managers, or at least to decide whom to hire and who should be dismissed from his duties. “Large shareholders can also exercise power by blocking ratification of unfavourable decisions, or by initiating decisions” (Becht *et al.*, 2002, p. 26). What is more, Shleifer and Vishny (1986) argue that they can facilitate acquisitions. In addition,

when there is dispersion of ownership and control, it is hard for the shareholders not only to monitor the management effectively but also to mitigate potential conflicts of interest (Martynova and Renneboog, 2006).

Given that larger investors have fewer incentives to ‘free ride’ on takeover offers as they have more at stake (Grinblatt and Titman, 2001), it is not surprising that they are generally more active when it comes to voting on corporate matters (Jarrell *et al.*, 1988). We would also expect them to focus more on profit maximisation, although more recent research puts forward the level of activism relates to the proportion of this company in an investor’s portfolio rather than the proportion of a company he holds (Fich *et al.*, 2013). We expect that at a country level these are likely to be highly correlated, despite the fact that this may not always be the case at company-level. A study on the performance of family-owned companies with high ownership concentration has shown that they consistently outperform their peers, regardless whether we choose an accounting-based or a market-based performance measure (Anderson and Reeb, 2003). In an M&A context, Fich *et al.* (2013) noted that “the size and active interest may mitigate the coordination problem among target shareholders, allowing institutions to bargain for a higher premium” (p. 5) and this is indirectly supported by Dahlquist *et al.* (2003) who show that the returns from acquisitions are lower for countries with concentrated ownership.

#### ***D. Costs of Large Investors***

However, the concentration of ownership can also result in significant costs. Although dispersed shareholder base can incentivise managers to commit to the company and to show initiative (Burkart *et al.*, 1997), the opposite effect is true for concentrated control. High degree of ownership concentration may lead to overmonitoring by large investors

as they may look beyond shareholder value maximisation and additionally target optimisation of private benefits. Researchers find evidence for the existence of tunnelling within Korean business groups (chaebols), i.e. the view that firms from the same business group focus more on the maximisation of value of the controlling shareholders, rather than on the value of the whole company (see for example Bae *et al.*, 2000; Baek *et al.*, 2005 or Kim *et al.*, 2005). This can potentially discourage the agents to undertake certain projects making them effectively less active as autonomous managers (Aghion and Tirole, 1997; Pagano and Roell, 1998). However, research provides evidence that companies controlled by owners perform better than those run by agents (Radice, 1971; Cosh and Hughes, 1989; Leech and Leahy, 1991). Regardless whether the managers or outside investors hold the shares, those who obtain a large stake in the company are particularly prone to self-dealing (Bebchuk, 1999; Bebchuk *et al.*, 2000; Zingales, 1995). This means that opportunistic actions of the majority shareholders can lead to the expropriation of the minority shareholders' rights (Durnev and Kim, 2005). Although, existing research postulates that it is possible to reduce the risk of excessive monitoring and self-dealing by restricting the control of the blockholders or designing an optimal structure of shareholdings, others argue against it (Aghion and Tirole, 1997; Burkart *et al.*, 1997; Bebchuk, 1999; Bebchuk and Roe, 1999). The theoretical model of Bebchuk (1999) shows that dispersed ownership is unstable as shareholders will always have an incentive to acquire a larger stake in order to extract private benefits because otherwise this will be done by the managers.

### ***E. Problems Encountered by Large Investors***

Furthermore, even if we agree that the existence of large shareholders is highly desirable and that it can help overcome the lack of cooperation amongst investors, they can encounter problems when it comes to executing control. Corporate law sometimes

limits their potential to act. Prigge (1998) for example notes that employees appoint half of the board members in corporations in Germany, while the regulations of the London Stock Exchange do not allow blockholders who own more than 30 percent of the shares to appoint more than 5 out of 12 board members, regardless of the proportion they hold in the company (Wymeersch, 2003). Furthermore, some countries issue shares which give their holders a sole right to make board appointments (Becht and Mayer, 2001), while others allow for staggered boards. Although these can act as a powerful antitakeover defence, they may also diminish the power of large shareholders posing a requirement to win multiple consecutive proxy contests to replace the whole board (Bebchuk *et al.*, 2002, 2004). Even if we assume that the shareholders somehow manage to collude and get a majority of votes, very often they cannot directly decide on many corporate decisions - e.g. in the US the shareholders cannot directly initiate a merger (Kraakman *et al.*, 2004). Additionally, the agreed changes may take a lot of time to be implemented, hence their power may be weaker than initially perceived.

#### ***F. Ownership Concentration: Summary***

Ownership structure is an important factor impacting corporate governance standards. A serious problem arises in case of ownership is dispersed. When shareholders decide to invest only a small part of their wealth in a given project their incentives to monitor this particular investment are small. On the other hand, such dispersion is also important in case of a takeover as it encourages shareholders to free-ride on other investors in hope that they will tender their shares pushing the price so high up that the merger may fall through. However, wide shareholder base is natural and in a way an effect of rational investment decisions. First, it occurs because the wealth of investors may be relatively small when compared to the value of the company. Second, even if investors have the necessary resources to acquire a significant stake they may chose not to do so and

diversify their shareholdings instead. Lastly, a large stake may prove problematic to sell when secondary market is illiquid. So, what are the benefits of the opposite scenario – i.e. when the ownership is concentrated? Large investors have greater incentive to be effective monitors and also have more power over managers which enables them to significantly impact corporate decisions. It has been argued that they are generally more active when it comes to voting on corporate matters (Jarrell *et al.*, 1988). Fewer shareholders can also more effectively mitigate potential conflicts of interest and facilitate acquisitions (Shleifer and Vishny, 1986). However, it has been claimed that the existence of large investors may be detrimental to shareholder value maximisation. This is because concentrated ownership results in overmonitoring which may discourage managers to commit to the company and to show initiative (Burkart *et al.*, 1997). Additionally, large shareholders instead of focussing on profit-maximisation may prefer to use their power to extract private benefits, leading to the expropriation of minority shareholders (Durnev and Kim, 2005). Further, we note that the pro-forma power of large shareholders may be weakened in countries with different classes of shares, board appointment mechanisms and other complexities related to the introduction of the desired changes. Although large investors have potentially better bargaining power and can secure higher premia, we believe that their ability to facilitate acquisitions will be an attribute in the eyes of investors. Therefore, we conclude that UK acquirers will be more drawn to invest in countries with concentrated ownership base.

#### Hypothesis 2

*More UK funds will be allocated to countries with concentrated ownership*

## 2.3. SHAREHOLDER PROTECTION

### ***A. The Problem of Expropriation of Minority Shareholders***

In the previous section we discussed how concentrated ownership can help overcome the principal-agent problem, but there is another clash of interests which arises between the controlling and non-controlling shareholders. It should be noted that investors who hold large stakes also incur costs associated with their monitoring function and thus should be compensated with some private benefits (Gilson and Gordon, 2003). Non-controlling shareholders will appreciate the presence of controlling shareholders as long as the reduction in managerial agency costs is greater than the cost of private benefits extracted by those monitors (Gilson and Black, 1995). However, controlling shareholders have quite high incentives to secure higher than necessary private benefits, therefore expropriating minority investors (Jensen and Meckling, 1976). The first way in which the controlling shareholders can extract private benefits is by diverting a disproportionate share of profits. Those can take the form of a salary, transfer pricing, a subsidised personal loan, or simply theft of corporate assets (Burkart *et al.*, 1998; La Porta *et al.*, 1999; Johnson *et al.*, 2000). Another way of extracting the value is through the sale of the controlling stake as it incorporates the premium resulting from the ongoing profits derived from future private benefits yet to be extracted (Gilson and Gordon, 2003). Alternatively, the same result can be achieved by freezing out the minority.

### ***B. Causes and Potential Solutions***

The potential benefits derived from expropriation of minority shareholders incentivise investors to consolidate control (Grossman and Hart, 1980; Zingales, 1995), otherwise this potential benefit will be transferred to outside investors by means of a hostile

takeover (Zingales, 1995; Bebchuk, 1999). Hence, when shareholder protection is weak, consolidation of control is a natural response to potential threats created by outsiders. Obtaining a controlling stake will be less costly in environments which deviate from the one-share-one-vote rule. As noted by Harris and Raviv (1988a,b), whenever every holder of the residual claim is entitled to vote on corporate matters potential raiders have to pay the highest price to acquire control. Despite the fact that any deviations should normally be reflected in the price (i.e. voting shares should be more expensive than non-voting shares as they give the holder more power), such instruments make it easier to obtain a controlling stake which increases the risk of extraction of private benefits. Gilson and Gordon (2003) argue that the optimal solution to the problem of minority expropriation is the imposition of rigorous judicial review of the controlling shareholders and the company which would limit excessive wealth transfers but would still offer the advantage of focussed monitoring to non-controlling shareholders. This means that the introduction of appropriate rules could reduce the 'minority discount' (Nenova, 2003; Dyck and Zingales, 2004). Another disincentive resulting from legal regulation noted by Burkart *et al.* (1998) is the fact that extraction of profits becomes then a costly and complicated process which may lead to potential legal proceedings. Obviously, the stricter is the regulation, the higher are the chances of being penalised for such actions. Summarising, stricter laws increase the potential cost of wrongdoing and therefore deter minority shareholders expropriation.

### ***C. Increased Shareholder Protection***

Introduction of such laws leads to a higher level of corporate governance which in turn results in value creation, as the focus on shareholder wealth maximisation increases and managerial actions can be more easily controlled. This result has been supported by La Porta *et al.* (1999). Furthermore, when better shareholder protection is achieved through

cross-border mergers (Spillover Hypothesis) the valuation effect impacts whole industries and companies generate higher Tobin's Q's (Bris *et al.*, 2008; Albuquerque *et al.*, 2013). Given that well protected investors are able to secure higher premia (Rossi and Volpin, 2004), it is unsurprising that the analysed data shows lower acquirer gains for transactions involving targets from countries with a more restrictive legal system (Moeller and Schlingemann, 2005). What follows is that acquirers are more likely to buy firms from abroad, if the shareholder protection in the home country of the bidder is stronger (Martynova and Renneboog, 2008). This is because the relatively high cost of takeovers in countries which protect minority shareholders will encourage bidders not only to look abroad but also to focus on nations whose protection is weaker (Goergen *et al.*, 2005). As we already mentioned, this is driven by the weaker legal system in the target country which allows for the expropriation of the existing shareholders. Given this threat companies located in countries which do not offer sufficient protection will find it difficult to raise capital unless they offer an extra return. Higher cost of funding leads to lower valuation and ultimately enables the bidder to finalise the transaction at a lower price. If the buyer is from a better corporate governance system, we expect that this will spill over to the target resulting in cheaper financing and thus value-creation post acquisition.

#### ***D. Shareholder Protection: Summary***

The previously mentioned benefit resulting from the presence of large investors is that they actively monitor the company which is also beneficial to minority shareholders. In order to do so they have to incur significant costs and should be therefore compensated with some private benefits (Gilson and Gordon, 2003). Minority shareholders will be willing to allow this as long as the reduction in agency costs is greater than the loss from the private benefits extracted by large shareholder (Gilson and Black, 1995).



However, such a setting encourages majority investors to extract higher than necessary private benefits, thus expropriating the minority shareholders (Jensen and Meckling, 1976). This can be done through a diversion of profits in the forms of a salary, transfer pricing, etc. The self-dealing opportunity encourages investors to consolidate control (Grossman and Hart, 1980; Zingales, 1995). Otherwise the unextracted private benefits will be transferred to outside investors in a hostile takeover (Zingales, 1995). It has been argued that the solution to the problem is the introduction of a legal framework which would limit the chance of expropriation of minority shareholders but would still offer them the benefit of increased monitoring of the managers (Gilson and Gordon, 2003). Introduction of such laws leads to a higher level of corporate governance and increases focus on value creation (La Porta *et al.*, 1999). As a result well-protected shareholders tend to secure higher premia in acquisitions (Rossi and Volpin, 2004) which mean higher takeover costs and result in lower gains for acquirers (Moeller and Schlingemann, 2005). What follows is, investors try to look for targets abroad if the level of shareholder protection in the home country is high (Martynova and Renneboog, 2008) and they will especially focus on those countries where such standards are particularly weak (Goergen *et al.*, 2005). As a result firms with poor corporate governance will become targets of more efficient companies (Manne, 1965; Jensen, 1993; Coffee, 1999). This is because bidders are likely to choose such targets in order to maximise their return by offering a lower premium and to derive additional benefits from the expropriation of minority shareholders. Therefore, we predict that countries with weaker shareholder protection standards will be more attractive to UK investors who are involved in acquisitions where there is a change of control.

### Hypothesis 3

*More UK funds will be allocated to countries with weak minority shareholder protection*

## 2.4. CREDITORS

### ***A. Introduction of Financial Leverage***

As already mentioned, Jensen and Meckling (1976) proposed to solve the agency problem with the introduction of leverage, as this would limit the free cash flows used at manager's discretion through the imposition of fixed obligations payable to corporate debtholders. Further research by Jensen (1986, 1989) looked at leveraged buyouts as a potential disciplining device for managers. It is important to understand why increased leverage would lead to a better alignment of managerial incentives with those of the shareholders. Although the manager is not personally liable for the debts of his firm, a default on debt payments may result in bankruptcy of the company. As a result the manager would be forced to look for a new position (Faccio *et al.*, 2003) and his greatest loss would be the tarnished reputation in the labour market (Fama and Jensen, 1983a, b). The benefits of introducing debtholders have been discussed in a lot detail in the literature (Mikkelson and Partch, 1986; James, 1987; Lummer and McConnell, 1989), but it was Esty and Megginson (2003) who noted that monitoring benefits should be greater when the protection of creditors is stronger. Therefore, it can be put forward that in order to achieve good corporate governance one has to also protect the debtholders.

### ***B. Expropriation of Creditors: Why Do Debtholders Need Protection?***

Already Jensen and Meckling (1976) debated the agency cost of debt and pointed out that interests of the providers of debt financing need to be looked after, especially as managers may have other objectives than those of the creditors. For example, they may choose to pursue projects which may reduce the value of the firm's bonds or of the overall company. This can be done by issuing more debt or distributing assets to shareholders instead of using them to service liabilities (Amihud *et al.*, 2000). Additionally, earlier research has also shown that managers will be more inclined to engage in risky activities when the firm approaches default, taking a gamble which could potentially result in a transfer of wealth from bondholders to shareholders (Adler, 1992), as the debt providers are paid first in case of default. One way in which the bondholders can protect themselves under such circumstances is through the introduction of restrictive covenants which are particularly disliked by equity investors. These can effectively limit managerial actions which are likely to adversely affect the value of their bonds. Another way of protecting the bondholders is through regulation. The latter solution is more important in the context of this research. Unfortunately, although stronger creditor protection is an indication of good corporate governance standards, it can deter potential equity investors by shifting too much power towards the debtholders.

### ***C. Co-insurance of Cash Flows and the Case of Liquidation***

Many see debt as an effective way of aligning managerial incentives (Zender, 1991; Berglof and von Thadden, 1994; Dewatripont and Tirole, 1994) because it acts as a 'commitment device for liquidation' when the performance is poor (Becht *et al.*, 2002). In general, managers are likely to reduce their employment risk (Amihud and Lev,

1981) by engaging in activities which increase the stability of the firm, i.e. by reducing the overall riskiness of the business and therefore limiting the chances of becoming insolvent. Such a goal can be achieved through diversification, either across industries or geographically, as such actions reduce the volatility of cash flows (Kuipers *et al.*, 2008). This is commonly known as the co-insurance of cash-flows and leads to a reduction in bankruptcy risk (Asquith and Kim, 1982). However, such a reduction is not always beneficial to the shareholders and in many cases risk-minimisation can result in a redistribution of wealth from the shareholders to the bondholders (Galai and Masulis, 1976; Denis *et al.*, 2002; Moeller and Schlingemann, 2005).

Nevertheless, bankruptcy is sometimes inevitable. It has been shown that strong creditor protection incentivises managers to decrease bankruptcy risk by acquiring targets which reduce shareholder value but offer high recovery rates in distress. Such assets enable the management to postpone or avoid default by servicing debt, using the proceeds from liquidation of some of the assets (Acharya *et al.*, 2011). Additionally, creditors of the distressed company may choose to initiate the sale of the firm as a whole or of some of its assets themselves in order to recover a larger portion of potential losses. This can be achieved more easily in countries with better creditor protection and more dynamic legal procedures relating to insolvency cases as disposal of distressed assets is very time-sensitive, but good protection of debtholders may be harmful to other parties involved, including the shareholders. This argument was supported by Acharya *et al.* (2011) who have shown that strong creditor protection “may lead to inefficient liquidation, which extinguishes the continuation option of a firm’s enterprise and thus hurts stockholder value” (p. 3) and imposes further private costs in case when the dismissal of management is requested. Though other research postulates that the strengthening of creditor protection in the US resulted in a delay in default and reduces

the value of assets (Adler *et al.*, 2013). Overall, we argue that strong creditor protection will be reflected in shareholder value as it has a significant impact on managerial actions, which should act as a strong deterrent for foreign investors.

#### ***D. Indirect Effects of Debt***

The assumptions of the Modigliani-Miller theorem (Modigliani and Miller, 1958) of capital structure irrelevance do not hold in a world with taxes, principle-agent problems, asymmetric information and bankruptcy costs. Given the outlined potential consequences of strong creditor rights and the fact that leverage is positively related with the probability of default (Ross, 1977; Harris and Raviv, 1990), it is unsurprising that empirical data provides evidence for this risk-minimising effect of creditor protection and proves that it results in lower levels of financial leverage (Acharya *et al.*, 2011). This may be detrimental if the proportion of debt in the financing mix is at a suboptimal level, which would also lead to a higher than necessary cost of capital resulting from an excessive reliance on equity-financing. Furthermore, as already mentioned, managers bowing to the debtholders' needs may also decide to limit the riskiness of the company not through the reduction in leverage but through the selection of safer projects for their portfolio. This, however, has been presented as a significant drawback when considering more entrepreneurial settings (Manso, 2005) and a hindrance to innovation (Acharya and Subramanian, 2009). As a result, it has been shown that stringent debt covenants and legal enforcement of violations reduce capital investments (Chava and Roberts, 2008; Nini *et al.*, 2009). On the other hand, the level of creditor protection depends on the country and to a large extent reflects the direction in which the market has developed. For example, the changes in regulation which took place over time are closely linked to the level of bank-industry ties (Roe; 1994). This is in line with Renneboog and Szilagyi (2007) who claim that high levels of shareholder

protection and disclosure requirements, characteristic for common law countries, encouraged the development of public debt markets, while the regulation in Continental Europe has fostered the reliance on a bank-oriented system, especially prevalent in Germany, France, Italy or Spain (Inturragia, 2005). What follows is that debtholders in market-based environments tend to be more dispersed and this makes the commitment to liquidate stronger, increasing the complexity of debt restructuring resulting from lack of collusion (Hart and Moore, 1995; Bolton and Scharfstein, 1996).

### ***E. Jurisdiction Shopping***

Hence, a takeover decision can also depend on the creditor protection in the host country (La Porta *et al.*, 1998). Some argue that the culture of the host nation plays a bigger role in determining the country's creditor rights than the legal system (Stulz and Williamson, 2003). Regardless of the drivers behind creditor protection, it should be kept in mind that corporate assets are governed by the jurisdiction of the country in which they are located (La Porta *et al.*, 2000) and therefore any settlement of claims in case of bankruptcy is undertaken by the court of the host country (Felsenfeld, 2000). More creditor-friendly nations can increase the chances of court proceedings resulting in negative consequences for firms which are financially distressed (Renneboog and Szilagyi, 2007). However, Felsenfeld's territoriality principle is not so certain as steps have been undertaken to increase the cooperation between countries (Renneboog and Szilagyi, 2007). Goergen and Renneboog (2008) mention the Model Law on Cross-border Insolvency set up by the United Nations Commission for International Trade Law (UNCITRAL) and explain that this entity has been created so that only one jurisdiction is in charge of bankruptcy proceedings, thus reducing legal uncertainty. The European Insolvency Regulation introduced in 2000 indicates that the main legal proceeding shall be based in the country of the firm's centre of main interest (European

Council Regulation No.1346/2000). As pointed out by Franken (2005) there is significant ambiguity with regard to this definition. Such changes encourage creditors to look for legal systems which offer them the best protection of their claims and this leads to jurisdiction shopping (Renneboog and Szilagyi, 2007). However, the negative impact of creditor protection on shareholder value may imply that the same will be true for acquirers, i.e. investors will chose jurisdictions where the interests of debtholders do not attract that much attention from legislative bodies.

#### ***F. Creditor Protection: Summary***

The introduction of leverage can act as a way of overcoming the principal-agent problem, i.e. the potential expropriation of shareholders, by limiting the free cash flows which can be used at manager's discretion (Jensen and Meckling, 1976). Although managers are not personally liable for the company's debt, a default on debt payments and potential bankruptcy have significant implications for their reputation and later on their attractiveness on the labour market (Fama and Jensen, 1983a, b). However, there is a high likelihood of misalignment of managerial incentives with those of the debtholders. Given that managerial actions such as issuance of more debt, inappropriate distribution of assets (Amihud *et al.*, 2000) and involvement in risky projects can lead to a transfer of wealth from bondholders to shareholders (Adler, 1992), they also need additional protection either in the form of covenants or regulatory framework. Strong creditor protection limits the discretion of the management when it comes to day-to-day running of the business and is likely to incentivise them to reduce the riskiness of projects and overall leverage (Amihud and Lev, 1981). Additionally, it may encourage them to pursue co-insurance of cash flows (Asquith and Kim, 1982) and to invest in assets with high recovery potential in case of liquidation (Acharya *et al.*, 2011). The above decisions can lead to a selection of projects which are 'too safe', a suboptimal

capital mix, excessive diversification – either geographically or across industries, becoming a serious hindrance to innovation. All of the above decisions are detrimental to shareholders and reduce overall capital investments. Hence, we expect that jurisdiction shopping will also be applicable to equity investors. However, contrary to the debtholders, they will avoid countries which give too much power to creditors, as high level of creditor protection limits their freedom and may destroy value.

Hypothesis 4

*Less UK funds will be allocated to countries with high standards of creditor protection*

## 2.5. ACCOUNTING STANDARDS

### ***A. Information Asymmetry***

The problem of information asymmetry, an inherent part of any investment decision and day-to-day running of a business where there is separation of ownership and control, was first discussed in greater detail by Akerlof (1970). This paper sparked the emergence of a whole spectrum of literature which tries to analyse the allocative issues resulting from informational inefficiency (Stiglitz, 2000, provides an overview of research on this topic). In general, the complications resulting from differing information sets can be to some extent alleviated through the introduction of comprehensive accounting standards. Their importance is even more apparent in countries with weak investor protection as they become crucial for financial contracting (Hay *et al.*, 1996). What is more, Black (2000) and Ball (2001) argue that good financial accounting is considered a prerequisite for the existence of active capital markets.



### ***B. Transparency as a Disciplining Device***

Regular disclosure of financial information can additionally function as a disciplining device for the managers. The asymmetry between the principals and the agent offers him a range of opportunities to pursue his private objectives instead of those of the owners. Financial reporting can mitigate this problem by facilitating better monitoring by the equityholders and other monitors who can more accurately assess the profitability and success of the undertaken investments (Bushman and Smith, 2003). In most cases, information leads to a better alignment of managerial incentives and to a reduction in the risk of expropriation. It enables investors to make well-informed capital allocation decisions with respect to risk and return. What follows is that “the provision of the information shifts investment patterns towards those more accurately reflecting the true value of the firm, which in turn allocates investment resources more efficiently” (Weil, 2002, p. 9). This should result in a correction of inefficiencies in the market, as the firms which in Akerlof’s framework would be described as lemons now have to amend their strategies, offer a higher return or will go out of business.

### ***C. Implication for Financial Markets***

Increased transparency also means at least partial alleviation of the adverse selection problem by means of attracting more funds which effectively reduce the risk of illiquidity in the capital markets (Diamond and Verrecchia, 1991; Brennan and Tamarowski, 2000) which has a significant impact on the cost of capital (Amihud and Mendelson, 2000). Therefore, it is unsurprising that Vishwanath and Kaufman (1999) perceive greater transparency to be advantageous for the whole economy, as the described allocative improvements should result in higher economic growth. On the other hand, they also argue that lack of such informational efficiency leads to higher

transaction costs and market failures. Therefore, the society as a whole should encourage greater openness and transparency (Stiglitz, 1999). However, in order to make efficient investment decisions the available information must also be reliable and based on consistent accounting standards which are comprehensive and coherent, resulting in an ease of comparability of opportunities by investors. Additionally, as noted by Dyck and Zingales (2002), “government-mandated information is the most reliable, because it is not affected by selectivity and is not provided in exchange for something” (p. 17). From the shareholders’ perspective better transparency gives them better knowledge of their own company and this is particularly important for smaller investors who do not have the resources and time to resolve the asymmetry.

#### ***D. Underprovision of Information***

So, if transparency is so desirable, why is it not always at the optimal level? One reason is the cost associated with the collection and dissemination of information which can be substantial. Furthermore, it has been claimed in the literature that more concentrated ownership structures increase the potential benefits of monitoring by controlling shareholders. Hence, countries characterised by such an ownership structure will experience less demand for transparency as large shareholders can obtain the information without public disclosure, which (as we already noted) may adversely affect their competitiveness (Fan and Wong, 2002). However, transparency may be scarce even if the shareholders are in its favour. The pace of globalisation and search for the most attractive assets means that that supply of information in developing countries still lags demand (Vishwanath and Kaufmann, 1999), but current literature points out that companies located in countries with insufficient supervision and disclosure standards can partially resolve this problem by cross-listing abroad (Bianconi and Chen, 2009; Lang *et al.*, 2003 or see an overview of literature on cross-listings by Karolyi,

2006). By doing this firms subject themselves to a more transparent regime (Bris and Cabolis, 2008) and the act of cross-listing can be perceived as a signal which should convince investors of the company's superior quality.

The reasons behind non-disclosure of information may be also strategic. The company, the management or even the shareholders may sometimes favour lack of transparency. Firstly, firms may prefer not to report on their engagements in great detail for tactical reasons, as giving away too much information could reduce their competitive advantage and have a negative impact on their market share or profits, thus reducing shareholder value. Secondly, the information sets of the managers are most likely to be far superior when compared to those of the shareholders. Information on poor performance or extraction of private benefits is usually frowned upon by the shareholders and may prove to be detrimental to the manager's personal interests (Verrecchia, 2001). Hence, managers may avoid disclosing such information if it is not in their best interest to do so. Lastly, majority shareholders may also be reluctant to disclose too much information, as lack of transparency provides a window of opportunity to expropriate minority shareholders or other stakeholders linked to the company.

#### ***E. Accounting Standards: Summary***

The problem of asymmetric information is inherent where there is a separation of ownership and control (Stiglitz, 2000), but there seems to be no consensus on the influence of transparency on the volume on M&A activity. Information asymmetry can be to some extent alleviated by the introduction of comprehensive accounting standards which act as a disciplining device for managers by enabling monitors to better assess the profitability and success of undertaken business projects (Bushman and Smith, 2003), which effectively allows investors to make well-informed capital allocation

decisions with respect to risk and return. In the context of financial markets, increased transparency means alleviation of adverse selection problems which reduces illiquidity and improves allocative efficiency in the markets. However, in order to achieve this provided information has to be based on consistent accounting standards, comprehensive and reliable. Despite all the advantages, the degree of transparency remains at a suboptimal level in many countries. This can be a result of high costs associated with collection and dissemination of information, concentrated ownership structures or high pace of globalisation (Vishwanath and Kaufmann, 1999). Underprovision of information can also be a strategic decision. Companies may prefer to protect their competitive advantage by not disclosing information regarding their plans for the future, managers may prefer not to share unfavourable information about their recent projects and results, while majority shareholders may prefer lack of transparency as it gives them the opportunity to expropriate other stakeholders. In an M&A context, transparency is of crucial importance because it enables investors and managers to identify profitable investment opportunities by comparing similar projects and assessing their riskiness and forecasted returns. Recent research relating to information asymmetry in M&A put forward that acquisitions will be more beneficial to acquirers where there is high quality of financial reporting as this would enable the acquirers to more accurately estimate the potential synergies and hence not destroy value by over-bidding (McNichols and Stubben, 2008; Raman *et al.*, 2013). The level of transparency would not only influence the returns but also the volume of transactions. A large degree of information asymmetry between the target and the acquirer constrains M&A activity, whereas high quality of audit has a positive effect in cross-border acquisitions (Davis-Friday and Skaife, 2009). This claim has been supported by DeLong and Buch (2001) who show that the frequency of transactions is lower when the cost of information acquisition is high. However, the need for disclosure of financial

information once the company is acquired may also be a potential deterrent. We put forward that the reluctance to disclose too much information will be the dominating effect which should result in a lower volume of transactions where there are stringent accounting standards.

#### Hypothesis 5

*Less UK funds will be allocated to countries with high accounting standards*

## 2.6. INSIDER TRADING LAWS

### ***A. Definition of Insider Trading***

Although currently insider trading is a highly controversial practice, it was not regarded illegal in most of the countries in Europe until the beginning of 1990s (Posen, 1991). According to the SEC insider trading refers to “buying or selling a security in breach of a fiduciary duty or other relationship of trust and confidence, while in possession of material, non-public information about the security. Insider trading violations may also include ‘tipping’ such information, securities trading by the person ‘tipped’, and securities trading by those who misappropriate such information” (SEC website, 2013). Analysis performed on data for 200 large US firms for the period of 1962-1968 shows that insiders tend to sell before a price decrease and buy prior to an increase in price (Jaffe, 1974). Insiders prove to be ‘superior forecasters’ (Lorie and Niederhoffer, 1968), whereas managers earn abnormal returns Ferreira (1995).

### ***B. Enforcement of Insider Trading Regulation***

Insider trading is expected to be an important factor influencing the decision where to invest and hence we introduce a variable which measures the time since the introduction

of insider trading laws. However, following the reasoning of Bhattacharya and Daouk (2002) we also investigate the enforcement of such laws, because sole introduction of the regulation may not be sufficient to deter insiders (Bhattacharya *et al.*, 2000). In fact, there is a big discrepancy between the time when the laws were introduced and when they were enforced. While 80% of the countries adopted insider trading regulations by 1998, only in 40% of them prosecutions took place (Bhattacharya and Daouk, 2002). It has been noted that “the first enforcement of a law, however perfunctory it might be, is an event of paramount importance. The first prosecution signals to the world that we have gone from a regime where there had been no prosecutions to a regime where there has been at least one prosecution; this implies that the probability of future prosecutions has had a discrete jump up” (Bhattacharya and Daouk, 2002, p. 6). Thevenot (2012) argues that given the increased public enforcement in the period after the collapse of Enron the potential costs stemming from illegal insider trading increased and this disincentivised managers to extract private benefits from private information. The earlier empirical results by Bhattacharya and Daouk (2002) show that the introduction of insider trading regulation had no impact on the cost of equity until it was enforced, in which case the cost decreased but in their 2009 paper they claim regulation without enforcement is worse than no regulation as sometimes it may result in higher cost of capital.

### ***C. Insider Trading and Choice of Targets***

Manne (1966) believes that insider trading leads to a better alignment of incentives and is also an efficient way of compensating the managers for the information they generate which is also cheaper than well-designed compensation packages (Noe, 1997). On the other hand, Manne (1966) perceives insider trading also as a way of conveying undisclosed information to outsiders. Unfortunately, the signalling effect is somewhat

mixed. Purchases by insiders convey positive information about the firm's future and lead to higher prices, but it is believed that the effect of sales by insiders is not as clear (Leland, 1992). Although Myers and Majluf (1984) put forward that sale of stock has a negative signalling effect, others point out that the disposal of shares by insiders might be motivated by the need to increase their liquidity and does not have to be a consequence of the existence of adverse information relating to the firm's performance (Fidrmuc *et al.*, 2006). However, the strength of the signal will depend on what type of an insider is trading (Seyhun, 1986). According to the Information Hierarchy Hypothesis, trades by those insiders who may have better information about the true state of the company are more carefully watched than of those whose information may be more limited (Lin and Howe, 1990), because some insiders are simply more inside than others (Nunn *et al.*, 1983). The value of information is additionally dependent on the existence of large shareholders. However, research shows that outsiders cannot use the signal extracted from insider's trade decisions to earn abnormal returns (Seyhun, 1986), despite the significant investments made to acquire data on trades carried out by those with private information (Doffou, 2003), pointing at significant corporate governance problems.

Despite the fact that outsiders do not manage to extract value from private signals, Bhattacharya and Nicodano (2001) and Muelbroek (1992) claim that insider trading can benefit investors by making prices more informative which should result in better allocational efficiency in the securities markets as private information becomes public (Manne, 1966). According to Manne (1966), in the absence of insider trading, investors will want to be compensated for the information asymmetry and would demand higher return on their investments, increasing the overall cost of capital. Givoly and Palmon (1985) also see the advantages of insider trading. They perceive insiders as market-

makers who install confidence in certain securities or even in the market overall. Additionally, Grossman (1986) finds that insider trading can increase the liquidity in the futures market but opponents claim that insider trading is both unethical and inefficient (Werhane, 1991). It can be effectively seen as an expropriation of property rights of the shareholders because insiders extract rents for their private benefit by trading on information which belongs to the whole firm (Moore, 1990). Besides, insiders' competitive advantage distorts competition and leads to a situation where the outsiders can be excluded from the market (Doffou, 2003). It also makes the market riskier for outside investors (Moore, 1990) who have to protect themselves by increasing the bid-ask spread (Fidrmuc *et al.*, 2006). This results in a higher cost of capital – the opposite of what has been predicted by Manne. This explains the result of Masson and Madhavan (1991) who show that value of the firm is lower when there is insider trading. What follows, we *ex ante* expect insider trading to reduce accuracy of valuation and the net present value calculations of acquisitions, resulting from increased cost of capital and leading to a reduction in demand for targets in countries with weak insider trading regulation.

#### ***D. Insider Trading and Bidding Process***

Although insider trading may be beneficial to investors as it allows the better informed to expropriate the less informed, it may also hurt the buyer in the acquisition process. Maug *et al.* (2008) divide the takeover process into two phases. The first one is the target price runup and the second is the announcement period. They put forward that “if there is insider trading, then we expect that more information about the increase in a total share price is revealed during or even before the runup phase, and that less information is revealed at the public announcement of the acquisition itself” (p. 4). Empirical results do indeed provide evidence that target firms experience a price



increase even before the announcement which may be interpreted as a proof for the existence of insider trading (Dodd, 1980; Keown and Pinkerton, 1981; Asquith, 1983; Asquith *et al.*, 1983; Dennis and McConnell, 1986; Cumming and Li, 2011). Although Maug *et al.* (2008) do not explain whether runups from insider trading mean that acquirers have to bear additional costs, we expect that such price increases are at least sometimes likely to result in an upward revision of an offer. Additionally, if the insider trading occurs before the commencement of the negotiations it is likely that the recent price increase will have an impact even on the initial offer, negatively affecting the buyer.

#### ***E. Insider Trading: Summary***

Insider trading takes place when individuals use private information to execute trades which enables them to extract private benefits. The research shows that insiders indeed manage to generate abnormal returns from their trades. Manne (1966) argues that insider trading is beneficial to shareholders as it leads to a better alignment of managerial incentives with those of the equityholders and additionally provides an efficient compensation mechanism. However, others demonstrate that insider trading results in investment distortions (Bernardo, 2001) and in real life situations shareholders restrict the managers' option to trade on such information (Bettis *et al.*, 2000). What is more, research reveals that insider trading enables managers to extract private benefits when the firm is not doing well by disposing their shares and thereby signalling the company's poor performance to the market. A further argument provided by Manne (1966) is that insider trading resolves some of the information asymmetry. Unfortunately, the signalling effect is not always clear (Leland, 1992). The power of the signal will depend on the person who generated it. However, research shows that those outsiders who decide to act on such signals do not earn abnormal returns (Seyhun,

1986). The existence of insider trading also has implications for capital markets. Some scholars put forward that the resolution of informational asymmetry is beneficial to investors as pricing efficiency installs confidence (Givoly and Palmon, 1985) and increases liquidity in the markets (Grossman, 1986). Others argue that it is a form of expropriation of property rights (Moore, 1990), which excludes outsiders from the market (Doffou, 2003) and thus makes the markets riskier (Moore, 1990), resulting in a higher bid-ask spread, raising the overall cost of capital. The literature also demonstrates that outsiders do not generally benefit from acting on such signals. Hence, transactions based on private information should discourage other market participants from buying or selling shares as investments are more risky. Although, we propose that insider trading may actually be beneficial to investors who should be drawn towards more informationally symmetric and therefore liquid markets, we also note that insider trading prior to the acquisition may hurt the buyer. Those individuals with private information may choose to acquire additional stakes during or even prior to the run-up phase which is likely to result in a higher offer price and a lower return for the acquirer. Hence, we conclude that the effect of insider trading regulations at a country-level is unclear but, following the research of Bhattacharya and Daouk (2002), we shall investigate not only the existence of such regulation but also the time at which it has been enforced.

Hypothesis 6a

*More UK funds will be allocated to countries where insider trading regulation has been introduced and enforced*

Hypothesis 6b

*Less UK funds will be allocated to countries where insider trading regulation has been introduced and enforce*

## 2.7. MEDIA COVERAGE

### ***A. Information Dissemination***

Media plays an important role in the corporate world and can easily influence corporate decisions (Dyck and Zingales, 2002). The first way in which it can impact the financial markets is through information dissemination (Dyck *et al.*, 2008). Although news might have already been released, media allow them to reach broader audience (Chan *et al.*, 2003). This leads to a reduction in costs associated with the acquisition of information which can be substantial and have important implications for market participants. Individual investors may exhibit rational ignorance, as the potential benefit of the obtained information may outweigh the cost associated with its collection (Downs, 1957). The dissemination feature allows better monitoring by the shareholders. At the same time well performing companies may become more efficient and attract additional funds. Empirical research proves this by showing that there is a strong link between stories covered in the media and stock price movements (Tetlock, 2007; Fang and Peress, 2009; Caretta *et al.*, 2011; Engelberg and Parsons, 2011). However, as pointed out by Dyck and Zingales (2002), “demand for corporate governance news might

depend on the structure of corporate ownership. Thus, the extent of coverage and the consequent sanctioning role of the press are likely to be more important when a broad group of citizens have a personal interest in the outcomes, because of their direct or indirect (through pension funds) shareholdings” (p. 21).

### ***B. Media as Corporate Monitors***

The role of the media goes beyond information dissemination. It can also lead to a better alignment of managerial incentives with the aims of the shareholders. Evidence demonstrates that career prospects and future wages of the managers depend on the perception of their skills (Fama, 1980; Fama and Jensen, 1983) but also on their performance when they are not monitored by the shareholders and have a chance to extract private benefits. Media help to discipline the managers by acting as corporate monitors, uncovering malpractices and sharing this information with the wider public (Dyck and Zingales 2002; Johnson *et al.*, 2005; Barber and Odean, 2008; Core *et al.*, 2008). They can additionally “characterise manager’s actions and thereby, help to shape perceptions of those actions” (Liu and McConnell, 2013, p. 3). This will induce the investors to re-evaluate the future performance of the company on the basis of the disseminated news (Carretta *et al.*, 2011). Prior research shows that coverage of corporate malpractices in Hong Kong leads to a 4.9% drop in share price and the size of the loss is positively correlated with the number of articles which initially cover the malpractice story (Chan *et al.*, 2003). What is more, Dyck and Zingales (2004) noted that where the press is diffused, the extraction of private benefits is indeed less frequent, hence corporate governance standards are higher. We could argue that strong media coverage can to some extent increase the focus on shareholder value maximisation and be perceived as beneficial by investors.

### ***C. Influence of Media on Corporate Decisions***

However, media enable selective reduction of costs associated with the collection and evaluation of information and thereby have the power to shape the reputation and the public image of companies and their directors (Dyck and Zingales, 2002). Dyck and Zingales (2002) postulate that managers may become sensitive to the way in which they are portrayed which pressures them to act in accordance with societal norms. If a managerial decision is disapproved in public, potential capital and reputational losses may outweigh the manager's private benefits resulting from this particular investment. Such pressure may be beneficial or detrimental to the shareholders depending on what is well regarded by the public. "In countries where firing workers to increase profits is viewed negatively, creating the incentives for managers to do so will be extremely difficult, especially in highly visible companies" (Dyck and Zingales, 2002, p. 6). On the other hand, "where maximising shareholders' value is the norm, any media account of underperformance has a significant impact" (Dyck and Zingales, 2002, p. 22). Additionally, it has been revealed that media can also influence capital allocation decisions made by the management. Journalists may encourage managers to abandon a project in hope that he will be able to recoup reputational losses (Liu and McConnell, 2013). However, there is no consensus whether this effect is positive or negative (Zingales, 2000).

The influence of the media is also significant for the attractiveness of the company in the capital markets. The models developed by Diamond (1989, 1991) and Gomes (2000) show that the manager's reputation is very important not only for the shareholders, but for the financial markets in general. Given the ongoing need to secure new tranches of financing and the reputational effect on the cost of capital, self-interested managers will show more discipline when their actions are observed by

providers of capital. Furthermore, attention of the media on companies with poor corporate governance can highlight structural issues and drive politicians to introduce better corporate laws (Dyck and Zingales, 2002). We shall not forget that politicians are also closely scrutinised by the public and lack of political action could also hurt their image.

#### ***D. Media Coverage: Summary***

Media have a significant impact on corporate decisions and financial markets (Dyck and Zingales, 2002). This is attributable to their dissemination feature which allows the information (Dyck *et al.*, 2008) to reach broader audience and to reduce the costs of information acquisition (Chan *et al.* 2003). Hence, we argue that increased media coverage can lead to a better alignment of managerial incentives with the aims of the shareholders, as it increases the impact of their actions on their reputation which is crucial for the managers in the labour market (Fama, 1980). The release of information enables investors to re-evaluate company's prospects (Carretta *et al.*, 2011). It has been shown that investors do indeed react negatively to news regarding corporate malpractices (Chan *et al.*, 2003). What is more important, research has also shown that media coverage leads to a reduction in extraction of private benefits and hence increases corporate governance standards (Dyck and Zingales, 2004). Additionally, media have the power to encourage the introduction of better reforms and improvements to corporate governance. They enable companies with good reputation to raise cheaper financing in the capital markets. However, building of the management's reputation may prove costly to shareholders. Intensive media coverage means greater public scrutiny which, depending on the country and adopted social norms may mean that managers will deviate from shareholder-value-maximising behaviour making decisions which will grant them greater private benefits in the future. Some examples of such

behaviour may be bowing to environmental pressures, choosing not to fire some of the workforce or foregoing optimisation of taxation, all of which can be value-reducing (Dyck and Zingales, 2002). We recognise the importance of the information dissemination feature as it significantly lowers the costs associated with the collection of information which may be especially high when the target is located in another country. This is because, as noted by Brennan and Cao (1997), foreign investors have an information disadvantage when compared to local investors. However, we argue that the stronger effect will be the public scrutiny which may induce the managers to behave in a non-profit-maximising way. Hence, we use country-level press freedom as a proxy for both the quality and quantity of the available information.

#### Hypothesis 7

*Less UK funds will be allocated to countries with more thorough media coverage*

## 2.8. ANALYST COVERAGE

### ***A. Analysts***

However, it is not only journalists who can help facilitate a better flow of information. In fact, financial analysts may be perceived as an even more reliable source when it comes to the acquisition of corporate news (Borden, 2006) and stronger incentives to remain objective (Dyck et al, 2009). It has been pointed out that journalists' work may be to some extent influenced by the political and ideological beliefs of their editors or publishers (Borden, 2006). Therefore, financial analysts may be perceived as an alternative and more reliable source when it comes to collecting information on companies, especially as they have a skillset which enables them to better detect accounting fraud and point out financial inaccuracies (Borden, 2006). However, Bae *et*

*al.* (2008) hypothesise that “if the local advantage is location driven, we would expect that the local advantage is inversely related to the quality of the information put forward” and that “the local analyst advantage is significantly lower in countries with above-median accounting transparency” (p. 582). We expect analysts’ coverage intensity to be related to quite a few other variables. In line with Bhushan’s (1989) research which documents that larger companies are usually followed by a greater number of analysts, we believe that companies with higher trading volume will attract more analyst attention (as trading volume is correlated with the size of the firm; Alford and Berger, 1999). The corporate ownership structure is also likely to influence the demand for analysts. Their services will be more sought after in locations where ownership is dispersed. In environments with concentrated ownership the information is more likely to be disseminated through private channels (Ball *et al.*, 2000). The last two factors which can influence the discussed variable are economic freedom and the quality of public information available to investors (Chang *et al.*, 2000). Countries which offer better disclosure requirements should have more analysts as such framework reduces costs associated with research (Lang and Lundholm, 1996; Healy *et al.* (1999) present this proposition in a micro-company level setting).

### ***B. Incentives: Media vs. Analysts***

There is a clear advantage of analysts being corporate monitors. The financial theory predicts that monitoring will be done by investors who have a residual claim and their agents – analysts or auditors of financial statements (Fama, 1990). Given that the investors may be actually negatively impacted when fraud is revealed, they do not have a particularly strong incentive to disseminate this information. Hence, such news will only be available to those who have invested sufficient amount of resources to obtain the information. This is why analysts help to bring more efficiency to the markets.



Drawbacks of journalists coverage have been pointed out by Dyck *et al.* (2008). They argue that journalists' career prospects may deteriorate if they decide to be the whistleblowers and such actions may in turn limit their access to valuable information. What follows is that that financial analysts may be better monitors although they are not directly compensated for detecting fraud. Instead they derive most value from enhanced reputation and better career prospects (Hong and Kubik, 2003) but this maybe to some extent limited by the conflict of interests which may arise if they want to report on one of their clients (Michaely and Womack, 1999). However, empirical data shows that whistleblowers are generally rewarded for their efforts either through promotions or by making it to the top of industry rankings (Dyck *et al.*, 2008).

### ***C. Analyst Coverage: Summary***

In our research we recognise the superiority of information conveyed by financial analysts versus media. The former group usually posses much better analytical skills which enable them to accurately value companies and to spot any discrepancies which may be a sign of malpractice. The information delivered is highly focussed and is less prone to ideological manipulation than the content of the news published in the general media. Analysts also have stronger incentives to provide accurate and reliable information which helps them to build their reputation. Financial analysts make it easier for investors to identify attractive takeover targets. We, therefore, predict that investors will be attracted to locations where there is high analyst coverage.

#### Hypothesis 8

*More UK funds will be allocated to countries with greater analyst coverage*

The table below summarises the hypotheses described above.

[Insert Table 1 around here]

### **3. DATA AND METHODOLOGY**

#### **3.1. DATA**

The sample was collected from Thomson ONE Banker provided by the Thomson Financial Securities Data Corporation (UK database). It consists of mergers and acquisitions by UK companies that took place between January 1, 1993 and December 31, 2012. The choice of the location of the acquirer has been motivated by fairly low number of publications on earnouts which study European transactions, the high level of M&A activity in the United Kingdom when compared with the rest of the countries in the region (WIR, 2015) and its physical proximity but different legal system when compared with the neighbouring nations. It includes transactions where the acquirer obtained a controlling stake in a foreign target. We limit the number of host-countries to the 48 initially analysed by La Porta *et al.* (1998). We sum the value of transactions for a given year in a given country and divide this number by the value of all the acquisitions of foreign targets in a given year to get a percentage of UK funds attracted by every country every year. The final sample consists of 960 country-year observations.

The sample used encompasses several phases of M&A activity. These include the wave of 1993-2001, downturn of 2001-2002, the rise in takeover activity that started in 2003 with a particularly high percentage of cross-border deals compared to the previous waves (Martynova and Renneboog, 2005), and the recent decline resulting from the financial crisis. Also, it is highly likely that our data set misses particularly many observations in the 1980s when information on transactions was not as well recorded and disseminated as it is now.

[Insert Figure 1 around here]

The mean value of annual outbound investments by UK acquirers attracted by a given country over the period of 20 years ranges from USD74.5bn to USD1.5tr, which even when accounting for inflation (CPI) represents almost an 13-fold increase. The most popular destination in our sample is the US which on average attracted 37% of UK funds, followed by Germany and France with around 9%, while Australia and Sweden close the list of top 5 most sought after destinations with around 5%. 25% of all targets bought are located in common law countries. These countries attract on average 4.22% of UK funds each in any year, versus 1.38% invested on average in each of the civil law countries. Half of the sample relates to developing regions but the average percentage invested in such a country is only 0.34% of the total amount, versus 3.38% spent in every developed country every year.

[Insert Table 2 around here]

## 3.2. SELECTION OF VARIABLES

### *A. Corporate Governance Indicators*

This research uses data on corporate governance as provided by Spamann (2010) and La Porta *et al.* (1998). The indices used include ‘Antidirector Rights’, ‘Creditor Rights’, and ‘Accounting Standards’. Additionally, we look at legal origin and ownership concentration and variables relating to insider trading laws and media/analyst coverage, as presented in the table below. We also use a wide spectrum of control variables which are described in more detail later on in this section of the paper.

[Insert Table 3 around here]

### *Reliability of the Antidirectors Rights Index*

Djankov *et al.* (2008) point out that the index measuring the degree of shareholder protection developed by La Porta *et al.* (1998) was formed on the basis of data collected in an ad hoc manner, whereas Spamann (2010) also adds that the original anti-directors index included many coding errors. The authors of the 2008 paper tried a new approach to better measure the shareholder protection and composed a revised index based on a questionnaire distributed to attorneys working at Lex Mundi law firms. The new index was supposed to focus more on corporate self-dealing and to be computed in a more theoretically consistent manner, which would lead to the creation of a more precise ranking. As noted by Spamann (2010), most of the previous coding discrepancies were accounted for and some of definitions were clarified, but the new index still did not provide an accurate depiction of the level on shareholder protection in the countries selected for this study. Hence, he decided to improve on that framework and this led to the creation of a new index “that is conceptually continuous with the original but more clearly defined and more reliably coded” (p. 469). Although Martynova and Renneboog (2011) developed an index which also aims to measure corporate governance changes over time, it encompasses only the period between 1990 and 2005 which would exclude 1/3 of our sample and also measures those parameters at four points in time, hence it is not truly dynamic. Given the above, Spamann’s index was selected as the most suitable basis for the analysis of antidirector rights in this paper.

### ***B. Control Variables***

We referred back to the existing literature on FDI flows where the research on M&A was scarce and included a range of variables which although do not relate to corporate

governance may influence the acquirer's choice of host-nation. The motivation for the inclusion of the control variables listed in the above table is discussed next.

[Insert Table 4 around here]

### *GDP*

The literature on FDI puts forward that the size of the market (usually proxied as the GNP or GDP of a country) can to some extent reflect the market attractiveness (Busse and Hefeker, 2005). Vertical FDI can benefit from economies of scale and therefore lower average fixed costs but horizontal FDI would be indifferent towards the size of the host country. A survey conducted by the World Bank targeted 173 manufacturing investors and looked at the determinants which increase the likelihood of investing in one of the East Asian economies (Kawaguchi, 1994). The results have shown that size is one of the top three determinants which influence their decision, while Chakrabarti (2001) claimed that GNP/GDP per capita is probably the most important factor for investors. The existing research supports this finding. Lunn (1980) who looked at US investments in the EEC shows that size is a significant factor and this result holds not only for developing countries (Root and Ahmed, 1979; Schneider and Frey, 1985; Torrasi, 1985; Petrochilas, 1989; Wheeler and Mody, 1992) but also globally (Bandera and White, 1968).

### *GDP Growth*

However, according to Ohlin (1933) flow of investment funds is driven not by market size but by high profitability in the growing markets and therefore high GDP rates may indicate potential for exceptionally attractive investment returns (Busse and Hefeker, 2005). Newer research postulates that there might be a problem of endogeneity

(Carkovic and Levine, 2002) and there is mixed evidence on the effect of the GDP growth on FDI when we control for market size (Pearce *et al.*, 1992).

### *Physical Distance*

One of the factors not related to corporate governance but which may influence the acquirer's decision where to invest is the location of the target. "The Church-Tower Principle implies that the difficulty for the lending bank in assessing the default probability of a borrowing firm increases with the distance to it" (Carling and Lundberg, 2002, p. 16). We can extend this framework to M&A transactions and state that one should only invest in companies near you simply because you know the market. This also explains home bias, i.e. investors' preference to invest in firms located in their proximity (see for example Coval and Moskowitz, 1999). Larger distance may mean higher information asymmetries while Basu and Chevrier (2011) provide evidence that in M&A it leads to lower abnormal returns for the acquiring company and greater likelihood of using stock as a medium of exchange.

### *Cultural Distance*

An additional factor linked closely to the physical proximity is cultural distance. It is believed that it can increase the complexity of a transaction (Dewenter, 1995), while cultural clashes can reduce the value of synergies, thus decreasing the likelihood of merger success. Although Page (2007) argued that cultural distance can have a positive effect by facilitating innovation and helping to solve problems, recent research provided evidence in favour of a more negative prediction. It has been confirmed that returns for cross-border M&A are lower when the target and the acquirer are more culturally distant (e.g. Datta and Puia, 1995; Chakrabarti *et al.*, 2003; Ahern *et al.*, 2012). Additionally, this variable has been shown to have a significant effect not only on the

level of foreign direct investment (Guiso *et al.*, 2009) but also on the volume of M&A (Ahern *et al.*, 2012).

### *Tax*

The rate of return on investment in a given country will depend on the rate of taxation. As a consequence, Mukherjee *et al.* (2004) identify tax savings as one of the reasons for M&A activity. Multinational corporations may locate their activities in tax havens in order to employ transfer pricing and increase firm value. Dharmapala (2008) finds that the so called tax havens attract a large fraction of FDI, but the multivariate analysis carried out by the World Bank found that taxation was of little or no importance to investors (Kawaguchi, 1994). A further observation by Dharmapala (2008) is that havens are more likely to be of British legal origin and to use English as their official language.

### *Political Stability*

Another dimension of risk is political stability. “The threat of incidence of civil wars, political violence, trade sanctions or an all-out war increases the risk premium of investment project, thus reducing overall investment” (Busse and Hefeker, 2005, p. 14) and a survey of executives proves that it is the second most important determinant of FDI after the market potential (Aharoni, 1966), but the results from empirical research are mixed. While Bennett and Green (1972) find that decisions of US investors are not affected by the political developments in the host country, Levis (1979) notes that the level of investment will be higher if there are no aggressive acts against groups and officeholders but it will be lower when there are more strikes and riots in the host country (Schneider and Frey, 1985). Furthermore, the frequency of changes in government leadership is also likely to affect the attractiveness of a particular location



(Root and Ahmed, 1979). We use the Political Constraint Index Dataset developed by Henisz (2010) to control for this effect.

### *Corruption*

Corruption is yet another factor which may be a significant repellent of funds. We expect that investors will be less likely to look for targets in countries which are corrupt as this increases their costs and riskiness of doing business. The empirical results by Wei (2000a,b) prove that corruption effectively deters FDI but research by Wheeler and Mody (1992) on US manufacturing FDI reveals that it is insignificant and this has been supported in further work by Busse and Hefeker (2005).

### *Inflation*

One other important factor which can impact the acquirer's decision are movements in the host country's currency. A high level of inflation is perceived as undesirable by investors and shows lack of fiscal discipline at a country level. "A high rate of inflation is a sign of internal economic tension and of the inability or unwillingness of the government and the central bank to balance the budget and to restrict money supply" (Schneider and Frey, 1985, p. 165). High inflation reduces the stability of exchange rates and should also find a reflection in the discount rate used to assess the attractiveness of potential projects. This is supported in the empirical literature which confirms that inflation affects the level of FDI and high pace of appreciation in prices does indeed deter investors (see for example Apergis and Katrakilidis, 1998; Garibaldi *et al.*, 2001; Busse and Hefeker, 2005).

## *Foreign Exchange*

The last two factors which we look at are related to foreign exchange. Changes in the value of currencies can also have an effect on investment decisions. Froot and Stein (1991) claim that “a depreciated currency can give foreigners an edge in buying control of productive corporate assets” (p. 1215), while it can also urge investors to relocate their funds from countries whose currencies have appreciated too much to remain profitable when exporting goods to those regions that still offer good rates of return. Although fluctuations in exchange rates can be hedged, a persistent shift in currency value cannot be offset using financial instruments and has to be dealt with by means of corporate strategy change. Some studies looking at US targets show that they tend to gain more when the currency of the buyer is strong (Harris and Ravenscraft, 1991; Swenson, 1993; Kang, 1993; Servaes and Zenner, 1994) but others find that the currency strength is of no effect (Cebenoyan *et al.*, 1992; Feils, 1993 and Dewenter, 1995a,b). We additionally control for the volatility of exchange rates in the target country as such movements may increase the riskiness of the overall project and thereby discourage potential investors.

### 3.3. METHODOLOGY

The proportion of funds invested in a given country (i) in year (t) is estimated using a fractional logit model, as presented by Papke and Wooldridge (1996). The motivation for using generalised linear model with a binomial distribution and a logit link function is based on the fact that the independent variable is expressed as a proportion and can only take values between 0 and 1. Hence, the OLS would be inappropriate for two reasons: a) it would predict values which may be outside of this particular range and b)

it could result in parameter bias where the dependent variable is equal to 0 and occurs frequently.

The regressions include variables previously discussed and listed in the preceding section of *Data and Methodology*. The models use country-level clustering and incorporate variables which describe the corporate governance of a given country. The research investigates how these influence the proportion of funds flowing from the UK to a given country in a given year. The model is the following:

Proportion invested<sub>*i,t*</sub> =  $\varphi\{\alpha + \sum_{i=1}^K \beta_i X + \varepsilon\}$ , where

$\alpha$  - intercept,

'X'- vector of independent variables, 'X' = [*X*<sub>1</sub>, *X*<sub>2</sub>, ..., *X*<sub>3</sub>],

$\varepsilon$  - error term.

A sample model is presented below:

Proportion invested<sub>*i,t*</sub>  
 =  $\varphi\{\alpha + \beta_1 \text{Legal Origin} + \beta_2 \text{Ownership Concentration}$   
 +  $\beta_3 \text{Antidirector Rights} + \beta_4 \text{Creditor Rights}$   
 +  $\beta_5 \text{Accounting Standards} + \beta_6 \text{IT Laws Enforcement}$   
 +  $\beta_7 \text{Press Freedom Index} + \beta_8 \text{Media Coverage} + \beta_9 \text{Analyst Coverage}$   
 +  $\beta_{10} \log \text{GDP} + \beta_{11} \text{GDP Growth} + \beta_{12} \text{Cultural Distance} + \beta_{13} \text{Distance}$   
 +  $\varepsilon\}$

A list of the models created for the purpose of this research is presented together with the discussion and interpretation of the results in the following section. Given the wide range of potential control variables, in the main output tables we only use those that have exhibited some level of significance. Models including other control variables are

available in the appendix. Additionally, after investigating the correlation matrix, we report that dependent variables are not highly correlated with each other (highest correlation at 0.47 level).

## 4. RESULTS AND EVIDENCE

### 4.1. ONE DIMENSION

We first look at the impact of every dimension in isolation (Table 5). In Model 1 we test the significance of the common law legal system on the amount being invested in a given country in a given year. Contrary to our prediction, we find that the effect of law origin in the target country is not statistically significant. Further analysis leads us to believe that ownership concentration, shareholder protection level, accounting standards and enforcement of insider trading laws are not statistically significant either (Models 2, 3, 5, 6). Stronger creditor protection as predicted in the hypothesis has a negative impact on the proportion invested by UK acquirers which is reduced by 0.39 percentage points for every one unit increase in the Creditor Rights Index (Model 4), while the introduction of insider trading laws reduces the amount invested by 0.03 percentage points. In a one dimensional setting we also discover that that the number of analysts is correlated with high numbers of UK investors and has a significant but small effect (Model 8, 0.13 percentage points). The opposite is true for press freedom index but this variable is of no statistical importance (Model 9). The models include between 862 and 474 observations and are all statistically significant at a 1% significance level.

[Insert Table 5 around here]

## 4.2. MULTIDIMENSIONAL ANALYSIS

### ***Legal System***

Based on the Positive Spillover Theory (Martynova and Renneboog, 2008a) and existing evidence provided by Albuquerque *et al.* (2013) we developed a hypothesis that bidders from common law countries should be encouraged to buy targets in locations which are governed by civil law, as they offer additional potential for extraction of private benefits (H1, Table 1). This has not seen support in the results provided by our one-dimensional analysis. Furthermore, the insignificance of this result holds even after we control for other dimensions of corporate governance (Models 10-13). This makes us reject our hypothesis and indicates that a potential adoption of a different legal system is not sufficient to attract or deter investors.

### ***Ownership Concentration***

Although this has not been observed in a one-dimensional setting, to our surprise and contrary to our hypothesis (H2, Table 1), concentrated ownership deters investors. The marginal effect of ownership concentration is a significant variable, decreasing the percentage invested in a given country in a given year by 5.88 percentage points (Model 11). This may indicate that the free-riding problem (Grossman and Hart, 1980) may not be as severe, as initially perceived. On the other hand, in line with Jarrell *et al.* (1988) this outcome may be an indication that large investors are more active when it comes to voting on corporate matters. They can also be more successful when opposing unwanted bids or more efficient at leveraging their bargaining power while negotiating higher premia (Dahlquist *et al.*, 2013) for their foregone extraction of future private benefits, both of which would effectively discourage investors resulting in a lower deal value for

a given country. However, the effect appears only in one regression, hence it is not very persistent.

### ***Shareholder Protection***

Although it has not been proven to be significant in a one-dimensional fractional logit (Model 3), in line with our hypothesis (H3, Table 1), we find that stronger shareholder protection deters investors. We see that the amount invested decreases by 0.73 percentage points for one point increase in the index (Model 13). This implies that controlling shareholders should be able to extract private benefits either in the form of a salary, transfer pricing, subsidised personal loan, corporate theft, sale of a controlling stake or freezing out the minority (Burkart *et al.*, 1988; La Porta *et al.*, 1999; Johnson *et al.*, 2000; Gilson and Gordon, 2003) and the value of those private benefits should be greater than the monitoring costs incurred in the process. Furthermore, this result may indicate that the problem cannot be overcome by the imposition of rigorous judicial review as proposed by Gilson and Gordon (2003). An alternative explanation is that well protected shareholders do manage to secure an additional premium, as argued by Rossi and Volpin (2004) and this incentivises investors to look for cheaper targets and those can be found in countries where the shareholder protection is weak. This is because shareholders prone to potential expropriation will require an additional premium, increasing the cost of capital and thus reducing the net present value of such an investment.

### ***Creditor Protection***

The empirical outcome of this analysis supports our hypothesis (H4, Table 1) and the result from one-dimensional framework (Model 4) that strong creditor protection does deter investors, reducing the amount invested in a given country by 1.35 percentage

points for every one point increase in the creditor protection index (Model 10). This is because although leverage can be seen as a way of solving the problem of misalignment of managerial incentives (Jensen and Meckling, 1976), the introduction of debt means that there is an additional group whose interest should also be taken care of and this can to some extent be achieved through carefully drafted regulation. Our results provide evidence that the existence of such covenants and strict regulation have a significant impact on shareholders' decision where to invest. This effect stems from the management's need to reduce the overall riskiness of the company or investors' concern with regard to potential inefficient liquidation in case of bankruptcy. It is unclear what feature of creditor protection is the main deterrent but it has been shown that strong creditor protection may lead to co-insurance of cash flows (Asquith and Kim, 1982), resulting in a suboptimal allocation of capital and potentially inefficient liquidation in case of bankruptcy (Acharya *et al.*, 2011) and effectively becoming a drawback in an entrepreneurial setting (Manso, 2005) and a hindrance to innovation (Acharya and Subramanian, 2009), all of which discourage investors and incentivise them to choose jurisdictions where the interests of debtholders do not attract as much attention from legal bodies.

### ***Accounting Standards***

As predicted, high accounting standards of the host country discourage investors to pursue acquisitions (H5, Table 1). A one point increase in the accounting standards index reduces the amount invested in a given country by 0.08 percentage points (Model 11). High transparency should help to alleviate the problem of information asymmetry prevalent prior to the actual acquisition by helping investors to more accurately value the target and giving them better insight into how the company is performing. The facilitation of better monitoring is expected to lead to greater profitability (Bushman



and Smith, 2003) and more efficient allocation of resources (Weil, 2002), while also forming a basis for active capital markets (Black, 2000 and Ball, 2001) characterised by high liquidity (Diamond and Verrecchia, 1991) and lower cost of capital (Amihud and Mendelson, 2000) but the empirical evidence shows that the demanding accounting requirements indeed become more of a burden once the target has been taken over. From the acquirer's perspective this might be caused by a couple of factors. Firstly, the owners who now control the majority of the shares do not require higher transparency to monitor the company as they should be able to effectively request that from the management and disclosing too much information post-acquisition could destroy their competitive advantage at a company level. Secondly, increased monitoring could mean fewer possibilities of extraction of private benefits through the expropriation of the minority shareholders or other third-parties. Hence, it is not surprising that investors prefer to pursue projects in countries which offer them the possibility of retaining their competitive advantage and allow for extraction of private benefits.

### ***Insider Trading***

Although the introduction of insider trading laws had a significant and negative effect in a one dimensional setting, both enforcement and existence of such laws prove to be of no importance when we include more variables in our model (Models 10-13). This stands in contrast to our initial hypothesis (no. 6a/b). However, the significance in the one dimensional framework may be due to the omission of other significant corporate governance variables present in the multidimensional regressions. Although as put forward by Manne (1966), insider trading should lead to informational improvements, installing confidence (Givoly and Palmon, 1985) and increasing liquidity in the markets (Grossman, 1986), our analysis shows that this is not necessarily true, unless the insignificance of the variable is a result of two clashing effects, the second being the

threat of expropriation of the acquirers by domestic investors. Regardless of the drivers behind these effects, we can conclude that any differences insider trading regulations are of no significance to UK investors who cannot benefit by expropriating minority shareholders after the acquisition, as they are governed by UK laws (sometimes additionally subject to US regulation in case of cross-listings) and do not seem to be particularly attracted by the potential increase in transparency and liquidity. This is in line with our hypothesis that the effect is ambiguous (H6a/b, Table 1).

### ***Analyst Coverage***

In accordance with Hypothesis 8 (Table 1), the number of analysts is a positive and significant variable. An increase in the average number of analysts per firm by one analyst increases the amount invested in a given country by 0.10-0.32 percentage points (Models 10-13). Although the effect is rather small, it is very persistent as the variable remains statistically significant in all the regressions. It has been argued that analysts have better incentives than journalists (Dyck *et al.*, 2009) to remain objective and have a better skillset which can help them to provide informed judgement on the company's financial state, making them active monitors. Hence, controlling shareholders may not always favourably perceive thorough coverage which may adversely affect their wealth and point at managerial malpractices such as extraction of private benefits. However, we perceive analyst coverage also as an indication of the transparency or the development of the financial market in a particular country. Of course, the information provided by analysts is a lot more focussed and specific than what is made public in general media. In addition, given the reputational consequences most of it is also highly reliable. Also, greater number of analysts in a given country means that the universe of potential targets with high visibility will be higher. Additionally, we can argue that analysts provide information investors are mostly interested in but there also might be a

problem of reversed causality, i.e. the coverage is the greatest where investors invest the most.

### ***Media Coverage***

On the basis of our analysis, we fail to obtain statistically significant results (Models 12-13) with regard to the hypothesis that more thorough media coverage reduces the country's attractiveness to investors (H7, Table 1). We have initially put forward that increased coverage should reduce the cost of information acquisition by facilitation information dissemination (Chan *et al.*, 2003; Dyck *et al.*, 2008) enabling better valuation and monitoring. The threat of uncovering of malpractices can lead to a better alignment of managerial incentives with those of the shareholders (Dyck and Zingales, 2002; Johnson *et al.*, 2005; Barber and Odean, 2008; Core *et al.*, 2008) and the existing research has indeed proven that coverage of such stories results in significant stock price movements (Tetlock, 2007; Fang and Peress, 2009; Caretta *et al.*, 2011; Engelberg and Parsons, 2011), while diffusion of press is negatively correlated with the frequency of extraction of private benefits. On the other hand, the increased scrutiny can make it harder for controlling shareholders to extract private benefits. The first explanation as to why the variable proves to be insignificant is that the information disseminated by the media is not what investors demand and find useful to value a company. We also may argue that the increased media monitoring does not concern investors. An alternative explanation is that these two act in opposite directions, i.e. the presence of free media makes valuations easier and hence attracts investors but some of them may be reluctant to invest in countries where they will be closely monitored by journalists because they do not want to make themselves subject to public pressure resulting from such press freedom.

### ***Control Variables***

In the models discussed above we have chosen to mainly control for the GDP of the host country and its pace of growth (annual GDP change). In line with Busse and Hefeker (2005) and Kawaguchi (1994) we find that the size of the market can to some extent reflect the market attractiveness for potential investors. However, it is not only the size but also the growth rate of a country that attracts investors, as argued by Ohlin (1933) and Busse and Hefeker (2005). Although the causality is not clear (Carkovic and Levine, 2002), our research documents that the two are positively correlated. Previous studies also indicated that physical distance may also play a role because as argued by Coval and Moskowitz (1999) investors prefer to invest in their proximity, also because farther away targets are likely to be characterised by higher information asymmetries (Basu and Chevrier, 2011). However, the empirical results have shown that the physical location of the target country is not as important as its culture (physical distance is statistically insignificant). In line with Ahern *et al.* (2012), we prove that countries which are culturally more similar to the acquiring company attract more funds. This may be partially explained by lower complexity of transactions involving firms with similar cultural backgrounds.

The remaining control variables have proven to be of no statistical importance, indicating that most of the decisions made by UK investors are motivated by corporate governance factors, market size/growth and its similarity in terms of culture. Criteria such as foreign exchange fluctuations, volatility, inflation, political stability and corruption seem to be neglected by investors (empirical results available in Table 10 in the appendix section).

The test of joint significance shows that all of the above models are statistically significant.

[Insert Table 6 around here]

## 5. ROBUSTNESS CHECKS

### 5.1. ALTERNATIVE SHAREHOLDER PROTECTION MEASURES

As one of robustness checks we additionally look at two alternative measures of shareholder protection. First, we re-run all the models (Table 7) using the Antidirector Rights Index as provided in La Porta *et al.* (1998). The results of the regressions regarding creditor protection and analyst coverage remain broadly in line with the ones obtained using Spamann's index. However, variables describing ownership concentration and the level of shareholder protection are now insignificant. Contrary to our hypothesis, we find that common law legal system encourages UK investors to acquire abroad (Model 14). Acquisitions involving different legal systems may result in further complications which may arise during potential court proceedings when the transaction is not fully successful. UK investors may be more inclined to invest in common law countries as such transactions would simplify the legal process and would also give them more protection in case of any difficulties arising during or after the acquisition.

[Insert Table 7 around here]

The second alternative is the Antidirectors Rights Index as provided by Djankov *et al.* (2008). One difference between the results obtained using the newer index when compared to the results generated using data aggregated by La Porta *et al.* (1998) is the negative effect of concentrated ownership and accounting standards (Table 8, Model 19). However, this result is in line with our findings when we employ Spamann's Index to measure the level of shareholder protection.

[Insert Table 8 around here]

In none of the models is the level of shareholding protection, press freedom and introduction and enforcement of anti-insider trading regulation a significant variable. All of the models describes above are statistically significant.

## 5.2. INDEX COMPONENTS

In our regressions we include two variables which are actually indices. In order to check the robustness of our results, to understand the mechanisms better and to analyse potential issues relating to the way the indices used were composed, we additionally test the significance of the components within each of the indices. The first one is the Shareholder Protection Index, the components of which are ‘Proxy By Mail Allowed’, ‘Shares Not Blocked Before Meeting’, ‘Cumulative Voting/Proportional Representation’, ‘Oppressed Minority’, ‘Preemptive Right to New Issues’ and ‘Percentage of Shares to Call an Extraordinary Shareholder Meeting’, all of which are described in more detail in the *Data and, Methodology* section. The analysis shows that only three of the variables in that index are of statistical significance. Not surprising is the positive effect of ‘Proxy By Mail’ (Model 22) which enables shareholders, also those incumbent ones, to exercise their power when it comes to voting on corporate matters from abroad. However, the analysis indicates two opposing results, because on one hand the preemptive right to new issues, which effectively acts as a poison pill adds complexity to potential transactions and deters investors. On the other hand, investors are attracted by countries which offer cumulative voting and proportional representation as this makes it easier for investors to increase voting influence without obtaining full control. This is because in such cases investors can appoint board members of their choice or convince other investors to vote in favour of certain motions. If proportional

representation is not in place, this would be harder to achieve due to concentrated control.

The second index which we investigate more closely is the Creditor Protection Index. It is made of four components, which are 'No Automatic Stay on Assets', 'Secured Creditors Paid First', 'Restrictions for Going into Reorganisation' and 'Management Does Not Stay in Reorganisation'. The description of all the variables is available in subsection 3.2., as in the case of the previous index. Having analysed all the four components, we spot that only one of the variables which has an impact on creditor protection is significant in the context of our research. The only variable which seems to drive the negative impact of 'Creditor Protection' is the condition that the management does not stay in reorganisation, which obviously provides an indication that more power is given to the creditors rather than the shareholders and those running the business.

[Insert Table 9 around here]

As shown above not all the index components are significant and as in the case of shareholder protection measures some of the variables work in opposing directions. This obviously brings more noise into our analysis and hence it is not surprising that the previously built models do not show consistent results with regard to creditor and shareholder protection.



## **6. LIMITATIONS**

### ***Corporate Governance Measures***

For the purpose of this research we use the widely adopted index by La Porta *et al.* (1998). The measures of different dimensions of corporate governance, as provided by the aforementioned authors, are static, i.e. the index does not change over time. One could argue that corporate governance does not change from year to year. However, given that in this paper we look at transactions which took place between 1993 and 2012 in 48 countries, it is likely that the standards have evolved, especially in the developing countries which had to adapt their systems to the changing environment, in order to catch up with the level of corporate governance of the already developed countries. Additionally, the study includes a range of variables which are time-invariant and they may capture the described effect or some other time-invariant, country-specific characteristic.

### ***Limited Data***

Apart from the information provided by La Porta *et al.* (1998), in our research we also include data on introduction and enforcement of insider trading regulation, which leads to a minor loss in the number of observations in our models. Further reduction occurs when we add data on analyst coverage. However, the variable which limits the number of observations in our models the most is the press freedom. In addition, the described variables are also static in their nature which limits the accuracy of our research.

### ***Shareholder Concentration***

In the context of this research we have looked at shareholder concentration as defined in La Porta *et al.* (1988), which may not be the most accurate depiction of shareholder activism. The most accurate proxy would be the approach proposed by Fich *et al.* (2013) which has been described in section 2.2.C.

### ***Ideas for Future Research***

The above analysis has provided some insight into the importance of different dimensions of corporate governance standards for international investors. In order to deepen our analysis and understanding of investors' behaviour, one could look at corporate governance at a company level, which would additionally provide guidance for corporations which aim to make themselves more desirable to international equity investors. Although some dimensions of corporate governance should apply uniformly at country level (e.g. legal system, shareholder protection regulation, accounting standards, insider trading regulation, media coverage intensity), others should be studied separately for each transaction, as they will vary from one target company to another (e.g. ownership concentration, creditor protection reflected in debt covenants, analyst coverage). Further research could also analyse transactions carried out by investors based in countries other than the UK, especially those with relatively poor corporate governance standards in order to get a broader picture of the drivers behind FDI flows.

## 7. CONCLUSION

In this paper we have looked at the impact of corporate governance standards on takeover decisions of UK investors. Overall, we put forward that higher standards should deter investors, with the exception of thorough analyst coverage which we assumed should have a positive effect on the volume of transactions. While the assumption stemmed from the fact that analysts have better incentives and skillset to actively monitor companies, we also recognised that investors who already acquired a company may not also like that kind of attention. Overall our assumption found support in the empirical evidence which may be an indication that more thorough investor coverage should lead to increased transparency and larger universe of well-covered targets making them more visible to cross-border investors. However, one should also be cautious interpreting the results as there may exist potential problem of reversed causality. Media coverage has proven to be of no statistical significance. Although media decrease the costs of information acquisition, the increased visibility of potential malpractices can lead to a better alignment of managerial incentives and lower the probability of extraction of private benefits. Our result may be an indication that investors are either not concerned by the public scrutiny or they are not interested in the information provided by journalists. Alternatively, the two effects can be cancelling each other out.

The results with regard to accounting standards, shareholder and creditor protection are in line with our predictions, i.e. all of the above have a negative effect on the amount being invested in a given country. Despite the fact that higher accounting standards increase transparency reducing the cost of capital, increasing liquidity and making it easier to find reliable accounting information necessary to value a target, they also reduce the potential for extraction of additional benefits by investors and may hinder

competitive advantage. Higher accounting standards are perceived as more of a burden by potential buyers after the change of ownership. The same effect holds for higher shareholder protection which makes potential expropriation of other investors more troublesome and costly. Better protection of shareholders also means that they require a lower cost of capital which then is reflected in higher target valuation incentivising acquirers to look for targets in countries where such standards are weaker. The same can be concluded for creditor protection. Strict standards may result in suboptimal allocation of resources by the management and give rise to the threat of inefficient and premature liquidation in case of bankruptcy, encouraging investors to look for targets in countries where creditor protection is weak.

Furthermore, international investors do not seem to benefit from the introduction or enforcement of insider trading regulation in the host country, as this variable remains insignificant. This might be due to the fact that the acquirers are mainly subject to UK regulations or US, in case of most cross-listings making the regulation of the host country less important than in the case of domestic investors. However, to our surprise we found that legal origin is of no statistical significance. Only robustness checks have shown that the legal system can impact the investors' decision where to invest but the result stood in contrast to our initial prediction. We discovered that, contradictory to the Spillover Hypothesis, UK investors prefer locations with the same legal system as at home. This might be driven by reluctance to get involved in complex legal proceedings which may arise when the target is from a civil law system. Lastly, although we expected that concentrated ownership should help facilitate acquisitions by reducing the free-riding problem, our results have shown the opposite. The proposed explanation is that higher ownership concentration not only increases the ability to collude but also the capacity to negotiate higher premia, deterring investors or simply blocking potential acquisitions. One important take-away from this analysis is that the prevalent strive

towards higher corporate governance standards will not necessarily lead to higher inbound M&A, as generally perceived. In fact, our results prove the opposite. Further research looking into corporate governance at a company level could provide valuable information with regard to the extent corporate governance impacts acquisition decisions in cross-border setting.

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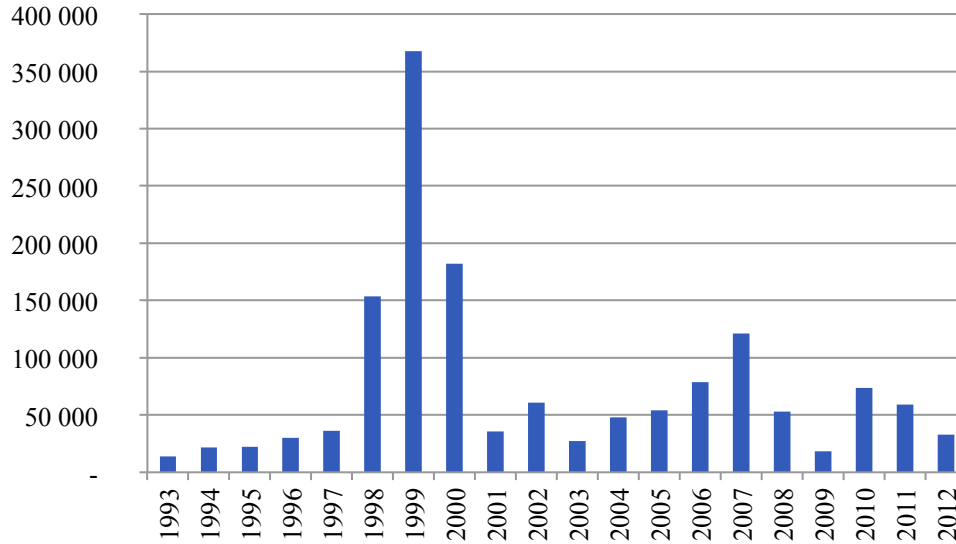
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## 9. APPENDICES

**Table 1 - Summary of Hypotheses**

<i>Hypothesis No.</i>	<i>Variable</i>	<i>Predicted Effect</i>
1	Codified Law	+
2	Concentrated Ownership	+
3	Shareholder Protection	-
4	Creditor Protection	-
5	Accounting Standards	-
6	Insider Trading Regulation	-/+
7	Media Coverage	-
8	Analyst Coverage	+

**Figure 1 - UK Outbound M&A 1993-2012  
(in millions USD)**



**Table 2 - Sample Statistics**

	<b>% of annual funds invested</b>	<b>% of all the countries</b>
<b><i>Panel A. Target Countries (top 5)</i></b>		
USA	37.00%	-
Germany	9.26%	-
France	9.19%	-
Australia	5.42%	-
Sweden	5.14%	-
<b><i>Panel B. Legal System</i></b>		
Average per common law country	4.22%	25.00%
Average per civil law country	1.38%	75.00%
<b><i>Panel C. Country Characteristics</i></b>		
Average per developed country	3.38%	50.00%
Average per developing country	0.34%	50.00%



**Table 3 - Summary of Independent Variables**

Name	Description	Source
<i>Legal System</i>		
Legal Origin	Equal to 1 if the target country is governed by common law and 0 otherwise	La Porta et al. (1998)
<i>Ownership Concentration</i>		
Ownership	The average percentage of common shares owned by the three largest shareholders in the 10 largest nonfinancial, privately owned domestic firms in a given country	La Porta et al. (1998)
<i>Shareholder Protection</i>		
Antidirector Rights Index	An index corrected by Spamann and based on the original data aggregated by La Porta <i>et al.</i> (1998). The index is formed by adding 1 when (1) the country allows shareholders to mail their proxy vote to the firm; (2) shareholders are not required to deposit their shares prior to the general shareholders' meeting; (3) cumulative voting or proportional representation of minorities in the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) shareholders have preemptive rights that can be waived only by a shareholders' vote or (6) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10 percent (the sample median). The index ranges from zero to six	Spamann (2010)
<i>Creditor Protection</i>		
Creditor Rights	An index aggregating different creditor rights. The index is formed by adding 1 when (1) the country imposes restrictions, such as creditors' consent or minimum dividends to file for reorganisation; (2) secured creditors are able to gain possession of their security once the reorganisation petition has been approved (no automatic stay); (3) secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; and (4) the debtor does not retain the administration of its property pending the resolution of the reorganisation. The index ranges from 0 to 4	La Porta et al. (1998)
<i>Accounting Standards</i>		
Accounting Standards	Index created by examining and rating companies' 1990 annual reports on International accounting their inclusion or omission of 90 items. These items fall into seven categories (general information, income statements, balance sheets, funds flow statement, accounting standards, stock data, and special items). A minimum of three companies in each country were studied. The companies represent a cross-section of various industry groups; industrial companies represented 70 percent, and financial companies represented the remaining 30 percent	La Porta et al. (1998)
<i>Insider Trading</i>		
Insider Trading Laws	Equal to 1 if the country has already introduced anti-insider trading laws, for a given country for a given year, 0 otherwise	Bhattacharya and Daouk (2002)
Insider Trading Enforcement	Equal to 1 if the country has been a prosecution under these laws in the past, for a given country for a given year, 0 otherwise	Bhattacharya and Daouk (2002)
<i>Media</i>		
Analyst Coverage	The average number of analysts per firm as collected from IBES for the paper Analyst Activity Around the World	Chang et al. (2000)
Press Freedom Index	The countries are scored according to six general criteria. Using a system of weighting for each possible response, countries are given a score between 0 and 100 for each of the following criteria: Pluralism, Media Independence, Environment and self-censorship, Legislative Framework, Transparency and Infrastructure	Reporters without Boarders

**Table 4 - Summary of Control Variables**

<b>Name</b>	<b>Description</b>	<b>Source</b>
<i>Control Variables</i>		
GDP	GDP in US dollars for every year and every country	World Bank
GDP Change	GDP change for every year and every country	World Bank
Physical Distance	Physical distance between countries in miles	K. Skrede Gleditsch
Cultural Distance	Made up of six factors: Power Distance, Individualism versus Collectivism, Masculinity vs. Femininity, Uncertainty Avoidance, Long-term vs. Short-term Orientation, Indulgence vs. Restraint; rated 0-100	Hofstede
Tax	Corporate tax rate for every year and every country	KPMG
Political Stability	Dataset containing 90 variables that measures various features of the legislative, executive and judicial branches of government.	Henisz
Corruption	An index measuring the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well “capture” of the state by elites and private interests.	World Governance Indicators
Inflation	Rate of inflation expressed as a percentage for each of the years and every country	World Bank
Exchange Rate Change	Annual appreciation/depreciation of the local currency calculated from the exchange rate expressed as local currency units for a US dollar, for every country and every year	World Bank
Exchange Rate Volatility	Volatility calculated as the absolute percentage change in the local currency units for a US dollar against last year, for every country and every year	World Bank

**Table 5 - One Dimension  
Fractional Logit (Marginal Effects)**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Common Law	0.0031 (0.0072)								
Ownership		-0.0442 (0.0299)							
Shareholder Protection			-0.0007 (0.0024)						
Creditor Protection				<b>-0.0039**</b> (0.0018)					
Accounting Standards					0.0003 (0.0007)				
IT Enforcement						-0.0006 (0.0004)			
IT Laws							<b>-0.0003*</b> (0.0002)		
No. of Analysts								<b>0.0013***</b> (0.0005)	
Press Freedom									-0.0003 (0.0003)
GDP growth	0.0009** (0.0004)	0.0010** (0.0005)	0.0011** (0.0005)	0.0013*** (0.0004)	0.0014** (0.0006)	0.0014** (0.0006)	0.0007** (0.0003)	0.0013*** (0.0004)	0.0006 (0.0007)
Log GDP	0.0162*** (0.0019)	0.0147*** (0.0016)	0.0168*** (0.0023)	0.0164*** (0.0017)	0.0181*** (0.0021)	0.0185*** (0.0035)	0.0133*** (0.0021)	0.0129*** (0.0027)	0.0154*** (0.0028)
Cultural Distance	-0.0113*** (0.0041)	-0.0125*** (0.0039)	-0.0124*** (0.0038)	-0.0123*** (0.0036)	-0.0126** (0.0052)	-0.0159** (0.0080)	-0.0103** (0.0041)	-0.0129*** (0.0037)	-0.0093** (0.0043)
Distance	-1.46e-06 (1.14e-06)	-1.64e-06 (1.10e-06)	-1.32e-06 (9.44e-07)	-1.42E-06* (8.26e-07)	-1.45e-06 (1.05e-06)	-2.13e-06 (1.92e-06)	-1.60E-06 (1.29E-06)	-4.47e-07 (9.16e-07)	-1.21e-06 (6.94e-07)
<i>No. of observations</i>	862	802	822	822	747	547	822	742	474
<i>P-value</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>Chi-squared</i>	265.8	404.18	252.83	255.33	223.88	273.15	649.31	213.07	205.81
<i>Pseudo R2</i>	31.94%	32.32%	32.34%	32.30%	34.00%	39.22%	32.42%	32.95%	60.07%

The table presents marginal effects obtained from a fractional logit model, where the dependent variable is the proportion of UK funds in year  $t$ , invested in country  $i$  and where country-level clustering has been used. The first nine variables refer to different dimensions of corporate governance but the models also include control variables such as ‘GDP growth’, ‘Log GDP’, ‘Distance’ and ‘Cultural distance’. All the variables are described in more detail in Tables 3 (corporate governance variables) and 4 (control variables).

**Table 6 - Multidimensional Analysis Results  
Fractional Logit (Marginal Effects)**

	<b>Model 10</b>	<b>Model 11</b>	<b>Model 12</b>	<b>Model 13</b>
Common Law	0.0280 (0.0177)	0.0049 (0.0160)	0.0162 (0.0161)	0.0110 (0.0217)
Ownership	-0.0519 (0.0370)	<b>-0.0588*</b> (0.0336)	-0.0004 (0.0393)	-0.0289 (0.0462)
Shareholder Protection	-0.0024 (0.0032)	0.0042 (0.0037)	-0.0021 (0.0039)	<b>-0.0073*</b> (0.0041)
Creditor Protection	<b>-0.0135**</b> (0.0060)	-0.0021 (0.0045)	-0.0016 (0.0044)	-0.0070 (0.0066)
Accounting Standards	-0.0005 (0.0008)	<b>-0.0008*</b> (0.0005)	-0.0000 (0.0004)	-0.0000 (0.0007)
IT Enforcement	0.0006 (0.0006)			0.0002 (0.0008)
IT Laws		-0.0004 (0.0004)	-0.0003 (0.0004)	
No. of Analysts	<b>0.0032***</b> (0.0008)	<b>0.0018***</b> (0.0005)	<b>0.0010**</b> (0.0005)	<b>0.0014*</b> (0.0008)
Press Freedom			-0.0005 (0.0003)	-0.0001 (0.0004)
GDP growth	0.0011 (0.0006)	0.0008* (0.0004)	0.0005 (0.0010)	0.0007 (0.0013)
Log GDP	0.0100** (0.0041)	0.0053 (0.0034)	0.0106*** (0.0039)	0.0137** (0.0055)
Distance	-1.41E-06 1.36E-06	-1.11E-06 1.07E-06	-2.00E-06 1.23E-06	-2.10E-06 1.63E-06
Cultural Distance		-0.0122*** (0.0042)		-0.0013 (0.0066)
<i>No. of observations</i>	<i>527</i>	<i>667</i>	<i>364</i>	<i>288</i>
<i>P-value</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>
<i>Chi-squared</i>	<i>744.28</i>	<i>1,131.28</i>	<i>672.15</i>	<i>695.93</i>
<i>Pseudo R2</i>	<i>41.17%</i>	<i>36.39%</i>	<i>62.62%</i>	<i>66.74%</i>

The table presents marginal effects obtained from a fractional logit model, where the dependent variable is the proportion of UK funds in year  $t$ , invested in country  $i$  and where country-level clustering has been used. The first nine variables refer to different dimensions of corporate governance but the models also include control variables such as ‘GDP growth’, ‘Log GDP’, ‘Distance’ and ‘Cultural distance’. All the variables are described in more detail in Tables 3 (corporate governance variables) and 4 (control variables).

**Table 7 - Robustness Check**  
**La Porta et al. (1998) Antidirector Rights Index**  
**Fractional Logit (Marginal Effects)**

	<b>Model 14</b>	<b>Model 15</b>	<b>Model 16</b>	<b>Model 17</b>
Common Law	<b>0.0359**</b> (0.0167)	0.0050 (0.0172)	0.0145 (0.0177)	0.0149 (0.0204)
Ownership	-0.0643 (0.0421)	-0.0562 (0.0408)	0.0099 (0.0431)	-0.0472 (0.0628)
Shareholder Protection LLSV	-0.0026 (0.0038)	0.0005 (0.0038)	0.0016 (0.0042)	-0.0007 (0.0060)
Creditor Protection	<b>-0.0139**</b> (0.0056)	-0.0031 (0.0048)	-0.0009 (0.0050)	-0.0042 (0.0063)
Accounting Standards	-0.0006 (0.0007)	-0.0007 (0.0005)	-0.0001 (0.0004)	-0.0004 (0.0007)
IT Enforcement	0.0005 (0.0006)			-0.0002 (0.0007)
IT Laws		-0.0002 (0.0004)	-0.0004 (0.0004)	
No. of Analysts	<b>0.0031***</b> (0.0008)	<b>0.0018***</b> (0.0005)	<b>0.0011**</b> (0.0005)	<b>0.0014*</b> (0.0008)
Press Freedom			-0.0005 (0.0003)	-0.0001 (0.0005)
GDP growth	0.0012* (0.0006)	0.0008** (0.0004)	0.0005 (0.0010)	0.0006 (0.0013)
Log GDP	0.0099** (0.0043)	0.0062* (0.0033)	0.0101*** (0.0039)	0.0118** (0.0055)
Distance	-1.52E-06 (1.32e-06)	-1.11E-06 (1.08e-06)	-2.04e-06 (1.28e-06)	-2.38e-06 (1.61e-06)
Cultural Distance		-0.0105** (0.0042)		-0.0062 (0.0066)
<i>No. of observations</i>	<i>527</i>	<i>667</i>	<i>364</i>	<i>288</i>
<i>P-value</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>
<i>Chi-squared</i>	<i>612.08</i>	<i>1,257.29</i>	<i>800.17</i>	<i>825.49</i>
<i>Pseudo R2</i>	<i>41.16%</i>	<i>36.25%</i>	<i>62.60%</i>	<i>66.56%</i>

The table presents marginal effects obtained from a fractional logit model, where the dependent variable is the proportion of UK funds in year  $t$ , invested in country  $i$  and where country-level clustering has been used. The first nine variables refer to different dimensions of corporate governance but the models also include control variables such as ‘GDP growth’, ‘Log GDP’, ‘Distance’ and ‘Cultural distance’. All the variables are described in more detail in Tables 3 (corporate governance variables) and 4 (control variables).

**Table 8 - Robustness Check**  
**Djankov et al. (2008) Antidirector Rights Index**  
**Fractional Logit (Marginal Effects)**

	<b>Model 18</b>	<b>Model 19</b>	<b>Model 20</b>	<b>Model 21</b>
Common Law	<b>0.0314**</b> (0.0159)	0.0034 (0.0159)	0.0017 (0.0155)	0.0131 (0.0213)
Ownership	-0.0538 (0.0381)	<b>-0.0614*</b> (0.0343)	0.0044 (0.0377)	-0.0414 (0.0502)
Shareholder Protection DLSV	-0.0011 (0.0031)	0.0039 (0.0029)	0.0013 (0.0040)	-0.0029 (0.0055)
Creditor Protection	<b>-0.0132**</b> (0.0060)	-0.0033 (0.0045)	-0.0014 (0.0045)	-0.0036 (0.0071)
Accounting Standards	-0.0006 (0.0008)	<b>-0.0008*</b> (0.0005)	-0.0001 (0.0004)	-0.0003 (0.0007)
IT Enforcement	0.0005 (0.0006)			-0.0002 (0.0007)
IT Laws		-0.0003 (0.0004)	-0.0004 (0.0004)	
No. of Analysts	<b>0.0031***</b> (0.0008)	<b>0.0019***</b> (0.0005)	<b>0.0011**</b> (0.0005)	<b>0.0013*</b> (0.0008)
Press Freedom			<b>-0.0005</b> (0.0003)	-0.0001 (0.0005)
GDP growth	0.0011* (0.0007)	0.0007* (0.0004)	0.0004 (0.0010)	0.0007 (0.0013)
Log GDP	0.0010* (0.0041)	0.0052 (0.0033)	0.0100*** (0.0038)	0.0121** (0.0054)
Distance	-1.50E-06 (1.39e-06)	-1.26E-06 (1.13e-06)	-2.11E-06 (1.37e-06)	-2.17E-06 (1.73e-06)
Cultural Distance		-0.0118*** (0.0045)		-0.0056 (0.0064)
<i>No. of observations</i>	<i>527</i>	<i>667</i>	<i>364</i>	<i>288</i>
<i>P-value</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>
<i>Chi-squared</i>	<i>633.17</i>	<i>1,508.16</i>	<i>750.52</i>	<i>672.20</i>
<i>Pseudo R2</i>	<i>41.13%</i>	<i>36.33%</i>	<i>62.60%</i>	<i>66.58%</i>

The table presents marginal effects obtained from a fractional logit model, where the dependent variable is the proportion of UK funds in year  $t$ , invested in country  $i$  and where country-level clustering has been used. The first nine variables refer to different dimensions of corporate governance but the models also include control variables such as ‘GDP growth’, ‘Log GDP’, ‘Distance’ and ‘Cultural distance’. All the variables are described in more detail in Tables 3 (corporate governance variables) and 4 (control variables).

**Table 9 - Robustness Check**  
**Index Components - Fractional Logit (Marginal Effects)**

	<b>Model 22</b>		<b>Model 23</b>
Proxy By Mail Allowed	<b>0.0169***</b> (0.0053)	No Automatic Stay on Assets	-0.0043 (0.0057)
Shares Not Blocked Before Meeting	0.0104 (0.0070)	Secured Creditors Paid First	0.0121 (0.0082)
Cumulative Voting/ Proportional Representation	<b>0.0183***</b> (0.0036)	Restrictions for Going into Reorganisation	-0.0032 (0.0052)
Oppressed Minority	-0.0029 (0.0060)	Management Does Not Stay in Reorganisation	<b>-0.0342***</b> (0.0125)
Preemptive Right to New Issues	<b>-0.0133**</b> (0.0060)		
% of Shares to Call an Extraordinary Shareholder Meeting	-0.0397 (0.0379)		
GDP growth	0.0008** (0.0003)		0.0014*** (0.0004)
Log GDP	0.0125*** (0.0013)		0.0179*** (0.0017)
Distance	-2.00e-06 (9.92e-07)		-6.55e-07 (0.0000)
<i>No. of observations</i>	908	<i>No. of observations</i>	868
<i>P-value</i>	0.0000	<i>P-value</i>	0.0000
<i>Chi-squared</i>	1,486.19	<i>Chi-squared</i>	261.35
<i>Pseudo R2</i>	32.71%	<i>Pseudo R2</i>	31.79%

The table presents marginal effects obtained from a fractional logit model, where the dependent variable is the proportion of UK funds in year  $t$ , invested in country  $i$  and where country-level clustering has been used. The six/four nine variables refer to different dimensions of corporate governance but the models also include control variables such as ‘GDP growth’, ‘Log GDP’ and ‘Distance’. All the variables are described in more detail in Tables 3 (corporate governance variables) and 4 (control variables).

**Table 10 - Additional Control Variables Analysis  
Fractional Logit (Marginal Effects)**

	<b>Model 24</b>	<b>Model 25</b>	<b>Model 26</b>
Common Law	0.0025 (0.0280)	0.0055 (0.0199)	0.0110 (0.0219)
Ownership	-0.0677 (0.0580)	-0.0600 (0.0469)	-0.0288 (0.0465)
Shareholder Protection	-0.0092 (0.0061)	-0.0059 (0.0044)	<b>-0.0073*</b> (0.0041)
Creditor Protection	-0.0050 (0.0086)	-0.0060 (0.0066)	-0.0070 (0.0066)
Accounting Standards	0.0003 (0.0008)	0.0004 (0.0007)	-0.0000 (0.0007)
IT Enforcement	0.0002 (0.0010)	-1.53e-06 (0.0008)	0.0002 (0.0008)
No. of Analysts	0.0007 (0.0010)	<b>0.0017**</b> (0.0008)	<b>0.0014*</b> (0.0008)
Press Freedom	0.0003 0.0004	-0.0003 0.0005	-0.0001 (0.0004)
GDP growth	0.0011 (0.0012)	0.0003 (0.0012)	0.0007 (0.0014)
Log GDP	0.0080 (0.0088)	0.0096 (0.0063)	0.0137** (0.0055)
Distance	-2.86E-06 2.11E-06	-2.46E-06 1.55E-06	-2.09E-06 1.60E-06
Cultural Distance	-0.0067 (0.0098)	-0.0052 (0.0075)	-0.0013 (0.0064)
Tax	0.0017 (0.0010)		
Political stability	-0.0229 (0.0454)		
Corruption		-0.0064 (0.0046)	
Forex			-0.0034 (0.0526)
Forex volatility	-0.0968 (0.0903)		
Inflation		0.0008 (0.0006)	
<i>No. of observations</i>	<i>182</i>	<i>288</i>	<i>288</i>
<i>P-value</i>	<i>0.0000</i>	<i>0.0000</i>	<i>0.0000</i>
<i>Chi-squared</i>	<i>564.80</i>	<i>1,002.66</i>	<i>739.24</i>
<i>Pseudo R2</i>	<i>78.96%</i>	<i>66.84%</i>	<i>66.69%</i>

The table presents marginal effects obtained from a fractional logit model, where the dependent variable is the proportion of UK funds in year t, invested in country i and where country-level clustering has been used. The first eight variables refer to different dimensions of corporate governance but the models also include control variables such as ‘GDP growth’, ‘Log GDP’ and ‘Distance’. All the variables are described in more detail in Tables 3 (corporate governance variables) and 4 (control variables).





# **Uncertainty, information asymmetry and the use of earnouts in mergers and acquisitions**

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## **ABSTRACT**

There are numerous options available for acquirers involved in mergers and acquisitions (M&A) when it comes to deciding on the method of payment for a company about to be purchased. Each payment currency has different implications for solving information asymmetry issues. This research focuses on factors which increase the probability of employing a contingent payment agreement (also known as an ‘earnout’; see p. 114 for definition) in both, a domestic and a cross-border setting. Based on the review of literature together with the existing theory of M&A, we expect information asymmetries to be an important determinant of the method of payment for a transaction. Hence, an earnout which allows the bidder to mitigate the losses resulting from such a transaction is expected to be more popular in an environment with more unknown factors. By means of univariate analysis and a series of probit models, we examine a dataset consisting of 37,099 observations - acquisitions made by UK companies between 1983 and 2012 in 150 countries. The empirical findings show that the likelihood of using an earnout increases when a privately-owned target is being acquired, where a larger share of the company is being purchased, with increasing deal value, for targets which are from the ‘high-technology’ or ‘services’ sector. In all transactions this probability decreases with increasing sales and if the target is from the same industry as the acquirer (only domestic transactions). As expected, earnouts are used less frequently in case of MBOs. Looking only at cross-border acquisitions, we find that when purchasing a target from a developing country and also in a common legal system there is a higher chance of utilising a contingent payment agreement. In order to explain the latter finding, we can put forward that the reason for this discrepancy might lie in the enforcement difficulties in the post-merger period in case of countries with a different legal system and the impossibility of creating an exhaustive earnout contract. Another

interesting finding is that knowledge of the industry does not influence the likelihood of using and earnout, while the opposite is true for acquisition experience, but only if the buyer has carried out international deals.

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# 1. INFORMATION ASYMMETRY IN MERGERS & ACQUISITIONS

## 1.1. M&A ACTIVITY AND MOTIVES BEHIND CORPORATE TAKEOVERS

The rise of globalisation resulted in a very significant increase in cross-border M&A. Stronger global competition forced companies to be more flexible and time-efficient when implementing strategic changes. Unlike greenfield investment, mergers and acquisitions are a quick way to enter new markets or increase the company's presence in certain segments or locations. They also serve as a way of responding to the moves of rivals or to take opportunistic decisions which may arise unexpectedly. In the last 30 years the value of global M&A has increased by around 700 percent, going from USD 48.5 billion in 1987 to USD 399 billion in 2014 (WIR, 2015). The growth in this activity can be attributed to various macro factors such as development of and investment in technology, innovation in capital markets, their improved accessibility by firms and an increase in competition globally accompanied by coincidence of consumer preferences worldwide (Sudarsanam, 1995). The recent recession especially present in the developed countries has urged investors to merge vertically in an attempt to a) hedge rising commodity prices (Garfinkel and Hankins, 2011), b) lower their supply costs (Bhattacharyya and Nain, 2011) or c) simply look for alternative target countries where the economies are still growing. Nevertheless, one should also keep in mind that acquisitions of foreign targets are different from domestic transactions. Although Conn *et al.* (2005) and Sudarsanam (1995) suggest that cross-border acquisitions generate additional value to the acquirers compared to domestic transactions, there are a number of potential complications associated with cross-border deals, which can result in

negative returns to the bidding firm's shareholders. This paper focuses on information asymmetries, moral hazard and risk and how these influence the method of payment chosen by the acquirer in case of both, domestic and cross-border transaction. The following section will present the problem of uncertainty in M&A and discuss potential methods of payment.

## 1.2. RESEARCH MOTIVATION

Given the growing importance of M&A transactions for corporate strategy and their potential adverse effects for the acquiring companies, we decided to better understand the motivation of the managers who make decisions with regard to the mode of payment in an acquisition. When it comes to the payment currency the bidder has numerous options. This paper focuses on one specific attempt at the reduction of risk: earnouts. An earnout is a contingent payout agreement which in its simplest form can be split into two components: the fixed amount paid at the time of the acquisition and a further consideration to be paid to the seller conditional on meeting pre-defined criteria specified in this agreement (more on possible criteria in section 1.4). This stems from the fact that an earnout can be effectively perceived as a form of insurance against negative future scenarios. Therefore, we put forward that this method of payment will be used more often where the information asymmetry and risk are more severe. The extant literature on the probability of using an earnout in the context of information asymmetry is rather scarce (see section 2.3.). This paper tries not only to include a more holistic definition of information asymmetry by studying deal- and country-specific characteristics but also takes into account additional risk factors. It shows how investors change their approach to risk-management when they are faced with cross-border transactions rather than acquisitions of domestic targets, as becoming involved in cross-

border transactions brings about many additional complexities which otherwise would not be of any importance. An additional contribution of this work refers to the dataset used, as the existing literature does not focus to a great extent on transactions carried out by UK acquirers who are particularly active participants of the global M&A market.

### 1.3. HYPOTHESES RELATING TO METHOD OF PAYMENT

Although, along the lines of Efficient Market Hypothesis (Fama, 1970), in well-functioning markets the medium of exchange chosen is irrelevant from the economic point of view (Fishman, 1989), the markets are not perfect and therefore as a prerequisite, the subsequent sections of this chapter summarise hypotheses relating to payment currencies covered in the existing literature.

#### *A. Risk-sharing Hypothesis*

The information asymmetry problem, as described by Akerlof (1970), is inherent in all businesses. It is also present in mergers and acquisitions, as the seller usually possesses more information about the target than the acquirer. What follows is that “in the absence of perfect information regarding the target company’s future, the possibility of valuation (estimation) error becomes quite high. And as the level of uncertainty regarding the target’s prospects increases, the likelihood of valuation error increases” (Varaiya and Ferris, 1987, p. 64). Recent experimental studies in this field have confirmed these suppositions (Anand and Zhou, 2012). For example, research on auctions found that “an increase in uncertainty about the common value leads to a substantial decrease in efficiency” (Goeree and Offerman, 2002, p. 641). Despite all the efforts, the bidder will rarely manage to collect all the data needed to achieve an identical dataset as that of the



target's management. This means that we can extend the "Market for Lemons" findings to the M&A context. Based on this assumption, it can be suggested that less successful deals will be accomplished, whereas potentially appealing targets will not be acquired (Akerlof, 1970, in Reuer *et al.*, 2004). However, acquirers try to reduce this risk and maximise their chances of completing a value-generating acquisition in informationally imperfect environments. It has been shown (DeMarzo and Duffie, 1991; DeMarzo and Duffie, 1995; Breeden and Viswanathan, 1996) that managers are more likely to use hedging where the level of information asymmetry is higher and this can be done through payment method selection.

A cash offer implies that the shareholders retain the same level of control over their company; thus there is no dilution of ownership or power. In a cash offer, the bidder indirectly agrees to take on all the uncertainty relating to the true value of the target. If the acquirer offers equity, the transaction is completed and the target is worth less than initially expected, the shareholders of both companies will be adversely affected, as the lower-than-expected value of the target decreases the value of the combined company. This is known as the risk sharing hypothesis (Martin, 1996). Also, if the target shareholders anticipate that the acquisitions will be made through a share exchange they might be inclined to disclose more information to the acquirer in order to realise higher gains in the future when selling their shares.

### ***B. Misvaluation Hypothesis***

New M&A literature focuses more on behavioural corporate finance in order to explain the phenomenon of merger waves. It has been noted that periods of high merger activity coincide with times of high market valuations (e.g. see Jovanovic and Rousseau, 2001). More recent research proposes that M&A activity is to a large extent driven by these market misvaluations. Shleifer and Vishny (2003) point out that overvaluation of equity

can incentivise firms to become involved in equity-financed acquisitions. “In a more general framework, firms with overvalued equity might be able to make acquisitions, survive, and grow, while firms with undervalued, or relatively less overvalued, equity become takeover targets” (Shleifer and Vishny, 2003, p. 309). It has been proven that bidders are generally overvalued relative to their targets and this holds for both, cash and equity offers (Dong *et al.* 2003). Rhodes-Kropf and Viswanathan (2004) show that “acquirers with high firm-specific error use stock to buy targets with relatively lower firm-specific error at times when both firms benefit from positive time-series sector error” while cash acquisitions are more common for undervalued targets and by acquirers with lower level of overvaluation (Rhodes-Kropf and Viswanathan, 2004, p. 46). Jensen (2005) perceives this as a managerial problem and refers to it as an ‘agency cost of overvalued equity’.

### ***C. Signalling Hypothesis***

The bidder’s shareholders together with potential outside investors do not know the true value of their shareholding. It is only after the acquisition announcement that more information about the transaction is revealed, which then allows market participants to adjust their judgement about the value of the bidder’s stock. If the managers of a bidding firm are convinced that the true value of their firm’s shares is higher than the current share price, they will prefer not to issue equity, suggesting cash instead (Myers and Majluf, 1984). Hence, the market may interpret the financing choice as a signal about a firm’s under- or overvaluation, revising the share price of the firm offering cash (shares) upwards (downwards). What is more, analogous to the signalling hypothesis as presented by Leland and Pyle (1997) where companies with good prospects and in good financial health should send a strong signal to the market prior to the IPO to raise more cash, the acquirer can show confidence in the prospective synergistic benefits and the

value of the target by choosing cash as a method of payment and forgoing options incorporating risk-sharing features. In other words, a cash bid is interpreted as a positive signal about the target's quality along with its predicted future performance. Therefore, the target's share price rises more in case of an all-cash deal than for an equity exchange. Overall, Fishman (1989) concluded that cash offers have lower signalling costs and they also pre-empt other firms from bidding.

Recapitulating, the currency used to acquire the target may be a signal that conveys information regarding the value of the bidder to market participants, hence decreasing information asymmetries between the firm's management, bidder's and target's shareholders, as well as outside investors (Myers and Majluf, 1984; Fishman, 1989; Agrawal and Jaffe, 2000; Goergen and Renneboog, 2004), or simply a way to mislead them.

#### ***D. Cash Flow Hypothesis***

An additional hypothesis is related to cash flows. The model developed by Jensen (1986) shows that managers of companies which produce cash flows in excess of profitable investment opportunities are more likely to waste the surplus on projects with a negative net present value. This has been supported by Ng and Young Baek (2006) who have also proven that acquisitions made by cash-rich bidders diminish operating efficiency. What is more, the managers are more likely to spend this surplus on projects which will increase their private benefits rather than to return the money to the shareholders, in the form of dividends or share buy-backs. Also McCabe and Yook (1997) argue that an acquisition of a target using cash will lead to a better alignment of incentives between the shareholder and the management; this is due to the reduction in free cash flows and possible increased indebtedness. Therefore, it is proposed to pressure managers into issuing more debt and paying out dividends in order to

discipline them and to avoid the agency problem (Jensen, 1986). This may be problematic because as it has been shown by Berger *et al.* (1997) managers prefer lower levels of leverage and such levels usually increase “in the aftermath of entrenchment-reducing shocks to managerial security, including unsuccessful tender offers, involuntary CEO replacements, and the addition to the board of major stockholders” (p. 1411).

### ***E. Investment Opportunity Hypothesis***

The last one is the Investment Opportunity Hypothesis. As shown by Myers (1977), firms with good growth opportunities prefer to issue equity rather than debt. The cash flow preservation is motivated by the willingness to take advantage of future investment opportunities (Chatterjee and Kuenzi, 2001), rather than using the cash flows to service future debt payments. Lang *et al.* (1991) and Jung *et al.* (1996) propose that equity gives more discretion in terms of the use of prospective cash flows than debt and allows firms to seize arising investment opportunities. Therefore, companies with good growth prospects will prefer to choose stock, whereas others will offer cash. This has been tested by Martin (1996), Jung *et al.* (1996) and Sehgal *et al.* (2012) and the empirical results are consistent with the theory.

## **1.4. RISK, UNCERTAINTY AND EARNOUTS**

The ‘Market for Lemons’ describes a setting in which one party has an information advantage, i.e. in our context, knows that the target is worth less and does not wish to share this knowledge with the buyer. An earnout is in fact a kind of a call option for the target’s shareholders. In this case the final payment depends on the target’s future performance and its ability to meet the predetermined goals (Reuer *et al.*, 2004). “By

tying the target's consideration in the acquisition to future performance, the earnout can bridge a valuation gap between the target and the acquirer that is caused by disagreement about the target's expected future performance" (Cain *et al.*, 2011, p. 152). The target's performance is usually assessed against some financial metrics (Hussey, 1990). The American Bar Association (2004) points out that earnouts can be based on different metrics measuring financial performance, with the most common ones being EBITDA, EBIT, pre-tax net income, gross profit or sales. However, the last criterion poses a serious threat from the buyer's perspective as it does not take into account the related costs (American Bar Association, 2004). When entering an earnout contract the bidder agrees to make a certain initial cash or stock payment to the target, as well as later payments of the earnout (fixed or variable amount based on a mathematical formula), which is contingent on the target's ability to achieve a pre-specified financial target (Sudarsanam, 1995). The duration of the earnout varies but in most cases the period of time specified in the contract ranges from 2 to 5 years, whereas the proportion of the acquisition value resulting from an earnout varies depending on the transaction but is rarely lower than 10-20%, as for a lower proportion the potential costs may outweigh the benefits (American Bar Association, 2004). "The fixed proportion of the acquisition price will pertain to that portion of the target's value on which both the acquirer and the target can agree, while the contingent portion reflects the difference between the target's and the acquirer's estimate value" (Cain *et al.*, 2011, p. 11). An example of a contingent payout agreement can be found in the *Appendices* section.

As pointed out by Lu (2010), information asymmetry may not be the only source of uncertainty. Given the above, this paper distinguishes between information asymmetry and a situation characterised by a high degree of uncertainty resulting from other factors. The companies may have diverging opinions regarding the company's outlook

and more specifically the prospective earnings that the target is supposed to generate. As already stated, “the target might think its value is higher simply because of an over-optimistic business plan. Only a target who really believes in its potential is really willing to accept an earnout” (Iannotta, 2010, p. 142). Scenarios illustrating situations where the cash flows are hard to predict include: a) a business in its first phase where there is very little data which could be used to extrapolate its performance, b) a company introducing a new product where its popularity with customers remains to be unknown, c) situations where the target has many intangible assets, d) a company in distress which should be restructured, however the success of such restructuring is unknown as it depends on many external factors, e) a firm from an industry which might be affected by an external shock causing a change in the historical rates of return, or f) where the success of the business is dependent on the commitment of the owner/management in the post-acquisition phase (see for example Officer *et al.*, 2009). Looking at the aforementioned scenarios, we see that future earnings are to a large extent dependent on the direction in which the company, the product, the management or the industry will go.

However, in the case of contingent payout agreement the risk of overvaluing, thus overpaying for the target firm is reduced. “Although earnout provisions may alleviate private information problems, these arrangements can also influence the incentives of the party managing the selling firm’s assets post acquisition” (Datar *et al.*, 2001, p. 202). In situations where the target’s management has to continue running the company the buyer may become worried about the seller’s incentives (Holmstrom, 1979) and align these through the use of a contingent payout agreement (Ouchi, 1979). It has been pointed out that earnouts can also be used as a risk management tool (Deloitte, 2011). Such a contract can facilitate the deal by bridging the valuation gap resulting from differing opinions regarding investment outlooks, accounting for a big portion of the

uncertainty involved in a transaction. In short, “an earnout can be presented as a method to overcome the buyer’s struggle in determining the present value of future growth of the target company” (Nyman and Ohlsson, 2010, p. 15). As summarised in the paper by Cain *et al.* (2011), its design is dependent on the uncertainty regarding the target’s value, its growth opportunities and the degree to which the firms will be integrated post-acquisition.

Apart from the benefits of a contingent payout agreements associated with overcoming information asymmetries and valuation risk, they may be helpful in distinguishing superior targets among others of lower quality. More precisely, only the firms that are capable of achieving the required results will accept an earnout (Ang and Kohers, 2000). Additionally, the bidder can benefit from the deferred payment by not being required to raise funds to finance the acquisition immediately (Sudarsanam, 1995).

## 2. EMPIRICAL EVIDENCE: INFORMATION ASYMMETRY

### 2.1. RESEARCH ON MERGERS AND ACQUISITIONS

On average M&A destroy rather than create value. However, this result can depend on the characteristics of the deal. It has been shown in the literature examining US and UK market that acquisitions of public targets do not create value (see for example Asquith, 1983, 1987; Holl and Kyriazis, 1997; Draper and Paudyal, 2006; Fueller *et al.*, 2002; Moeller *et al.*, 2004; Conn *et al.*, 2005), but private targets do (see for example Hansen and Lott, 1996; Chang, 1998; some of the above papers or da Silva Rosa *et al.*, 2001 for the Australian market). What is more, small acquirers outperform large ones (Moeller *et al.*, 2004) and bidder's returns decrease with the relative target-bidder size (see Jensen and Ruback, 1983; Jarrell and Poulsen, 1989; or Servaes, 1991), but the opposite occurs in case of private acquisitions (Fueller *et al.* 2002). 'Glamour' acquirers tend to destroy value (Rau and Vermaelen, 1998), whereas Lang *et al.* (1991) and Servaes (1991) find that high Q bidders have higher announcement abnormal returns but the opposite is claimed by Moeller *et al.* (2004). Maloney *et al.* (1993) examined influence of leverage on M&A and prove that announcement-period acquirer returns are higher when the leverage of the bidder is higher. There is no consensus on diversifying acquisitions. While Morck *et al.* (1990), Lang and Stulz (1994) or Berger and Ofek (1995) argue that they destroy value, others including Billett and Mauer (2000) or Hadlock *et al.* (2001) find that these transactions generate positive, although small abnormal returns.

Eun *et al.* (1996) argue that cross-border M&A can result in wealth gains, in particular when the bidders acquire targets with R&D competencies. However, as discussed previously, cross-border M&A are associated with additional risks and higher



information asymmetries (Boeh, 2011). Moeller and Schlingemann (2005) when studying around-the-announcement stock performance of US bidders for years 1985-1995 noted that the returns in cross-border acquisitions are lower than those in the domestic ones (this difference in returns is defined as “the cross-border effect”). Moreover, they discover that acquisitions resulting in an increase of international and industrial diversification demonstrate lower announcement returns compared to other cross-border deals. Another study by Conn *et al.* (2005) shows that cross-border takeovers of public targets generate zero returns around the announcement. Yet another research examining 207 cross-border acquisitions by US financial companies during the 1989-1999 period finds that cross-border bidders experience insignificant positive around-the-announcement returns but these vary depending on the location of the target (Kiymaz, 2004). After looking at international acquisitions by US MNCs it has been found that if the corporation expands to the target’s country for the first time, it experiences significantly positive excess returns, especially high when the acquisition involves geographical and industrial diversification (Doukas and Travlos, 1988). At the same time, the evidence provided by Chari *et al.* (2004) shows that the market reacts positively to cross-border acquisitions of targets located in emerging countries by acquirers from developed markets and this effect can be attributed to transfer of majority control. Also, “contrary to general perception, cross-border acquisitions perform better in the long run if the acquirer and the target come from countries that are culturally more disparate” (Chakrabarti *et al.*, 2009, p. 1). In a broader context, it has been argued that global diversification does not destroy firm value (Doukas and Kan, 2006). What is more, Goergen and Renneboog (2004) having investigated large intra-European bids discovered that target firms gain 9% but the buyers can appreciate in value only by 0.7% on average - this is largely dependent on deal characteristics, with hostile takeovers generating more value than friendly ones, UK targets and bidders

creating more value than Continental European bids and high market-to-book targets causing negative price reaction for the bidder. They also mention that the method of payment in a deal is an important determinant of the acquisition's success. The next section elaborates on the effect of the particular methods of payment on acquirers' returns.

## 2.2. RESEARCH ON CASH AND STOCK OFFERS IN ACQUISITIONS

### *A. Returns*

As noted before, method of payment has important implications for the shareholder returns in M&A (Myers and Majluf 1984; Travlos 1987). Empirical evidence provided in the literature regarding the effect of cash and stock acquisitions on shareholder returns is quite extensive for domestic takeovers and generally supportive of the theory described in the preceding chapter. Overall, the returns to the bidding firm's shareholders from an acquisition are, taking the most favourable view, slightly positive but usually notably negative (Roll, 1986; Bradley *et al.*, 1988). However, Asquith *et al.* (1987) and Loughran and Vijn (1997) have anticipated that negative returns are a consequence of using stock as a method of payment (in the short run and long run). Sudarsanam and Mahate (2003) provide evidence for this finding for the UK market. Also, Fueller *et al.* (2002), Moeller *et al.* (2004) and Faccio *et al.* (2005) show that stock transactions generate losses in the short run. This is in line with Travlos (1987) who found that stock-only acquisitions usually lead to significant losses, but cash-only acquisitions bring 'normal' returns. Whereas, Wansley *et al.* (1983a) discovered that returns are significantly higher in acquisitions using cash when compared to stock exchanges. Contrary to the original expectations, it has been concluded by Chang (1998) that, on average, bidding firms do not experience abnormal returns in cash

offers; such gains are observed in stock offers for private companies, whereas employing an equity exchange to acquire publicly listed companies produces negative abnormal returns to the bidding firm's shareholders. Similar evidence for domestic takeovers by UK firms is obtained by Conn *et al.* (2005), who also note that in international acquisitions the effect of method of payment on bidders' wealth is insignificant. Another study finds that in relatively larger deals acquirers have a restricted choice of payment currencies and investors value stock bids higher than cash offers, which contradicts the signalling hypothesis (Goergen and Renneboog, 2004). Eckbo *et al.* (1990) identified a separating equilibrium in which the true value is revealed when using a mix (cash/equity); the monthly returns for such an offer brought large, significant abnormal returns. One additional consequence of a method of payment is the premium paid. Payments in equity received from bidders with weaker shareholder protection will have to be higher to compensate for the extra risk taken (Starks and Wei, 2013).

### 2.3. RESEARCH ON EARNOUTS IN ACQUISITIONS

#### *A. Returns*

There is limited data about the effect of use of earnout contracts on bidders' returns from M&A transactions. A study by Ang and Kohers (2000) discovers that the employment of the earnout contract results in positive announcement returns for the acquirer. What is more, these gains are significantly higher for earnouts than other methods of payment (Barbopoulos and Sudarsanam, 2012). Mantecon (2009) studies the effect of various methods of uncertainty avoidance, including all-in-stock payment, equity joint ventures, earnouts plus toehold investments on returns of cross-border acquirers. One of the findings of his research is that while the application of an earnout

contract generates value for domestic acquirers, cross-border bidders do not benefit from its use. Ang and Kohers (2000) also find that in case of higher information asymmetries for bidders acquiring private targets the use of earnout results in considerably higher event period abnormal returns for the acquirer compared to cash or stock transactions. A recent study by Conn *et al.* (2005) advocates that in cross-border deals the method of payment (cash or stock) does not affect the stock performance significantly, because unlike the domestic bidders that often acquire targets with overvalued equity, cross-border acquirers exercise greater due diligence before entering the deal.

### ***B. Likelihood of Using an Earnout***

Datar *et al.* (2001), having investigated the probability of using an earnout in cross-border acquisitions, proves that cross-border deals are less likely to bring into play earnout as a method of payment when compared to the US domestic deals. They explain this result by target's unwillingness to accept deferred payments because of possible future conflicts arising from discrepancies in calculations of the payment amounts resulting from the difference in accounting practices. Recent research identifies other motives behind the decision to use earnouts. Reuer *et al.* (2004) after examining the determinants of contingent payout utilisation during 1995-1998 find that US bidders choose this method of payment when they acquire targets in the services sector, high-tech industry or when they have no previous acquisition experience. Furthermore, contingent payout is most likely to be used when there are few acquisitions taking place within a given industry and when the target is a small private firm in an industry different from that of the bidder (Datar *et al.*, 2001). The same is true for subsidiaries, targets from high-technology industry, goodwill-intensive businesses but also private companies in general (Datar *et al.*, 2001). These examples support the supposition of

Cain *et al.* (2011), who study the specific factors influencing contract design. They show that earnout contracts are most preferable when high information asymmetries are involved and when moral hazard problems are likely to arise. The paper also provides evidence that the amount of the contingent payout agreement is related to the information asymmetries (proxies) and the period of uncertainty (Cain *et al.* 2011).

It can be noticed that the amount of literature devoted to earnouts is not particularly extensive. In addition, from the above summary of the existing work on the aforementioned topic we can see that very little research has been carried out analysing UK acquirers involved in cross-border acquisitions. This study aims to fill this gap in the literature by looking into factors increasing the probability of using a contingent payout agreement in a domestic and cross-border context. It aims to include a whole range of deal characteristics - deal-specific, country-specific but also taking into account business cycles and market volatility in order to develop a better understanding of dynamics of M&A processes while at the same time analysing risk and uncertainty. The subsequent chapter presents the reader with the research hypotheses.

### 3. RESEARCH HYPOTHESES

#### 3.1. HYPOTHESES

The review of literature section gave a brief overview of what has been written until today on the topic of methods of payment in cross-border acquisitions. Thus, we know that cash has low signalling costs but also does not allow for risk-sharing in the post-acquisition phase. On the other hand, stock payments enable the buyer to shift some of the risk towards the target but they also convey negative information regarding the market's overvaluation of the underlying securities. The third mode of consideration is the contingent payment agreement which does not have such a strong signalling effect as cash but permits some risk-hedging. The general hypothesis in this paper is that earnouts are more likely to be used in circumstances where the transaction is risky or where the information sets of the buyer and the seller differ significantly. Due to the distinctiveness of international acquisitions Lee and Caves (1998) argue that companies involved in such transactions experience higher profit ambiguity. Also Reuer *et al.* (2004) note that valuation problems are particularly pronounced in such a context. This is because acquirers involved in international transactions encounter different accounting standards and disclosure practices increasing their transactions costs (Markides and Ittner, 1994; Datta and Puia, 1995) and impeding the process of due diligence. "The internationalisation of assets into the buyer's operational structure is further complicated by cultural peculiarities that determine how strategies are formulated and business is conducted. Acquiring firms may also encounter legal systems with different protection of property rights, a factor that adds uncertainty to future cash flows" (Mantecon, 2009, p. 640). Boeh (2011) discovers that firms involved

in cross-border M&A are more likely to employ mechanisms to reduce information asymmetry compared to those involved in domestic deals. Moreover, there may be additional agency costs arising in the post-acquisition phase where the target's value is dependent on the 'current' owners or managers (Datar *et al.*, 2001).

Based on the literature discussed above, we formulate the following hypothesis:

Hypothesis 1

*The deal-specific features reflecting higher asymmetry of information or higher risk will increase the likelihood of employing an earnout as a method of payment*

We also believe that the asymmetry of information will be higher for transactions where the target and the acquirer are located in different countries.

Hypothesis 2

*The likelihood of using a contingent payment agreement will be higher for cross-border transactions than for those undertaken domestically, ceteris paribus*

However, we also keep in mind that the target country characteristics may have an impact on the riskiness or the level of information asymmetry of the transaction in question.

Hypothesis 3

*The country-specific features reflecting either higher asymmetry of information or risk level will increase the likelihood of using a contingent payment agreement in the transaction*

### 3.2. SELECTION OF VARIABLES

The above hypotheses have been formulated on the basis of conclusions drawn from the reviewed literature regarding methods of payment in M&A but also on our predictions about information asymmetries and all signalling effects implied by the chosen payment currencies. The examination of the above assumptions required a collection of suitable variables all of which are discussed in the following section.

#### *Ownership*

Research suggests that private targets experience higher discounts than public companies which are usually characterised by more dispersed ownership structures (Koeplin *et al.*, 2000) and are linked to higher transactions costs, discouraging acquirers to engage in deals with large investment outlay (Shen and Reuer, 2005). Also, “the process of going public can reduce information asymmetries because information about the target company may be revealed through a variety of sources, including roadshows and through the disclosures required for registration and listing” (Reuer, 2005, p. 17). This means that public targets exhibit lower levels of information asymmetry as the law requires them to follow certain financial regulations and to regularly provide financial data to investors (Datar *et al.*, 2001). Due to the above arguments it is predicted that earnouts will be a lot more popular in acquisitions of private, rather than public targets in cross-border acquisitions (UK regulation does not permit the use of earnouts in acquisitions of public targets based in the UK). Another ownership structure included in this research is a joint venture. This already is a way of improving the information asymmetry (Mantecon and Chatfield, 2007). Given that such an investment results in resolution of such asymmetries and usually leads to a full acquisition (Nanda and Williamson, 1995), we put forward that earnouts should be less popular in transactions involving joint ventures and the same should hold for subsidiaries as most of the



information should have been obtained by the buyer prior to the acquisition. Given the above, we include in our analysis dummy variables to indicate whether the company being acquired is public, private, a subsidiary or a joint-venture.

### *Size*

Reuer and Ragozzino (2009) propose that “the value of using an earnout-will be greater in a full acquisition in which a larger investment outlay is made” (p. 8). Smaller targets are easier to integrate; hence, even in a situation where we are dealing with a potentially risky target - its probable impact on the valuation of the newly created entity might be negligible, reducing the willingness to get involved in time-consuming and costly drafting of an earnout contract. Previous researches have shown that purchasing more expensive targets relative to the size of the acquiring company may point at managerial motives behind the transaction, such as empire-building (see Shleifer and Vishny, 1989; Roll, 1986; Morck *et al.*, 1990). For this reason large relative size might mean, quite counter-intuitively, that the management of the acquiring company might be less inclined to choose a contingent payout agreement. Despite this last argument we put forward that larger relative size should encourage the use of earnouts.

Apart from the relative size we also add a logarithm of the deal value and sales which is a proxy for size. Overall, the integration of a bigger target is much more challenging than of a smaller one. Hence, in line with Reuer and Ragozzino (2009), we put forward that the likelihood of using an earnout will be positively related to the value of the stake acquired. We also use a ‘percentage of shares acquired’ variable as acquiring a larger proportion of the target can be potentially more risky.

### *Financial Health*

Another aspect which tries to reflect the volatility of the business is the gearing of the target. Targets with a higher gearing can be expected to have higher cash flows variance. Increased level of debt means that future shareholders may experience major adverse changes in the share price in case of lowered cash flow levels. Given that the acquisition process may add up to the overall volatility of the business, the new owners should have a much greater interest to insure themselves against a situation in which there is a significant decline in the value of the target after it has been acquired. Hence, we are expecting deals involving heavily geared targets to be associated with a higher probability of using a contingent payout agreements. On the other hand, we can look at targets with high cash-to-assets ratios which should be a lot less risky as the accumulated cash reserves can act as a buffer to any shocks the company may experience. For this reason we expect acquirers purchasing cash-rich targets to be less inclined to use an earnout.

### *Acquisition Experience*

It has been put forward that acquirers may develop skills which help improve the performance of their M&A deals given their past experience (Vermeulen and Barkema, 2001). Furthermore, Barkema *et al.* (1997) and Dyer and Singh (1998) have proposed that such companies may exhibit superior partnering capabilities. Following Johanson and Vahlne (1977), the risk levels enjoyed by companies with a wider spectrum of M&A experience will be substantially lower than those for inexperienced firms. Hence hedging, e.g. using earnouts, diminishes with the level of acquirer's experience, both domestic and international. We define acquisition experience as the number of acquisitions before the focal transaction.

### *MBO*

Management buyouts are also present in our sample and given that the acquirers have been running the company in the past, there is very little information which they already do not have. Therefore, the likelihood of using an earnout in acquisitions should be greatly reduced when management is on the buy-side of the transaction, hence we include an ‘MBO’ dummy.

### *Industry*

The problem of differing information sets is especially pronounced for bidders that are acquiring targets in unrelated businesses (Reuer *et al.*, 2004). If the acquirer and the target are from the same industry, they may have better information about resources, suppliers, market demand, operational arrangements, etc. (Gordon, 1991). The opposite should hold for inter-industry deals (see e.g. Koh and Venkatraman, 1991; Montgomery and Hariharan, 1991). The existence of such information asymmetries may induce the buyer to hedge the risk by employing an earnout contract. On the other hand, targets involved in inter-industry acquisitions may find it harder to signal the true value of their resources (see e.g. Ravenscraft and Scherer, 1987; Balakrishnan and Koza, 1993) explicitly requesting a contingent payment offer. Given the above, we introduce two different dummies. One is the ‘Same Macro Industry’ dummy and the second dummy (‘Same SIC’) is slightly more specific and based on 5-digit SIC codes.

Similarly, we include a variable ‘high-technology’ to account for high-growth companies with unproven technologies which invest vastly in research and development as these tend to own non-tangible assets which cannot be recorded on a balance sheet, making them more difficult to value (Amir and Lev, 1996; Datar *et al.*, 2001). What is more, the assessment of transferability of those non-tangible assets is limited during the negotiations process (Coff, 1999). We incorporate a variable which represents

companies from the services sector ('services') as their valuation may be highly dependent on the goodwill items whose worth might change in the post-acquisition phase. Overall, the above variables are included based on the assumption that earnouts are more likely to be employed in the purchases of high-growth companies with non-tangible assets which are not documented in the balance sheet.

### *Cross-border*

As pointed out in the previous sections cross-border deals are more complex. What is more, Harris and Ravenscraft (1991) show that there are fundamental differences between domestic and international acquisitions - at a government, market and capital markets level. Cross-border transactions involve greater information asymmetries (Reuer *et al.*, 2003) and hence we expect that international deals will more often employ contingent payout agreements.

### *GDP Growth*

We investigate real Gross Domestic Product growth, as the ease of reaching a decision whether or not to invest in a rapidly growing economy vs. one which develops at a slower pace may be different. Luypaert and Huyghebaert (2007) point out that companies may be somewhat hurried to invest in countries which are growing to benefit from the momentum and/or look to increase operating capacity. This has been supported by Steiner (1975) and Guerard (1985 and 1989) who found a positive relationship between GDP growth and M&A activity.

### *Risk & Stability*

It has been shown by Méon and Gassebner (2010) that political risk decreases M&A flows. As such behaviour is most probably caused by risk-aversion, we assume that earnouts might be more popular where the political instability is more severe. Also,

lower market returns and volatility add to the riskiness of acquisitions, we therefore hypothesise that earnouts might be used more often in times of lower stock market growth and bigger deviations from the mean.

#### *Physical Distance*

“The Church-Tower Principle implies that the difficulty for the lending bank in assessing the default probability of a borrowing firm increases with the distance to it” (Carling and Lundberg, 2002, p. 16). We can extend this framework to M&A transaction and state that you should only engage in business in a proximity to your own location simply because you know the market. This also explains home bias, i.e. investors’ preference to invest in firms located in their proximity (see for example Coval and Moskowitz, 1999). Basu and Chevrier (2011) provide evidence that larger distance in M&A leads to lower abnormal returns for the acquiring company and greater likelihood of using stock as a medium of exchange. Given the fact that larger distance may mean higher information asymmetries, we include this variable in our model.

#### *Legal System*

As shown by La Porta *et al.* (1998) methodology, we adopt the type of legal system in a given country as a proxy for investor protection, as contract enforcement and protection of acquirer’s interests might be more difficult in civil law systems (La Porta *et al.*, 1997). This means that the riskiness, as perceived by the shareholders, should be lower for projects which are based in common law countries. We bring in a dummy variable, which equals one if the target is from a common law country, zero if it is civil law to control for those differences.

### *Language*

Following a similar line of reasoning, we include a ‘language’ dummy. The underlying assumption is that valuation of targets located in countries with the same official language will be simpler because the process of gathering information will be easier and less costly. The dummy is equal to 1 if English is considered to be the official language in the target country and zero otherwise.

### *Targeted Market*

Several macroeconomic variables are present in this analysis in order to consider their effect on the probability of using an earnout in both, cross-border and domestic deals. We include a ‘Developing’ dummy, which takes the value of one if the target is from a developing country, according to The World Factbook (2009) classification, zero if it is already developed. We expect that if a firm acquires a target in a developing country, the potential need to ‘insure’ the transaction will be greater as there will be more unknowns involved in the acquisition process (see Chae *et al.*, 2009).

### *Year effects: Business Cycles, Waves, Herding*

Macroeconomic factors, other than those listed above may influence the results of our investigation. Martin (1996) argues that the business cycle phase is likely to affect the choice of the payment currency - stock acquisitions may be preferred by bidders in periods of stock market expansion. Taggart (1977), Marsh (1982), Choe *et al.* (1993) have shown that the likelihood of using stock is higher in times of increased economic activity. In the last paper, the authors claim that in such circumstances firms face lower adverse selection costs, greater stability in asset prices together with better investment opportunities. In addition, plentiful changes in M&A regulation, financial and legal environment took place over the sample period. As put forward by Yook (2003),

characteristics of particular episodes of M&A activity may influence the results of the study. Despite of the lack of empirical support for this supposition, we account for year effects by including year dummies.

The variables which are included in this analysis are listed in the table below with the expected effect on the likelihood of using a contingent payment agreement.

[Insert Table 1 around here]

## 4. DATA AND METHODOLOGY

### 4.1. DATA AND SAMPLE STATISTICS

The dataset has been collected from Thomson ONE Banker provided by the Thomson Financial Securities Data Corporation (UK database). It consists of mergers and acquisitions by UK public companies (listed on the London Stock Exchange) that took place between January 1, 1983 and December 31, 2012. The choice of the location of the acquirer has been motivated by fairly low number of publications on earnouts which study European transactions, the high level of M&A activity in the United Kingdom when compared with the rest of the countries in the region (WIR, 2015) and its physical proximity but different legal system when compared with the neighbouring nations. The data represents a set of transactions announced over the above period (completed, pending and withdrawn). However, it only includes deals that have the following characteristics. Firstly, the transaction has to involve a change in control. Secondly, bidders and targets classified as financial institutions have been removed from the sample, as they may be subject to different degrees of information asymmetry. The final sample includes 37,099 transactions, 26,668 (71.89%) of which are domestic and 10,431 (28.11%) are cross-border. Targets are located in 150 countries around the world.

[Insert Table 2 around here]

Basic sample statistics are presented in Table 2. It can be seen that the majority of cross-border acquisitions took place in the US (31.89% of all cross-border deals). Earnout is employed as the payment currency in 9.18% of all transactions; the proportion is slightly higher for cross-border deals (9.70%) than in case of domestic deals (8.97%).



Most targets acquired abroad or domestically are private companies (55.97% and 57.27%, respectively). Acquisitions of targets in related industry make up over 68.89% of all takeovers (domestic/cross-border).

‘Mean Deal Value’ is USD 106.48 million, while the ‘Median’ is USD 8.35 million, which shows that the observations within the sample are relatively dispersed in terms of size. The average percentage of shares acquired is 95.65%, whereas the average percentage of shares owned after the transaction is 97.95%. In case of cross-border transactions 13.79% of targets are located in developing countries, 37.55% in English speaking countries, and 43.54% in places with the same legal system.

[Insert Figure 1 around here]

Figure 1 depicts the yearly distribution of the deals within the sample, which is consistent with the merger activity pattern (merger waves) described by Martynova and Renneboog (2005). That is, we observe a larger number of deals taking place during the market boom of 1988-1989, a decline in merger activity during 1991-1993 followed by a rise of the number of M&A in the late 1990s, which ended with a sharp downward correction at the period of the ‘dot-com’ market collapse. Another rise of the merger activity is to be seen during 2004-2007, which changed into a downturn in 2008-2012. Also, it is highly likely that our data set misses particularly many observations in the 1980s when information on transactions was not as well recorded and disseminated as it is now.

## 4.2. UNIVARIATE AND MULTIVARIATE ANALYSIS

For the purpose of the univariate and multivariate analyses we have used both qualitative and quantitative variables with the following definitions.

[Insert Table 3 around here]

Given the obtained data, we first run a number of univariate tests to see whether the probability of using earnouts differs depending on deal or country characteristics. However, this framework is very limited. To get a deeper understanding of the drivers behind the decision to incorporate an earnout in a transaction we include a series of Probit Models. The multiple regression analysis contains the described above control variables which we expect to have an effect on the probability of choosing a contingent payout agreement.

In the Probit Model, we take account of deal- and country-specific characteristics. This methodology allows us to understand characteristics which encourage targets to employ a contingent payment agreement over any other payment method. It also enables us to observe the interaction of these characteristics. The CDF model is the following:

$$\text{Pr}(\text{Earnout} = 1) = \Phi(\alpha + \sum_{i=1}^n \beta_i X + \varepsilon), \text{ where}$$

$\alpha$  - intercept,

' $X$ ' - vector of independent variables, ' $X$ ' = [ $X_1, X_2, \dots, X_n$ ],

$\varepsilon$  - error term.

A series of dummies helps to observe their effect on all the transactions recorded in our data set and a sample model for cross-border acquisitions is presented below:

$$\begin{aligned}
& \text{Pr}(\text{Earnout} = 1) \\
&= \varphi[\alpha + \beta_1 \text{Dummy 'SameMac'} + \beta_2 \text{Dummy 'Public'} \\
&+ \beta_3 \text{Dummy 'Private'} + \beta_4 \text{Log Deal Value} \\
&+ \beta_5 \text{Shares Acquired}(\%) + \beta_6 \text{Dummy 'High - technology'} \\
&+ \beta_7 \text{Dummy 'Services'} + \beta_8 \text{Dummy 'MBO'} + \beta_9 \text{Market Return} \\
&+ \beta_{10} \text{Market Volatility} + \beta_{11} \text{Distance} + \beta_{12} \text{Dummy 'Law'} \\
&+ \beta_{13} \text{Dummy 'Language'} + \beta_{14} \text{Dummy 'Developing'} + \varepsilon]
\end{aligned}$$

We estimate the coefficients  $[\alpha, \beta_1, \beta_2, \dots, \beta_{14}]$  using a normal Cumulative Distribution Function. A more detailed description of the models' specifications is available in the *Results and Evidence* section, which outlines the observations of the analyses.

## 5. RESULTS AND EVIDENCE

### 5.1. UNIVARIATE ANALYSIS

After investigating the dataset, we find that around 9.18% of all transactions are carried out using a contingent payout agreement. The difference between this proportion in domestic (8.97%) and cross-border (9.70%) transaction is small (0.73%), but statistically significant. Deals involving targets from different macro industries do utilise more earnouts (11.51% vs. 8.13%). Also, ‘high-technology’ and ‘services’ targets are more often bought using a contingent payout agreement than non-high-technology or non-services targets (H: 15.44% vs. 8.34% and S: 11.74% vs 8.65%). ‘MBO’ transactions do use earnouts but as predicted by theory these are less common than when there is managerial involvement (1.83% vs. 9.23%). We also look at how these variables change when we control for whether it is a domestic or a cross-border transaction and discover that earnouts are used more often when buying targets from the same macro industry abroad rather than at home (9.38% vs. 7.66%). The same is true for ‘Same SIC’ transactions (9.41% vs. 6.19%). When studying MBO, ‘Services’ and ‘High-technology’ transactions we see that the difference is statistically insignificant.

Another part of our analysis involves cross-border variables and we conclude that acquisitions of companies located in developing countries do not involve earnouts as often as those located in developed countries (6.76% vs. 9.28%). Common-law targets are more often bought using contingent payout agreements and same is true for countries with the same official language but these two variables are highly positively correlated with each other. All of the above differences are statistically significant.

[Insert Table 4 around here]

## 5.2. MULTIVARIATE ANALYSIS

The enclosed table exhibits the outputs from the multiple regressions estimated using a series of probit models, which enable us to look at the relationship between the probability of using an earnout as a method of payment and a number of variables which reflect various aspects of information asymmetry discussed in the previous chapter. As outlined in the *Methodology* section, the variables which have been chosen for the models relate to macro and micro setting of any deal.

### *A. Earnouts - Overall Sample*

The first step taken in order to get a better understanding of patterns which can be observed in the aforementioned dataset was running an ‘overall’ regression, i.e. a model which uses the whole dataset without breaking it down into ‘domestic’ and ‘cross-border’ (All). First, we test the Hypothesis 1 and investigate whether the deal-specific characteristics have an impact on the probability of using an earnout. The models incorporate the knowledge of the target’s macro industry and more specifically 5-digit SIC code. Acquirers purchasing shares in companies with the same SIC code are less likely to use contingent payout agreement (marginal effect -0.0257/-0.0248, All IV, All V); this is also true for targets operating in the same industry as the acquirer (marginal effect between -0.0214 and -0.0175, All I-III). As shown in the previous studies, the probability of utilising an earnout contract is significantly higher when the target is from a ‘services or ‘high-technology’ sector, increasing the chances by ~6% and ~8% respectively (All I-VI). The percentage of shares bought is statistically significant and positive, as expected, but the effect is rather small (marginal effect 0.0008-0.0013, All I-VI). A similar conclusion can be reached looking at the deal value of the transaction where the effect is positive, statistically significant but relatively small (marginal effect 0.0031-0.0038, All I-III). These models show that, as supported by extant literature,

transactions involving ‘public’ targets significantly decrease the probability of using an earnout (marginal effect between -0.1279 and -0.0913, All I-III, this is only possible in cross-border acquisitions), whereas those involving private targets show the opposite trend (marginal effect 0.1384-0.2946, All I-VI). All of the above results are in line with Hypothesis 1. Surprisingly, transactions involving subsidiaries and joint ventures increase the likelihood of using an earnout (All IV-VI). On the other hand, as expected, MBO transactions involve such contracts less frequently (marginal effect between -0.0934 and -0.0771; All I, II, IV, V) but the probability is also negatively related to sales (marginal effect between -0.0112 and -0.0076). Then we test the second hypothesis which puts forward that cross-border transactions should show higher asymmetry of information. Therefore, we expect them to utilise earnouts more often, however, we find that the effect is negative (but insignificant, All I-VI). In the end we look at the third hypothesis and investigate country-specific features. One surprising result is a positive effect of GDP growth (marginal effect 1.8488, All VI). Although expected to be significant, past acquisition experience does not seem to play a role in the overall sample (only one model with significant variable and very small effect -0.0009 but negative so in line with theory, All VI). Market return, volatility (control variables) and political stability are insignificant (All II, III, V, VI). The latter result is not in line with the predictions. The pseudo-adjusted R2 ranges from 9.94% to 13.04%.

[Insert Table 5 around here]

### ***B. Earnouts in Domestic Deals***

As in case of the overall model, we find that the SIC dummy is negative (marginal effect -0.0416/-0.0390; Domestic III, IV) and significant. The same is true for Macro Industry dummy but the effect is slightly smaller (-0.0342/-0.0346; Domestic I, II). Also, ‘services’ and ‘high-technology’ exhibit a similar pattern where both categories

increase the chances of observing an earnout being used in a transaction (Domestic I-IV). Sales have again a negative impact and are highly significant which contradicts our hypothesis (Domestic III-IV). This is also true for deal value which has a negative effect (marginal effect -0.0093/0.0081, Domestic I-II). This might be due to the fact that in the light of the UK Takeover Code, earnouts can only be utilised in acquisitions of private targets which are on average smaller than listed companies. The percentage bought has positive effect on the probability of using an earnout (Domestic I-IV). The above result is in line with our expectations. The effect for subsidiaries and joint-ventures is negative and significant which unlike the results for the overall sample is in line with our predictions (Domestic III-IV). In accordance with theory, managerial involvement has a strong negative effect (marginal effect between -0.1156 and -0.1070, Domestic I-IV). Apart from the effect for deal value and sales, the results which are statistically significant support our first hypothesis and show that information asymmetry indeed increases the likelihood of using an earnout. The control variables - market return and volatility are of no significance (Domestic II, IV), whereas unexpectedly only those acquirers who have been involved in international acquisitions will be less inclined to use earnouts (Domestic IV) - domestic experience is of no importance (Domestic I, III). The models have an explanatory power of 4-8% and all the regressions run in this subset are significant.

[Insert Table 6 around here]

### ***C. Earnouts in Cross-border Deals***

Although we predict that both ‘Same SIC’ and ‘Same Macro Industry’ should play a role also in a cross-border context our data shows that these are statistically insignificant (CB I-VIII). Assessing the importance of the other deal-specific characteristics, we find that as in the two previous sections, both ‘high-technology’ and ‘services’ sector targets

increase the likelihood of using an earnout (CB I-VIII). The effect of the percentage of shares acquired is still positive and significant as in the overall regressions but small in case of cross-border transactions (marginal effect 0.0016-0.0022, CB I-VIII). The log of the deal value plays no role but the negative effect of sales is still present and significant (marginal effect between -0.0080 and -0.0071, CB V-VIII). For cross-border transactions involving 'public' targets there is a strong negative effect of earnouts (marginal effect between -0.1042 and -0.1224, CB I-IV) and a positive one for 'private' companies (marginal effect 0.1199-0.2479, CB I-VIII). The results for joint venture and subsidiaries are positive and significant (CB V-VIII). Market volatility, return (CB II-IV & VI-VIII) and political stability (CB III and VII) have no influence on the likelihood. At the same time cross-border experience lowers the probability of using a contingent payout agreement, which is in line with the hypothesis. In one model GDP growth (CB VI) does have a positive and rather strong effect, which contradicts prior expectations.

The next set of variables incorporates cross-border characteristics in order to test the third hypothesis. We find that the distance between the target and the acquirer is of marginal importance and negative but statistically significant and this opposes our predictions but might be related to the fact that bulk of cross-border deals involves targets from the US (CB IV). We also show that earnouts are more likely to be used when the target is located in a developing country (marginal effect close to 0.0543, CB IV). On the other hand, the legal system also seems to play a role. Targets from common law countries are more likely to be engaged in a contingent payout agreement (marginal effect 0.0486, CB IV), which is in line with the previously discussed theories that countries of English legal origin have the highest corporate governance standards with respect to shareholder protection and therefore offer better law enforcement. The above results support our hypotheses. Language of the target country is insignificant



(CB IV, VIII) and the explanatory power of the models as specified in the cross-border context is between 8.91% and 16.80% and all the models are still significant.

[Insert Table 7 around here]

According to Spillman (2004), lawyers, accountants, M&A consultants and others typically involved in an acquisition process agree that in majority of cases earnouts do not fulfil their purpose. Although, they can help to 'close' a deal they, often bring 'enforcement' problems in the post-merger phase (Cunningham, 2007). If the bidder expects legal complications in the future (especially likely in codified law systems) or knows that the target may be reluctant to accept it, he may forgo the inclusion of such a contract even when the information asymmetries are there. Ideally, an earnout contract should specify target's obligation for all future contingencies and for all periods until the end of the contract, but such solution is not viable. What follows is, one should only consider such a contract, if the bidder trusts that his relationship with the target will be good after the takeover (Blayney, 2005). "An earnout that makes sense in principle can become a disaster due to poor drafting, inattention to details and the law of unintended consequences" (Spillman, 2004). These can explain why they fail to generate value in domestic acquisitions, even more so in cross-border transactions where information asymmetries are stronger. Besides, international deals involve different accounting standards, legal systems, practices, etc. which may make the drafting of a close-to-optimal contract more complex. Coopers and Lybrand (1993) carried out a survey in which they investigate 100 top companies' causes of failures and triumphs after the acquisition. Two out of three most commonly cited causes of unsuccessful transactions - target management attitudes and cultural clashes, and poor knowledge of industry or target - are exacerbated in the context of cross-border M&A. Also, some of the target countries may make short-run manipulation of the financial performance measures

stated in the contract much easier. Although such practices, if not prohibited by the contract, guarantee the target the rest of the payment, they can prove to be deleterious to the acquirer. This together with the impossibility of creating an exhaustive contingent payout contract unravels why earnouts perform worse than initially expected.

#### ***D. Robustness Checks***

We also check the models' robustness by adding variables with relatively few observations and so when investigating the overall sample we see that by including variables controlling for gearing (All I), cash-to-assets ratio of the target (All II) and the relative size of the deal (All III), the 'Same Macro Industry' becomes insignificant, also managerial involvement seems to be of no importance. The SIC or the macro sector of the target also has no importance if we split the dataset and look separately at the domestic sub-sample (Domestic I-VIII) while controlling for gearing and the relative size which are insignificant. When accounting for gearing, relative size or cash-to-assets ratio in a cross-border setting we see that 'Sales' becomes insignificant (CB I, II). Also, the effect of percentage of shares acquired becomes inconsistent throughout the models (CB I-V) and in the cross-border sub-sample there is only one model which shows a positive significant effect for 'Services' (CB V).

[Insert Tables 8, 9, and 10 around here]

Recapitulating the results, we can assume the information asymmetry is significantly lower in case of public targets than in transactions involving private ones. This is consistent throughout the models and in line with existing literature. Joint-ventures and subsidiaries increase the likelihood of using an earnout which given the low level of information asymmetry might be an attempt to keep the management involved post-acquisition. Relative size and financial health of the target do not seem to influence the

chances of using a contingent payout agreement. As predicted MBOs have a negative effect as managers are likely to have a pretty accurate picture of the company's standing. The deal value has a positive effect in general but decreases the chances for using an earnout at home, as this payment method cannot be used in transactions involving public targets. Sales have a negative effect which may be caused by the fact that the target has a good business momentum and is likely to perform well in the future, even post-acquisition. The percentage of shares acquired has a positive and significant effect only abroad which means that buyers want to reduce risk in transactions where they chose to buy a larger proportion of the company. Predictions regarding acquisitions from services and high technology industry are in line with the results and consistent in all three scenarios. Cross-border transactions decrease the likelihood of using an earnout but this might be driven by potential legal complications which may arise in an international context. Past acquisition experience does not seem to be sufficient unless it has been acquired through cross-border deals. Also, industry knowledge, both macro industry and SIC, is only useful in domestic deals and it is not transferable when it comes to international acquisitions.

When interpreting our findings one should recognise that the strength of these results may be affected by factors that have not been accounted for in our analysis, including deal-specific characteristics and exogenous factors. These limitations are further described in the following chapter.

## 6. LIMITATIONS

The fundamental assumption underlying this research is the one of a profit-maximising setting. We believe that all agents are rational, their actions are driven by the profit motive and that risk is undesirable. What is more, we regard it true that an agent will choose a method of payment which mitigates the risk of adverse changes in target's value and tries to alleviate potential information asymmetries. Given this set of assumptions, we have investigated factors which can influence the probability of using an earnout. We believe that the managers should make their decisions based on what gives the highest probability of maximising firm value.

### *Principal-agent Problem, Managerial Hubris, Control and Ownership*

It might be the case that managers are driven by various motives and these can be divided into three categories: a) synergies, b) agency-related, c) managerial hubris (Goergen and Renneboog, 2004). The first motive rests upon the supposition that the main goal of the manager is shareholder-wealth-maximisation. It is, therefore, expected that the outcome of an acquisition should be positive, whereas the way in which the gains are to be divided is based on the bargaining powers of the parties involved. This would mean that managers should be rational and should choose a method of payment which would lower informational asymmetry in order to assure profit maximisation from the transaction in the future. However, this is not always the case.

Although, Gupta *et al.* (1997) have revealed that synergies are the key motive for M&A, Berkovitch and Narayanan (1993) additionally infer that personal interests do frequently induce managers to become involved in takeovers or mergers. What follows is that their decisions do not have to be driven by looking to minimise information asymmetries or hedging. An example of such an alternative managerial objective might be corporate

growth. As shown by Conyon and Murphy (2002), it is the size rather than the performance which has the highest influence on financial rewards of those in charge. Managers are, as a result, inclined to use their free-cash-flow for empire building. A phenomenon observed by Shleifer and Vishny (1989) shows that managers will pursue strategies which lead the company to higher dependence on their expertise increasing their job security. “When an investment provides a manager with particularly large personal benefits, he is willing to sacrifice the market value of the firm to pursue that investment” (Morck *et al.*, 1990, p. 32). In this context we can assume that managers might be willing to pick cash over any other payment method for two reasons. The first is that their main objective is growing the company, whether through increasing sales volume or the number of employees rather than improving profitability, which means they will be less concerned with potential risks which the transaction might entail. This is related to the second reason, i.e. the ease of financing projects with cash. Many stock-financed acquisitions may lead to shares dilution if the transaction requires the buyer to issue more equity and this is troublesome for the management, but also not welcomed by the existing shareholders. Hence, we suppose that an agent makes a conscious, informed decision which is deleterious to the shareholders.

Roll (1986), on the other hand, proposed a theory of managerial hubris, which assumes that managers simply display overoptimism regarding their own abilities. “If there is an equal probability that managers are over- and underestimating the synergies of potential mergers or acquisitions, and managers make a bid after having overestimated synergy values, they may mostly pay too much for the target” (Goergen and Renneboog, 2004, p. 33). Research based on European M&A data for the period 1993-2000 has identified managerial hubris as one of the important factors leading to poor investment decisions (Goergen and Renneboog, 2004). If we assume that managers have such deep faith in their own abilities and expertise, we can argue that they will be less prone to use tools

which aim to reduce the overall riskiness of the transaction, forgoing the use of contingent payout agreements or stock in favour of cash, as they are overly optimistic that the expected synergies will materialise.

### ***Tax Considerations***

A possible supplementary aspect affecting the decision about the method of payment, but one which is not related to information asymmetry, is taxation. The payment currency is a vital factor when it comes to ruling whether an acquisition is taxable or not. “Generally speaking, a tax-free merger can occur only if the owners of the acquired firm maintain a continuity of ownership after the merger. As a consequence, mergers consummated by an exchange of cash would necessarily be taxable” (Carleton *et al.*, 1983, p. 816); such gains must be recognised in the same year as the merger takes place. The gains in an equity exchange, however, will be recognised once the securities are sold.

### ***Earnout Limitations***

Despite the benefits of solving uncertainty offered by an earnout contract, there are several difficulties associated with its use. Sudarsanam (1995) identifies the following:

- conflict of interests, when the target firm seeks to increase short-run profits at the expense of long-run objectives of the acquiring firm;
- deferred integration of the two firms since the target remains independent until the earnout is paid;
- difficulties associated with post-earnout management of the target firm.

However, “the risk imposed on the target owners via an earnout includes both the original business risk associated with the future economic success of an enterprise and the uncertainty associated with the competence of the acquiring company in managing

the operations of the target” (Datar *et al.*, 2001, p. 203). Given the above, it can be that the level of risk which has to be taken on by the target’s management may outweigh the benefits leading to rejection of the consideration method, meaning that the either we are looking at the mode of payment alteration or the transaction falls through.

The need for assessment of target’s performance in the post-acquisition phase means that a full structural integration cannot take place, therefore one cannot realise immediate synergies resulting from the transaction (e.g. Capron, 1999). This means that companies which are looking for immediate synergies might be less likely to employ such tools in acquisitions (Capron, 1999).

One of the possible explanations of the low popularity of this payment method might be the problem with the earnout contract design, further enforcement issues in the post-merger period and the possibility of short-run price (or other performance measure) manipulation (Sherman and Janatka, 1992; Boyce and Hewitt, 1998). Several practitioners (Spillman, 2004; Blayney 2005; Cunningham, 2007) noted that this is the reason why earnouts often fail in domestic M&A. “Earnouts can be complex to negotiate because parties must agree on such terms as the duration of earnout payments, the metric to be used, accounting methods, payment caps, the identification of certain contingencies and potential acceleration provisions, and so on” (Reuer and Ragozzino, 2009, p. 4). Nonetheless, this proposition might *a fortiori* be applicable to cross-border deals, as the drafting and the enforcement process abroad is likely to be complicated by cultural matters and differences in the legal environment. Even without the additional complications, Shannon and Reilly (2011) from Potter, Anderson & Corron LLP provide numerous examples of legal cases where the parties involved in the transaction were disputing whether the earnout target was satisfied or whether the company has been managed properly post-closing. They also show that the achievement of the pre-

specified targets depends on the buyer's management after the acquisition and also the way the buyer accounts for the financial performance in the same period. Thus, this may lead to many potential conflicts of which probability increases if the contracts are not structured with utmost care. Hence, the risk of post-merger difficulties may have a negative signalling effect and thus result in unfavourable market reaction to the acquisition announcement.



## 7. CONCLUSION

Over all this research shows that in line with our first hypothesis deal-specific features reflecting higher asymmetry of information and risk increase the chances of using an earnout contract. Larger deal value, percentage of shares acquired and transactions involving non-listed companies increase the probability of employing a contingent payout agreement. Bidders acquiring companies with large sales levels seem to use contingent payout agreements less often. This may show that investors think that such momentum is strong enough to last even after the acquisition takes place. Acquirer's knowledge of the industry lowers the chances of using an earnout but only in a domestic setting, as managers involved in acquisition processes within the same industry but abroad do not seem to feel equally comfortable paying the whole sum upfront. This might be due to the fact that the knowledge of the industry at home is less useful in international transactions. Furthermore, targets in sectors characterised by a large proportion of intangible assets are more likely to be acquired with a contingent payout clause embedded in the contract.

With regard to our second hypothesis, we find that, contrary to our initial supposition and evidence from univariate analysis, cross-border transactions do not involve earnout contracts more often than the domestic ones. This might be because legal system plays an important role due to the fact that enforcement of such contracts is a lot more complicated in countries ruled by codified law which are largely present in our dataset. Despite our predictions resulting in the third hypothesis, we find that investors acquiring foreign targets do not use earnouts to limit market risk, volatility or political stability. However, they do seem more inclined to hedge themselves when investing in developing countries and those that exhibit higher growth. This might be due to the fact

that buyers may be reluctant to believe that this level of expansion will continue and think that the projections for the business might be too ambitious. To our surprise, distance has a negative impact but one should take into account high presence of US targets in our sample which generally exhibit greater transparency resulting from corporate governance standards when compared with companies in other countries around the world. We see positive impact of the same legal system dummy resulting from the complexity of contract enforcement in countries which are not governed by common law. Language is statistically insignificant. The robustness tests additionally make us reject our initial hypothesis and show that gearing and cash-to-assets ratio are also insignificant as it is likely that these are already factored in the price offered for the target.

Although the risk-sharing hypothesis states that bidders will offer stock rather than cash if they are concerned about the true value of the target, we can provide a broader interpretation and state that the risk-sharing hypothesis assumes that investors will chose a method of payment which enables them to hedge some of the risk when the information asymmetry is high. This is indeed supported by our results which indicate higher incidence of using earnout contracts when the potential estimation error or risk are more severe. Our analysis does not however provide sufficient evidence to reach conclusions with regard to misvaluation and signalling hypotheses. Although the results show that market performance does not impact the probability of using an earnout contract, we would need to further study the terms of such a contract. This is because the terms of a contingent payout agreement can be settled both in cash and stock. The same can be concluded in the context of the signalling hypothesis. On the other hand, cash flow hypothesis would require further analysis of cash generation capacity of acquirers versus their peers in the sector, which has not been performed in this research.

Given the above, the existing research provides managers with an overview of payment methods which can be used to reduce the potential negative consequences resulting from high information asymmetry and proves that investors indeed perceive earnouts as an effective way of achieving such a goal. It shows prospective acquirers' when earnouts are most popular and that some risk factors, such as political stability or market volatility, are not addressed through a contingent payout agreement. The analysis also provides a list of factors indicating high information asymmetry. Future studies could further explore the specifics of earnout contracts and market anomalies. This would show if managers try to take opportunistic actions during times of stock overvaluation and then investigate if the probability of using an earnout contract is influenced by the utilised method of payment. If the results would have proven that investors chose stock when the company is undervalued and cash otherwise, this would support the signalling hypothesis. This then would allow us to study if the acquirers are equally concerned about risk when trying to send a specific signal to the market. One particularly interesting area of future research relates to cash flow generation capabilities and whether companies which are cash-rich (versus peers) do exhibit a tendency to destroy value which can also take a form of unnecessary risk-taking – in our case not using an earnout.

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## **9. APPENDICES**



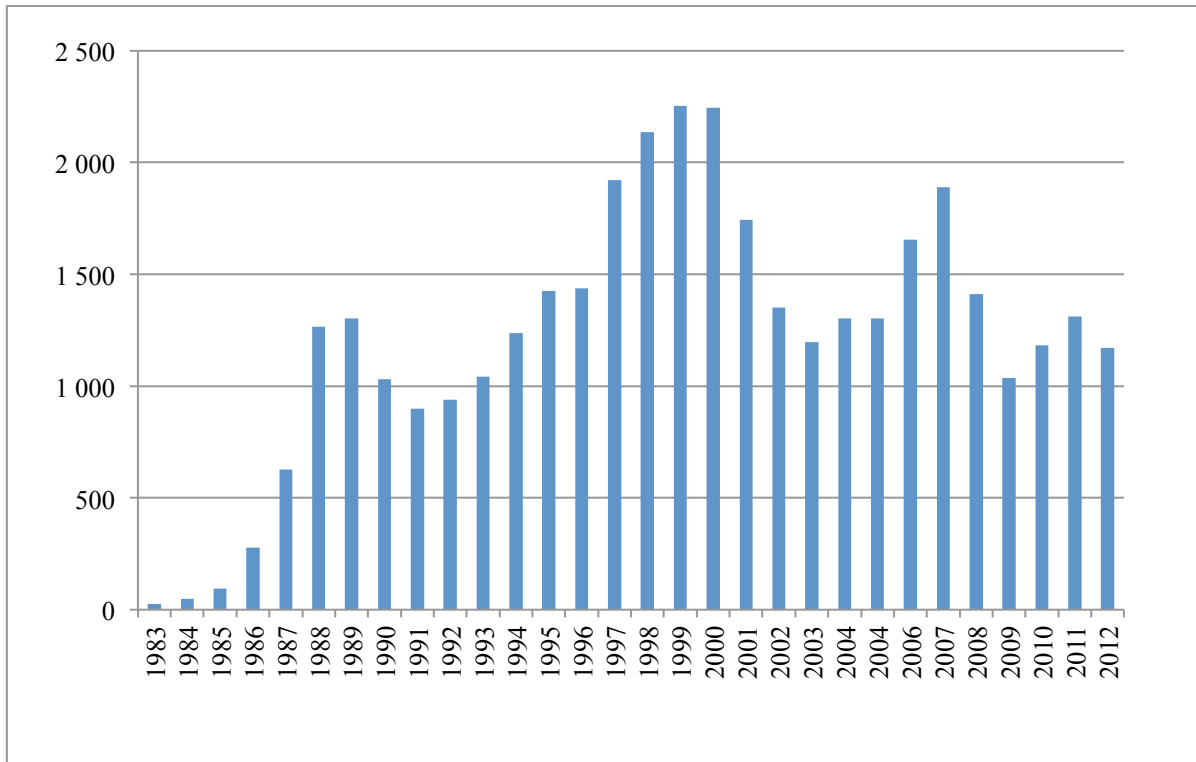
**Table 1 - List of Variables and Expected Effect**

<b>Feature Name</b>	<b>Description</b>	<b>Impact</b>	<b>Hypothesis</b>
<b>Transaction Characteristics</b>			
<i>Public</i>	Target is a public company	-	1
<i>Private</i>	Target is private company	+	1
<i>Subsidiary</i>	Target is a subsidiary	-	1
<i>Joint Venture</i>	Target is a joint venture	-	1
<i>Relative Size</i>	Relative size of target to acquirer	+	1
<i>Deal Value</i>	Deal value	+	1
<i>Shares Acquired (%)</i>	Percentage of shares acquired	+	1
<i>Sales</i>	Target's sales for the last twelve months	+	1
<i>Gearing</i>	The gearing of the target	+	1
<i>Cash</i>	Cash to assets ratio	-	1
<i>Experience</i>	Number of acquisitions carried out by the buyer	-	1
<i>MBO</i>	Transaction with managerial involvement	-	1
<b>Industry Characteristics</b>			
<i>High-technology</i>	Target is from a high-technology industry	+	1
<i>Services</i>	Target is from the services industry	+	1
<i>Same Mac</i>	Target and acquirer from the same macro industry	-	1
<i>Same SIC</i>	Target and acquirer have the same SIC code	-	1
<b>Market Characteristics</b>			
<i>Market Return</i>	Market return on the S&P 500 for last 12 months	-	Control Variable
<i>Market Volatility</i>	Volatility of the market as shown by VIX	+	Control Variable
<b>Target country characteristics</b>			
<i>Cross-border</i>	Same ultimate parent nations of target and acquirer	+	2
<i>Distance</i>	Physical distance between the acquirer and the target	+	3
<i>Law</i>	Same legal system in target's country	+	3
<i>Language</i>	Same official language in target's country	-	3
<i>Developing</i>	Low development level	+	3
<i>GDP Growth</i>	GDP growth of the target country	-	3
<i>Political Stability</i>	Political stability of the target country	+	3

**Table 2 - Sample Statistics**

	Cross-border (n = 10,431)		Domestic (n = 26,668)	
	N	%	n	%
<b><i>Panel A. Target Countries (top 5)</i></b>				
USA	3,326	31.89%	-	-
Germany	914	8.76%	-	-
France	850	8.15%	-	-
Netherlands	541	5.19%	-	-
Australia	507	4.86%	-	-
<b><i>Panel B. Use of Earnouts</i></b>				
Earnout	1,012	9.70%	2,393	8.97%
Other methods of payment	9,419	90.30%	24,275	91.03%
<b><i>Panel C. Target Status</i></b>				
Public	638	6.11%	1,248	4.68%
Subsidiary	3,643	34.93%	9,814	36.80%
Private	5,838	55.97%	15,273	57.27%
Joint Venture	233	2.23%	284	1.07%
Government	79	0.76%	49	0.18%
<b><i>Panel D. Relatedness of the bidder and the target</i></b>				
Same Macro Industry	6,928	66.42%	18,621	69.83%
Different Macro Industry	3,503	33.58%	8,047	30.17%
Same SIC Code	3,400	32.60%	10,897	40.86%
Different SIC Code	7,031	69.41%	15,771	59.14%
<b><i>Panel E. Industry</i></b>				
Hi-technology	1,681	16.12%	2,702	10.14%
Services	1,565	15.00%	4,775	17.91%
<b><i>Panel F. Country-level Characteristics</i></b>				
Developed Country	9,011	86.21%	-	-
Developing Country	1,420	13.79%	-	-
Same Language	3,917	37.55%	-	-
Different Language	6,514	62.45%	-	-
Same Legal System	4,541	43.54%	-	-
Different Legal System	5,890	56.46%	-	-

**Figure 1 - Annual Distribution of Deals in the Sample**  
**(no. of deals)**



**Table 3 - Description of Variables**

<b>Feature Name</b>	<b>Type</b>	<b>Description</b>
<i>Public</i>	Dummy	One if the target is a public company and zero otherwise
<i>Private</i>	Dummy	One if the target is private company and zero otherwise
<i>Subsidiary</i>	Dummy	One if the target is a subsidiary and zero otherwise
<i>Joint Venture</i>	Dummy	One if the target is a joint venture and zero otherwise
<i>Relative Size</i>	Quantitative	Relative size of the deal size to acquirer's enterprise value
<i>Deal Value</i>	Quantitative	Log of deal value in USD
<i>Shares Acquired (%)</i>	Quantitative	Percentage of shares acquired
<i>Sales</i>	Quantitative	Log of target's sales for the last twelve months before the acquisition
<i>Gearing</i>	Quantitative	The gearing of the target
<i>Cash</i>	Quantitative	Cash to assets ratio of the target
<i>Experience</i>	Quantitative	Number of acquisitions carried out by the buyer in the past years (last 5 years excluded)
<i>MBO</i>	Dummy	One for transactions with managerial involvement and zero otherwise
<i>High-technology</i>	Dummy	One if the target is from a high-technology industry and zero otherwise
<i>Services</i>	Dummy	One if the target is from the services industry and zero otherwise
<i>Same Mac</i>	Dummy	One if the target and acquirer are from the same macro industry and zero otherwise
<i>Same SIC</i>	Dummy	One if the target and acquirer have the same SIC code and zero otherwise
<i>Market Return</i>	Quantitative	Market return on the S&P 500 for last 12 months
<i>Market Volatility</i>	Quantitative	Volatility of the market as shown by VIX for the last 12 months
<i>Distance</i>	Quantitative	Physical distance between the acquirer and the target - as provided by Kristian Skrede Gleditsch (University of Essex)
<i>Law</i>	Dummy	One if the target is from the same legal system as the acquirer and zero otherwise
<i>Language</i>	Dummy	One if the target's country official language is English and zero otherwise
<i>Developing</i>	Dummy	One if the target is from a developing country and zero otherwise
<i>Cross-border</i>	Dummy	One if the target is located abroad and zero otherwise
<i>GDP Growth</i>	Quantitative	GDP growth of the target country in the year of the acquisition
<i>Political Stability</i>	Quantitative	Political Stability Index value for the target country, for the year of acquisition - Worldwide Government Indicators

**Table 4 - Univariate Analysis**

<b>Variable</b>	<b>All</b>	
<i>Cross-border</i> vs. <i>Domestic</i>	Mean	9.70%
	Mean	8.97%
	<i>p-value</i>	0.029
	Difference	0.73%
<i>Same Macro Industry</i> vs. <i>Different Macro Industry</i>	Mean	8.13%
	Mean	11.51%
	<i>p-value</i>	0.000
	Difference	-3.38%
<i>Same SIC</i> vs. <i>Different SIC</i>	Mean	6.96%
	Mean	10.57%
	<i>p-value</i>	0.000
	Difference	-3.61%
<i>High-technology</i> vs. <i>Non-High-technology</i>	Mean	15.44%
	Mean	8.34%
	<i>p-value</i>	0.000
	Difference	7.10%
<i>Services</i> vs. <i>Non-Services</i>	Mean	11.74%
	Mean	8.65%
	<i>p-value</i>	0.000
	Difference	3.09%
<i>Management Buy-out</i> vs. <i>Non-Management Buy-out</i>	Mean	1.83%
	Mean	9.23%
	<i>p-value</i>	0.000
	Difference	-7.40%
<b>Variable</b>	<b>Domestic vs. Cross-border</b>	
<i>Same Macro Industry</i> <i>Domestic vs. Cross-border</i>	Mean	7.66%
	Mean	9.38%
	<i>p-value</i>	0.000
	Difference	-1.72%
<i>Same SIC</i> <i>Domestic vs. Cross-border</i>	Mean	6.19%
	Mean	9.41%
	<i>p-value</i>	0.000
	Difference	-3.22%
<i>High-technology</i> <i>Domestic vs. Cross-border</i>	Mean	16.10%
	Mean	14.40%
	<i>p-value</i>	0.129
	Difference	1.70%
<i>Services</i> <i>Domestic vs. Cross-border</i>	Mean	11.67%
	Mean	11.95%
	<i>p-value</i>	0.762
	Difference	-0.28%
<i>Management Buy-out</i> <i>Domestic vs. Cross-border</i>	Mean	1.55%
	Mean	6.67%
	<i>p-value</i>	0.151
	Difference	-5.12%
<b>Variable</b>	<b>Country-level</b>	
<i>Developing</i> vs. <i>Developed Countries</i>	Mean	6.76%
	Mean	9.28%
	<i>p-value</i>	0.000
	Difference	-2.52%
<i>Common Law</i> vs. <i>Codified Law</i>	Mean	9.33%
	Mean	8.35%
	<i>p-value</i>	0.021
	Difference	0.98%
<i>Same Language</i> vs. <i>Different Language</i>	Mean	9.33%
	Mean	8.43%
	<i>p-value</i>	0.026
	Difference	0.90%

**Table 5 - Multivariate Analysis**

**All Deals (Marginal Effects)**

	All I	All II	All III	All IV	All V	All VI
Same Mac	<b>-0.0175***</b> (.0048)	<b>-0.0197***</b> (.0053)	<b>-0.0214***</b> (.0072)			
Same SIC				<b>-0.0248***</b> (.0066)	<b>-0.0257***</b> (.0070)	-0.0123 (.0093)
Services	<b>0.0637***</b> (.0073)	<b>0.0651***</b> (.0079)	<b>0.0699***</b> (.0103)	<b>0.0513***</b> (.0100)	<b>0.0487***</b> (.0107)	<b>0.0597***</b> (.0145)
High-technology	<b>0.0919***</b> (.0084)	<b>0.0945***</b> (.009)	<b>0.0910***</b> (.0113)	<b>0.0797***</b> (.0124)	<b>0.0818***</b> (.0132)	<b>0.0632***</b> (.0158)
Log Deal Value	<b>0.0031**</b> (.0013)	<b>0.0038***</b> (.0014)	<b>0.0036*</b> (.0019)			
Log Sales				<b>-0.0112***</b> (.0019)	<b>-0.0098***</b> (.0021)	<b>-0.0076***</b> (.0026)
Shares acquired %	<b>0.0008***</b> (.0002)	<b>0.0008***</b> (.0002)	<b>0.0013***</b> (.0003)	<b>0.0012***</b> (.0003)	<b>0.0012***</b> (.0003)	<b>0.0012***</b> (.0004)
Public	<b>-0.0913***</b> (.0071)	<b>-0.1014***</b> (.0075)	<b>-0.1279***</b> (.0079)			
Private	<b>0.1384***</b> (.0049)	<b>0.1423***</b> (.0054)	<b>0.1442***</b> (.0072)	<b>0.2217***</b> (.0147)	<b>0.2439***</b> (.0178)	<b>0.2946***</b> (.0281)
Joint Venture				<b>0.2423***</b> (.0798)	<b>0.1957***</b> (.0905)	<b>0.5024***</b> (.1276)
Subsidiary				<b>0.1458***</b> (.0210)	<b>0.1740***</b> (.0259)	<b>0.2890***</b> (.0559)
MBO	<b>-0.0835***</b> (.0169)	<b>-0.0771**</b> (.0204)		<b>-0.0934**</b> (.0145)	<b>-0.0889**</b> (.0169)	
Cross-border	-0.0051 (.0049)	-0.0061 (.0054)	0.0022 (.0077)	-0.0004 (.0072)	0.0035 (.0079)	-0.0005 (.0109)
Market Return		-0.0154 (.0279)			0.0339 (.0428)	
Market Volatility		0.0009 (.0016)			-0.0009 (.0027)	
GDP growth			0.2285 (.2964)			<b>1.8488***</b> (.5708)
Political Stability			0.0097 (.0111)			0.0225 (.0185)
Acq. Experience	-0.0004 (.0003)	-0.0004 (.0003)	-0.0007 (.0003)	-0.0003 (.0004)	-0.0004 (.0004)	<b>-0.0009*</b> (.0005)
<i>No. of observations</i>	22,313	18,794	10,659	9,510	7,839	3,894
<i>Chi-squared probability</i>	0.000	0.000	0.000	0.000	0.000	0.000
<i>Pseudo R2</i>	9.94%	9.95%	10.60%	11.41%	11.56%	13.04%
<i>Observed P</i>	0.1507	0.1535	0.1631	0.1418	0.1414	0.1459
<i>Predicted P</i>	0.1225	0.1253	0.1284	0.1053	0.1032	0.0938

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of using an earnout contract in a transaction. The independent variables included are used as proxies which reflect the level of information asymmetry.

All the variables are described in more detail in Table 3.

**Table 6 - Multivariate Analysis**  
**Domestic Deals (Marginal Effects)**

	<b>Domestic I</b>	<b>Domestic II</b>	<b>Domestic III</b>	<b>Domestic IV</b>
Same Mac	<b>-0.0342***</b> (.0061)	<b>-0.0346***</b> (.0068)		
Same SIC			<b>-0.0390***</b> (.0082)	<b>-0.0416***</b> (.0088)
Services	<b>0.0872***</b> (.0091)	<b>0.0899***</b> (.0099)	<b>0.0600***</b> (.0124)	<b>0.0611***</b> (.0135)
High-technology	<b>0.1277***</b> (.0115)	<b>0.1324***</b> (.0122)	<b>0.0814***</b> (.0157)	<b>0.0880***</b> (.0170)
Log Deal Value	<b>-0.0093***</b> (.0016)	<b>-0.0081***</b> (.0017)		
Log Sales			<b>-0.0263***</b> (.0023)	<b>-0.0234***</b> (.0025)
Shares acquired %	<b>0.0011***</b> (.0002)	<b>0.0011***</b> (.0003)	<b>0.0013***</b> (.0004)	<b>0.0013***</b> (.0004)
Joint Venture			-0.0614 (.0353)	<b>-0.0979**</b> (0.0227)
Subsidiary			<b>-0.0637***</b> (.0080)	<b>-0.0652***</b> (.0088)
MBO	<b>-0.1156***</b> (.0127)	<b>-0.1142***</b> (.0146)	<b>-0.1102**</b> (.0150)	<b>-0.1070**</b> (.0158)
Market Return		-0.0222 (.0338)		-0.0140 (.0520)
Market Volatility		-0.0014 (.0009)		0.0001 (.0013)
Domestic Experience	0.0019 (.0005)		0.0010 (.0008)	
Cross-border Experience		0.0020 (.0008)		<b>-0.0022*</b> (.0012)
<i>No. of observations</i>	<i>15,743</i>	<i>13,223</i>	<i>6,879</i>	<i>5,651</i>
<i>Chi-squared probability</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>
<i>Pseudo R2</i>	<i>4.63%</i>	<i>4.36%</i>	<i>7.70%</i>	<i>8.16%</i>
<i>Observed P</i>	<i>0.1482</i>	<i>0.1512</i>	<i>0.1420</i>	<i>0.1407</i>
<i>Predicted P</i>	<i>0.1381</i>	<i>0.1406</i>	<i>0.1213</i>	<i>0.1186</i>

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of using an earnout contract in a transaction. The independent variables included are used as proxies which reflect the level of information asymmetry.

All the variables are described in more detail in Table 3.

**Table 7 - Multivariate Analysis**  
**Cross-border Deals (Marginal Effects)**

	CB I	CB II	CB III	CB IV	CB V	CB VI	CB VII	CB VIII
Same Mac					0.0160 (.0105)	0.0123 (.0123)	0.0051 (.0162)	0.0148 (.0122)
Same SIC	0.0081 (.0090)	0.0025 (.0103)	0.0030 (.0128)	0.0024 (.0104)				
Services	<b>0.0595***</b> (.0140)	<b>0.0672***</b> (.0160)	<b>0.0565***</b> (.0196)	<b>0.0639***</b> (.0162)	<b>0.0510***</b> (.0187)	<b>0.0500***</b> (.0210)	<b>0.0346</b> (.0254)	<b>0.0424**</b> (.0205)
High-technology	<b>0.0694***</b> (.0131)	<b>0.0668***</b> (.0144)	<b>0.0596***</b> (.0175)	<b>0.0631***</b> (.0146)	<b>0.0637***</b> (.0187)	<b>0.0559***</b> (.0199)	0.0246 (.0224)	<b>0.0523***</b> (.0199)
Log Deal Value	0.0022 (.0024)	0.0017 (.0027)	0.0030 (.0034)	0.0019 (.0028)				
Log Sales					<b>-0.0080***</b> (.0030)	<b>-0.0075**</b> (.0035)	<b>-0.0073*</b> (.0043)	<b>-0.0071**</b> (.0035)
Shares acquired %	<b>0.0017***</b> (.0003)	<b>0.0017***</b> (.0003)	<b>0.0020***</b> (.0004)	<b>0.0016***</b> (.0003)	<b>0.0022***</b> (.0004)	<b>0.0021***</b> (.0005)	<b>0.0018***</b> (.0006)	<b>0.0019***</b> (.0005)
Public	<b>-0.1042***</b> (.0117)	<b>-0.1209***</b> (.0122)	<b>-0.1224***</b> (.0154)	<b>-0.1203***</b> (.0121)				
Private	<b>0.1230***</b> (.0090)	<b>0.1199***</b> (.0101)	<b>0.1312***</b> (.0133)	<b>0.1209***</b> (.0103)	<b>0.2061***</b> (.0256)	<b>0.2400***</b> (.0324)	<b>0.2459***</b> (.0422)	<b>0.2479***</b> (.0331)
Joint Venture					<b>0.4194***</b> (.1406)	<b>0.5271***</b> (.1596)	<b>0.6953***</b> (.1802)	<b>0.5532***</b> (.1570)
Subsidiary					<b>0.1318***</b> (.0367)	<b>0.1890***</b> (.0500)	<b>0.2059***</b> (.0695)	<b>0.2025***</b> (.0517)
Market Return		0.0033 (.0515)	0.0064 (.0601)	0.0157 (.0520)		0.1111 (.0763)	0.1252 (.0899)	0.1058 (.0761)
Market Volatility		-0.0004 (.0031)	0.0039 (.0038)	-0.0001 (.0031)		-0.0063 (.0049)	-0.0006 (.0057)	-0.0054 (.0048)
GDP growth		0.0518 (.2493)		-0.1137 (.3020)		<b>0.7676**</b> (.3934)		0.5740 (.4699)
Political Stability			0.0028 (.0108)				-0.0059 (.0168)	
Cross-border Experience	-0.0008 (.0006)	<b>-0.0011*</b> (.0006)	-0.0007 (.0008)	<b>-0.0014**</b> (.0007)	<b>-0.0027***</b> (.0007)	<b>-0.0029***</b> (.0008)	<b>-0.0025***</b> (.0009)	<b>-0.0030***</b> (.0008)
Developing				<b>0.0543**</b> (.0228)				0.0267 (.0458)
Distance				<b>-0.0158*</b> (0.0085)				0.0076 (0.0118)
Language				0.0058 (.0236)				-0.0105 (.0326)
Law				<b>0.0486*</b> (.0280)				0.0613 (.0435)
<i>No. of observations</i>	6,544	5,278	3,194	5,118	2,610	2,070	1,070	2,029
<i>Chi-squared probability</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Pseudo R2</i>	9.73%	8.91%	9.93%	9.14%	15.29%	15.36%	16.80%	15.69%
<i>Observed P</i>	0.1530	0.1603	0.1641	0.1591	0.1341	0.1420	0.1430	0.1400
<i>Predicted P</i>	0.1216	0.1304	0.1293	0.1290	0.0819	0.0864	0.0788	0.0843

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of using an earnout contract in a transaction. The independent variables included are used as proxies which reflect the level of information asymmetry.

All the variables are described in more detail in Table 3.



**Table 8 - Robustness Check**

**All Deals (Marginal Effects)**

	All I	All II	All III	All IV	All V	All VI
Same Mac	0.0036 (.0099)	-0.00840 (.009)	-0.0181 (.0131)			
Same SIC				<b>-0.0241**</b> (.0093)	<b>-0.0264***</b> (.0074)	-0.0163 (.0181)
Services	<b>0.0360**</b> (.0173)	<b>0.0446***</b> (.0139)	<b>0.0564***</b> (.0173)	<b>0.0243*</b> (.0151)	<b>0.0354***</b> (.0127)	<b>0.0533**</b> (.0261)
High-technology	<b>0.0452**</b> (.0217)	<b>0.0626***</b> (.0162)	<b>0.0752***</b> (.0177)	<b>0.0340**</b> (.0195)	<b>0.0343***</b> (.0143)	<b>0.0541**</b> (.0261)
Log Deal Value	-0.0015 (.0034)	0.0024 (.0028)	<b>-0.0082**</b> (.0036)	<b>-0.0078**</b> (.0031)		
Log Sales					-0.0029 (.0023)	<b>-0.0099**</b> (.0047)
Shares acquired %	<b>0.0010**</b> (.0004)	<b>0.0014***</b> (.0004)	<b>0.0020***</b> (.0005)	<b>0.0009**</b> (.0004)	<b>0.0012***</b> (.0003)	<b>0.0015**</b> (.0007)
Public	<b>-0.0785***</b> (.0162)	<b>-0.1110***</b> (.0122)	<b>-0.1994***</b> (.0148)			
Private	<b>0.1011***</b> (.0166)	<b>0.1051***</b> (.0121)	<b>0.1948***</b> (.0129)	<b>0.1728***</b> (.0221)	<b>0.1839***</b> (.0177)	<b>0.3644***</b> (.0367)
Joint Venture				<b>0.2011*</b> (.1701)	<b>0.2348***</b> (.1162)	<b>0.4691***</b> (.1747)
Subsidiary				<b>0.0899***</b> (.0271)	<b>0.1110***</b> (.0226)	<b>0.3964***</b> (.0869)
MBO		-0.0028 (.0153)				
Cross-border	-0.0142 (.0177)		-0.0206 (.0129)	-0.0066 (.0168)	0.0021 (.0126)	0.0102 (.0192)
Acq. Experience	-0.0006 (.0007)	-2.82e-05 (.0005)	<b>-0.0010*</b> (.0006)	-0.0002 (.0006)	0.0001 (.0004)	-0.0013 (.0009)
Gearing	-0.0000 (0.0001)			-0.0000 (.0001)		
Cash/Assets		-0.0251 (.1152)			0.0185 (.0874)	
Relative Size			-0.0005 (.0007)			-0.0001 (.0003)
<i>No. of observations</i>	2,646	4,794	4,451	2,730	4,367	1,517
<i>Chi-squared probability</i>	0.000	0.000	0.000	0.000	0.000	0.000
<i>Pseudo R2</i>	17.34%	14.59%	10.84%	16.83%	14.39%	14.53%
<i>Observed P</i>	0.1225	0.1475	0.24	0.1095	0.1069	0.2017
<i>Predicted P</i>	0.0719	0.0985	0.1975	0.0628	0.0667	0.1345

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of using an earnout contract in a transaction. The independent variables included are used as proxies which reflect the level of information asymmetry.

All the variables are described in more detail in Table 3.

**Table 9 - Robustness Check**  
**Domestic Deals (Marginal Effects)**

	<b>Domestic I</b>	<b>Domestic II</b>	<b>Domestic III</b>	<b>Domestic IV</b>	<b>Domestic V</b>	<b>Domestic VI</b>	<b>Domestic VII</b>	<b>Domestic VIII</b>
Same Mac	-0.0188 (.0177)	-0.0170 (.0176)	-0.0205 (.0176)	-0.0020 (.0181)			-0.0589 (.0434)	
Same SIC					-0.0423 (.0261)	-0.0436 (.0263)		-0.0640 (.0357)
Services	<b>0.1104***</b> (.0227)	<b>0.1082***</b> (.0267)	<b>0.1115***</b> (.0227)	<b>0.1097***</b> (.0231)	<b>0.0804**</b> (.0361)	<b>0.0837**</b> (.0366)	<b>0.1450***</b> (.0620)	<b>0.1251**</b> (.0609)
High-technology	<b>0.0953***</b> (.0244)	<b>0.0960***</b> (.0245)	<b>0.0966***</b> (.0244)	<b>0.1017***</b> (.0251)	0.0120 (.0348)	0.0136 (.0353)	-0.0555 (.0507)	-0.0728 (.0391)
Log Deal Value	<b>-0.0099**</b> (.005)	<b>-0.0113**</b> (.0048)	<b>-0.0086*</b> (.0048)	<b>-0.0084*</b> (.0050)			<b>-0.0293**</b> (.0120)	
Log Sales					<b>-0.0264***</b> (.0066)	-0.0284 (.0067)		<b>-0.0477***</b> (.0110)
Shares acquired %	<b>0.0036***</b> (.0007)	<b>0.0036***</b> (.0007)	<b>0.0035***</b> (.0007)	<b>0.0038***</b> (.0008)	0.0018 (.0011)	<b>0.0027**</b> (.0012)	0.0019 (.0016)	0.0013 (.0016)
Joint Venture					-0.1135 (.0743)	-0.0883 (.0900)		0.2806 (.2925)
Subsidiary					<b>-0.0982***</b> (0.0290)	<b>-0.1070***</b> (0.0286)		-0.0498 (.0486)
Market Return				0.0049 (.0832)		0.0912 (.1423)		
Market Volatility				0.0007 (.0049)		0.0125 (.0080)		
Acq. Experience	-0.0008 (.0008)							
- Domestic		0.0003 (0.0011)						
- Cross-border			<b>-0.0040**</b> (.0017)	<b>-0.0039**</b> (.0018)	<b>-0.0084***</b> (.0029)	<b>-0.0090***</b> (.0031)	<b>-0.0045</b> (.0038)	<b>-0.0069</b> (.0043)
Gearing							0.0028 (.0030)	0.0021 (.0026)
Relative Size	-0.0019 (.0026)	-0.0016 (.0025)	-0.0020 (.0027)	-0.0013 (.0026)	-0.0003 (.0009)	-0.0003 (.0008)	-0.0003 (.0012)	-0.0002 (.0011)
<i>No. of observations</i>	2,697	2,697	2,697	2,601	962	925	342	318
<i>Chi-squared probability</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Pseudo R2</i>	3.43%	3.40%	3.59%	3.62%	8.63%	9.81%	9.56%	16.65%
<i>Observed P</i>	0.2592	0.2592	0.2592	0.2618	0.2131	0.2141	0.1754	0.1698
<i>Predicted P</i>	0.2398	0.2408	0.2388	0.2437	0.1852	0.1810	0.1461	0.1618

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of using an earnout contract in a transaction. The independent variables included are used as proxies which reflect the level of information asymmetry.

All the variables are described in more detail in Table 3.

**Table 10 - Robustness Check**  
**Cross-border Deals (Marginal Effects)**

	<b>CB I</b>	<b>CB II</b>	<b>CB III</b>	<b>CB IV</b>	<b>CB V</b>
Same Mac	-0.0247 (.0297)	0.0062 (.0075)			
Same SIC			0.0033 (.0197)	-0.0122 (.0159)	0.0025 (.0102)
Services	-0.0144 (.0330)	0.0220 (.0280)	0.0120 (.0279)	0.0337 (.0399)	<b>0.0664***</b> (.0160)
High-technology	<b>0.0605*</b> (.0396)	<b>0.0295**</b> (.0250)	<b>0.0427*</b> (.0255)	0.0302 (.0285)	<b>0.0662***</b> (.0143)
Log Deal Value			0.0081 (.0054)	-0.0044 (.0043)	0.0017 (.0027)
Log Sales	-0.0092 (.0070)	-0.0016 (.0021)			
Shares acquired %	0.0006 (.0010)	<b>0.0006*</b> (.0003)	<b>0.0017***</b> (.0006)	<b>0.0009*</b> (.0004)	<b>0.0017***</b> (.0003)
Public			<b>-0.1891***</b> (.0155)	<b>-0.1106***</b> (.0397)	
Private	<b>0.3760***</b> (.0816)	<b>0.1195***</b> (.0570)	<b>0.1447***</b> (.0206)	0.0276 (.0259)	<b>0.3066***</b> (.0333)
Joint Venture	<b>0.7875***</b> (.1847)				<b>0.3103***</b> (.1014)
Subsidiary	<b>0.4559***</b> (.1372)	<b>0.0755***</b> (.0477)			<b>0.2261***</b> (.0473)
Market Return	0.1564 (.1383)	<b>0.1002**</b> (.0634)	0.0354 (.0869)	<b>0.1560*</b> (.0898)	0.0023 (.0513)
Market Volatility	-0.0010 (.0078)	0.0035 (.0031)	0.0028 (.0054)	0.0023 (.0056)	-0.0004 (.003)
GDP growth	0.8395 (1.2798)	-0.0667 (.2793)	0.5816 (.6243)	-0.5695 (.6218)	0.0709 (.2486)
Cross-border Experience	<b>-0.0044***</b> (.0015)	0.0003 (.0004)	<b>-0.0022**</b> (.0011)	0.0007 (.0008)	<b>-0.0011*</b> (.0006)
Cash/Assets		0.0111 (.0262)		0.0003 (.0581)	
Relative Size	0.0115 (.0392)		-0.0000 (0.0009)		
Developing	0.0203 (.0794)	0.0475 (.0790)	0.0069 (.0433)	0.1576 (.1585)	
Distance	0.0131 (0.0265)	-0.0022 (0.0081)	-0.0087 (0.0167)	-0.0054 (0.0000)	
Language	-0.0407 (.0574)	-0.0158 (.0151)	0.0176 (.0426)	-0.0145 (.0317)	
Law	0.0636 (.0776)	<b>0.0528**</b> (.0424)	0.0478 (.0484)	<b>0.8687***</b> (.0515)	
<i>No. of observations</i>	<i>495</i>	<i>445</i>	<i>1,600</i>	<i>447</i>	<i>5,278</i>
<i>Chi-squared probability</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>	<i>0.000</i>
<i>Pseudo R2</i>	<i>25.21%</i>	<i>33.29%</i>	<i>11.14%</i>	<i>29.89%</i>	<i>9.00%</i>
<i>Observed P</i>	<i>0.1818</i>	<i>0.0674</i>	<i>0.2075</i>	<i>0.0940</i>	<i>0.1603</i>
<i>Predicted P</i>	<i>0.0864</i>	<i>0.0113</i>	<i>0.1606</i>	<i>0.0307</i>	<i>0.1294</i>

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of using an earnout contract in a transaction. The independent variables included are used as proxies which reflect the level of information asymmetry.

All the variables are described in more detail in Table 3.



# **Minimising the risk and maximising the chances of deal completion:**

The design of a successful\* M&A process

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\*One which facilitates deal completion

## ABSTRACT

This paper looks into the factors which can increase the chances of deal completion. The existing consensus leads us to believe that the reasons to acquire another company can be broadly divided into three categories: a) synergistic benefits, b) agency-related goals, and c) managerial hubris (including overconfidence; Goergen and Renneboog, 2004). More recent work also discusses the importance of market valuations and their impact on merger waves, whereas the literature identifies additional reasons underlying cross-border takeovers (Conn *et al.*, 2005; Sudarsanam, 1995; Kuipers *et al.*, 2003). However, not all bids lead to a takeover. Betton *et al.* (2008) having investigated 35,727 takeover attempts which took place between 1980 and 2006 find that on average only 78% of those attempts are successful and the costs of failed acquisitions can be very high. One could argue that it is due to lack of managerial commitment, but regardless whether managers are motivated by synergistic benefits, managerial entrenchment or hubris, the theory shows that they should be fully dedicated to their acquisition projects. Given the high costs of unsuccessful mergers and acquisitions, we decided to put together a list of actions which should increase the chances of deal completion and test the validity of our theory. Such a list would help the acquirers to limit the risk of incurring those high costs. Although most of the existing literature studies US transactions, we instead look at the UK market. Despite the above, we put forward that the main contribution of this research is the recognition of the problem of endogeneity in the existing models. To address this issue we use the two-stage residual inclusion (2SRI) methodology which enables us to separate the indirect effect, i.e. the effect of other variables included in the model on the premium, from their direct effect on bid success. The most important conclusion is that although the size of the premium is significant, one should also keep in mind the impact of hostile transactions, competing

bids and the inclusions of a termination fee. From the above we can infer that managers should find it worthwhile to use pre-emptive bidding and pursue bilateral negotiations. If this is not a viable option, the acquirer shall take measures which would limit the chances that competing bids will arise. Careful selection of the target based on its financial and market performance can also increase the likelihood that the deal will be successful.

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## **1. INTRODUCTION**

This paper proposes and tests a list of factors which are expected to increase the chances of deal success. In the first section, we assess why managers want to acquire other companies at home and abroad. We then discuss the implications of failed takeover attempts and have a look at the existing literature. At the end of this part we discuss the motivation for our research and explain how it differs from other extant work on probability of deal success.

### **1.1. REASONS BEHIND TAKEOVER ATTEMPTS**

Managers can have a great impact on the takeover process, before and after the acquisition (for a summary of existing work see McCarthy and Weitzel, 2009). There is a whole array of literature which tries to shed some light on the managers' motivations and to explain why acquisitions take place in general. The existing consensus leads us to believe that the reasons to acquire another company can be broadly divided into three categories: a) synergistic benefits, b) agency-related goals, and c) managerial hubris (including overconfidence; Goergen and Renneboog, 2004). However, more recent work also discusses the importance of market valuations and their impact on merger waves. We additionally explore other reasons which specifically motivate cross-border transactions. In order to get a better understanding of which transaction's/target's characteristics might be of high importance, we investigate the following acquisition triggers.

## *A. Synergies*

Prahalad and Bettis (1986) introduce the concept of dominant logic. It relates to the way a company remains profitable which is closely linked to the concept of core competency – a particular strength of a firm which is hard to imitate and which benefits the end customer (Prahalad and Hamel, 1990). This notion relies on a belief that companies have specific features which help them to maintain their competitive advantage. Takeovers motivated by synergistic benefits aim to leverage these qualities to an even greater extent. A synergy can be more accurately defined as “the additional value that is generated by combining two firms, creating opportunities that would not been available to these firms operating independently” (Damodaran, 2005, p. 3). According to Andrews (1971), an acquisition will produce synergies if a distinctive competence of the firm is matched with the existing market opportunities. In general, the sources of such value creation are usually driven by a reduction in costs or an increase in revenues (Chatterjee, 1986). Lubatkin (1983) recognises three main types of synergies: collusive, operational and financial, although current literature usually mentions only the latter two. Damodaran (2005) categorises economies of scale, greater pricing power, combination of different functional strengths and higher growth in new or existing markets as operational synergies, while financial synergies can be generated through the use of cash slack, increased debt capacity, creation of tax benefits and diversification. Theory predicts that synergistic acquisitions will be carried out by managers who focus on shareholder-wealth-maximisation. Research by Bradley *et al.* (1988) supports this hypothesis with empirical evidence, i.e. the results of their event study show that the value of the combined entity increases by 7.4% on average and the gain is shared by both parties involved in the transaction.

## ***B. Market for Corporate Control***

The second motive is disciplining incumbent management of the target company. Manne's (1965) theory of market for corporate control stresses the role of equity markets in the facilitation of acquisitions. "The lower the stock price, relative to what it could be with more efficient management, the more attractive the takeover becomes to those who believe that they can manage the company more efficiently" (Manne, 1965, p. 113). In other words, this is a situation in which the bidder tries to address the problem of the agency cost and managers' discretionary behaviour (Williamson, 1984; Jensen, 1986). The goal is to eliminate the non-value-maximising practices of the target management which result either from their inaptitude or excessive focus on the extraction of private benefits. Examples of such destructive behaviour include, amongst others, disproportionate growth and diversification, overconsumption of perquisites, provision of overly generous contracts to third parties or debt avoidance (Morck *et al.*, 1988). Recapitulating, entrenched managers will be removed by those who can better utilise the firm's resources.

However, it should be kept in mind that those value-destroying managers can also initiate some of the M&A activity. Although, Gupta *et al.* (1997) point out that synergies are the key motive for M&A transactions, Berkovitch and Narayanan (1993) additionally infer that personal interests do frequently induce managers to become involved in takeovers or mergers. The model developed by Jensen (1986) shows that managers who are not closely monitored and whose companies produce cash flows in excess of profitable investment opportunities are more likely to waste the surplus on projects with a negative net present value. What is more, managers may prefer to spend this surplus on projects which will increase their private benefits rather than return the money to the shareholders in the form of dividends or share buy-backs. "When an

investment provides a manager with particularly large personal benefits, he is willing to sacrifice the market value of the firm to pursue that investment” (Morck *et al.*, 1990, p. 32). This has been supported by Ng and Young Baek (2006) who also prove that acquisitions made by cash-rich bidders diminish operating efficiency. One managerial objective which does not necessarily target shareholder-value maximisation, but which enables the extraction of private benefits might be corporate growth. As shown by Conyon and Murphy (2002), it is the size rather than the performance of the company which has the highest influence on the financial rewards of those in charge. Additionally, Shleifer and Vishny (1989) observe that managers will pursue strategies which direct the company towards higher dependence on their expertise to increase their job security. Managers are, as a result, inclined to use their free-cash-flows for empire building. Their main objective is growing the company and this can be easily done through acquisitions.

### ***C. Hubris***

Another theory proposed by Roll (1986) focuses on managerial hubris. It assumes that although managers may have good intentions, they simply display overoptimism regarding their own abilities. “If there is an equal probability that managers are over- and underestimating the synergies of potential mergers or acquisitions, and managers make a bid after having overestimated synergy values, they may mostly pay too much for the target” (Goergen and Renneboog, 2004, p. 33). Hence in general, we can state that managerial hubris results in overpaying (Hayward and Hambrick, 1997; Malmendier and Tate, 2008). The price paid for the target is a prerequisite to merger’s success and therefore findings of Dong *et al.* (2006), who propose that overpaying increases the chances of failure are not a surprise. Literature relating to psychology shows that the power held by the managers is the driver of their hubris (Ashton-James *et al.*, 2010). On

one hand, individuals who are in power tend to remain overly optimistic about their future prospects and this tendency attracts them to more risky projects (Anderson and Galinsky, 2006). On the other hand, power also gives them a sense of an ability to control situations which are often beyond their scope which again leads to increased levels of risk-taking (Taylor and Brown, 1988).

Research based on European M&A data for the period 1993-2000 identifies managerial hubris as one of the most important factors leading to poor investment decisions (Goergen and Renneboog, 2004). Further papers document strong evidence of hubris in US acquisitions (Berkovitch and Narayan, 1993), while another publication shows that hubris is more likely to be observed in glamour bidders (Rau and Vermaelen, 1998). Malmendier and Tate (2005) also note that managers who do not exercise their in-the-money options (implying their overconfidence) tend to engage in diversifying acquisitions which on average perform worse than same-industry transactions, which might be perceived as an indication of hubris.

#### ***D. Waves***

New M&A literature focuses more on behaviour of groups of investors in order to explain the phenomenon of merger waves. It has been noted that periods of high merger activity coincide with times of high market valuations (e.g. see Jovanovic and Rousseau, 2002), while others point out that these actually are the driver of M&A activity. Shleifer and Vishny (2003) argue that overvaluation of equity can incentivise firms to become involved in equity-financed acquisitions. “In a more general framework, firms with overvalued equity might be able to make acquisitions, survive, and grow, while firms with undervalued, or relatively less overvalued, equity become takeover targets” (Shleifer and Vishny, 2003, p. 309). It has been proven that bidders

are generally overvalued relative to their targets and this holds for both, cash and equity offers (Dong *et al.* 2006). Rhodes-Kropf *et al.* (2003) show that “acquirers with high firm-specific error use stock to buy targets with relatively lower firm-specific error at times when both firms benefit from positive time-series sector error” (p. 32). At the same time, cash acquisitions are more common for undervalued targets and are carried out by acquirers with lower level of overvaluation. Jensen (2005) perceives this as a managerial problem and refers to it as the ‘agency cost of overvalued equity’, although a contradicting neoclassical theory states that merger waves are triggered by industry shocks which may be a response to economic, technological or regulatory changes (Mitchell and Mulherin, 1996). What is more, the analysis of takeover activity in 1980s and 1990s carried out by Harford (2005) confirms that the waves which occurred in those years were all an effect of industry shocks rather than stock misvaluations.

#### ***E. Cross-border M&A***

Apart from the conventional motives behind M&A, the literature identifies additional reasons underlying cross-border takeovers. The first incentive to acquire abroad is geographical diversification - this is commonly known as the co-insurance of cash flows which allows the acquirer to reduce the volatility of cash flows and to enhance the stability of the acquiring company. Sometimes the managers’ decision to expand abroad may be motivated by defensive motives, such as reducing dependence on export sales, competing with business rivals abroad or overcoming economic shocks in the home country, or the willingness to meet clients’ needs by providing services to their subsidiaries abroad (Sudarsanam, 1995). Given the significant importance of legal complexities in mergers and acquisitions when acquiring domestic targets, it is not surprising that acquirers turn to international acquisitions in order to overcome the potential problem of antitrust issues resulting from the restricted size of the domestic market (Kuipers *et al.*, 2003). Lastly,

managers may be acting opportunistically taking advantage of exchange rate fluctuations to acquire a foreign target cheaply (Sudarsanam, 1995). All of the above help us to understand why cross-border acquisitions are consistently becoming an ever-growing form of FDI flows.

## 1.2. COSTS OF FAILED ACQUISITIONS

However, not all bids lead to a takeover. Betton *et al.* (2008) having investigated 35,727 takeover attempts which took place between 1980 and 2006 find that on average only 78% of those attempts are successful. One could argue that it is due to lack of managerial commitment, but regardless whether managers are motivated by synergistic benefits, managerial entrenchment or hubris, the respective theories imply that managers should be fully dedicated to their acquisition projects. One reason for this is because acquisitions can be expensive, not only when they take place and the forecasted synergies do not materialise, but also when the transaction falls through. An example illustrating the magnitude of costs involved can be the recent acquisition attempts by BHP Billiton. The corporation tried to take over three different companies between 2008 and 2010. None of the deals were finalised, but the cost of pursuing the targets totalled almost \$900 million (The Guardian, 2010). Of course, the acquirer was primarily interested in multibillion dollar corporations which would complement the current portfolio. While majority of the deals in the market are considerably smaller, this evidence provides some indication of the costs incurred by the biggest acquirers. Most of the direct costs are normally generated by consultants. These include investment bankers, lawyers and auditors. Walter *et al.* (2008) provide data on US acquisitions which took place in 2003. The value of M&A transactions in that particular year reached \$435 billion, investment bankers advised on \$386 billion-worth of those,

while their clients received bills amounting to \$596 million. This demonstrates that costs of failed acquisitions can be high. Furthermore, as pointed out by Flanagan *et al.* (1998), “top management normally spends a significant amount of time identifying targets, planning the takeover, and executing the transaction. Failed tender offers can result in a waste of management time and efforts” (p. 21). An unsuccessful acquisition also means that the bidder resolves some of the information asymmetry and exposes his plans regarding the company’s future without gaining anything in return. Ineffective takeover attempts can be sometimes regarded as missed opportunities which cannot be replicated if the initial deal is not completed. Furthermore, Hirshleifer and Titman (1990) note that the bidder may revise his initial offer, but it is more beneficial to win the target in the first round of negotiations.

“There are a number of reasons why rejection of an initial bid may ultimately result in a failed or at least a less profitable acquisition. For example, the rejection may result in the loss of a window of opportunity, such as a reduction of synergies. Alternatively, failure of the initial bid may give management or labor unions more time to mobilise legal or asset structure defensive activities. If the management response blocks the takeover, it leads to a loss to the bidder that is consistent with the assumptions of the basic model. A failed bid may also give management the opportunity to learn about and take steps to preempt the policies planned by the bidder, increasing the firm's pretakeover stock price and making the takeover unprofitable” (Hirshleifer and Titman, 1990, p. 307).

Empirical evidence additionally supports the assumption that unsuccessful acquisition attempts do not only have negative consequences on future returns of the target, but are also value-destroying for the bidding company shareholders (Bradley *et al.*, 1983).



Puolakka (2011) points out that this effect stems from the loss of increased competitive advantage potential.

### 1.3. REVIEW OF LITERATURE ON DEAL SUCCESS

We divide the existing literature into four groups. We start off with papers whose main focus is to investigate the determinants of deal success and then proceed to some more specialised research which looks mainly at the method of payment and the cost basis effect and their impact on the likelihood of deal success. Although these studies have quite a narrow scope, they employ many control variables which are of interest to us. Additionally, we review research which investigates the impact of hostility and termination fees, but also includes some models estimating takeover success. The last group centres around M&A arbitrage and the extent to which bid success can be estimated from the movement in target's stock price post-announcement. However, these results allow one to predict the chances of success only after the information about the planned transaction has been made public, while our research aims to mitigate potential costs of failed acquisition requiring us to study variables available before the announcement.

#### *A. Core Literature*

Hoffmeister and Dyl (1981) were the first to study the probability of deal success. In their research they look at cash offers made between 1976 and 1977 in the US. The final sample consists of 84 observations and includes 17 independent variables. The transaction is defined as successful if the acquirer manages to obtain the number of shares sought or more, and unsuccessful otherwise. The financial variables used in the econometric model include: current ratio, profit margin, payout ratio, dividend yield,

price-earnings ratio, return on equity, growth in earnings and dividends 2 years prior to the offer. The authors also take into account the potential vulnerability to takeover attempts and this is mirrored by percentage of shares already owned by the bidder, size of the bid premium as a percentage of the stock price two weeks before the filing with the SEC and the bid premium expressed as a percentage of the book value of the target. Additional three variables are used to measure the target's standing within its own industry and these are comparative profit margin, relative ROE and current ratio. The results obtained using multivariate discriminant analysis show that target's management hostility, firm size and payout ratio reduce the chances of deal completion, while successful takeover attempts usually involve targets with high current and P/E ratio, but the premium offered has no effect on the likelihood that the transaction will succeed.

A paper by Walkling (1985) introduces additional variables and tries to address, what he regarded as shortcomings of the previous approach. The data used encompasses cash tender offers filed with the SEC between 1972 and 1977. The final dataset consists of 158 observations, 50 of which are used for out-of-sample testing. The definition of success remains the same, i.e. the offer is regarded as successful if the acquirer obtains at least the number of shares sought if not more. The first improvement on the previous work by Hoffmeister and Dyl (1981) is the introduction of a logistic regression which is perceived as more appropriate in this context (for further discussion of related issues, see *Data and Methodology* section of this paper). Authors select bid premium, managerial hostility, percentage of shares controlled by the bidder prior to the offer, dollar amount of solicitation fees and the opposing offers dummy as independent variables. Walkling (1985) stresses the importance of the correct specification of bid premium calculation. He argues that the procedure adopted by Hoffmeister and Dyl (1981) is flawed because their premium is defined as the price offered as a percentage of the stock price two weeks prior to the SEC filing at which time many of the offers are

already known to market participants. He, therefore, puts forward to calculate the premium based on the share price 14 days prior to the public announcement in order to exclude the effect of the newly introduced information on the stock price. The results support some of the findings of the previous paper. Higher number of shares owned by the bidder before the acquisition facilitates takeovers while transactions which attract managerial resistance are more likely to fail. Additionally, competing bids have a negative effect while the opposite is true for the payment of solicitation fees. The newly defined premium variable proves to be both significant and positive, in line with the existing theory.

Flanagan *et al.* (1998) build on the previous work by Walkling (1985) and Hoffmeister and Dyl (1981). The authors look at the success rate of tender offers which took place in the US between 1985 and 1994. The sample consists of 991 transactions of which 793 were successful. The paper investigates tender offers where the purchase would result in a 5% or more ownership of the target, so change of control is not a necessary criterion. The offer is regarded as successful if the shares tendered are accepted by the acquirer. The previously studied prediction variables include: P/E ratio, percentage of shares already owned by the bidder, premium, attitude and presence of competing bids. Family ownership, return on assets, same industry/cross-border/MBO/two-tier dummies, percentage of shares sought, transaction size and termination offers are also introduced to the models. The authors conclude that offers are more likely to be successful when there is a termination fee in place, the more shares the bidder owns in the target and when the target and the bidder are from the same primary industry, but different countries. Hostile attitude, the existence of competing bids and two-tier transactions indicate lower chances of transaction completion.

The above work was based on empirical analysis, but the first theoretical model of deal success was put forward by Hirschleifer and Titman (1990). In their paper they build a model based on the assumption of rational and profit-maximising bidders and find that premium increases the chances of bid success and the same effect is to be seen when the bidder has partial ownership of the target. Surprisingly, they establish that some defensive strategies may in fact increase the chances of takeover success and also the likelihood that the target shareholders will tender their shares. Information asymmetry is also found to be an important for the outcome of the offer. In an informationally symmetric framework the bidder can win the auction by bidding one cent above the post-takeover value in a tender offer. However, in an asymmetric scenario even overbidding does not guarantee bidder's success.

### ***B. The Influence of Method of Payment & Cost Basis Effect***

The next two papers also look at deal success, but have fairly narrow focus. That is, Branch and Yang (2003) investigate the influence of method of payment on takeover success by looking at data from 1991-2001. The dataset consists of 1,097 proposed transactions using stock, cash tender or collar merger offer. The authors use a stepwise logistic regression model and study variables such as target's size, debt/assets ratio, friendly attitude of the deal, transaction size, and a dummy for a stock swap or a collar. They show that size, transaction value and stock swap decrease the likelihood of deal completion while higher debt/assets ratio and friendly attitude increase the chances that the bid will be successful. The later research carried out together with Wang (Branch *et al.*, 2008) looks at predicting takeover success with both a logistic regression and a feed-forward neural network. They study takeover attempts from 1991-2004. The sample includes 1,196 observations, 240 of which are used for out-of-sample testing. The authors analyse determinants such a target resistance, arbitrage spread, deal

structure and transaction size. They conclude that arbitrage spread, hostility, deal structure and transaction value are the dominating factors. The neural network model was found to have a better predictive power than a logistic regression when modelling failed attempts performs, as well as it has proven to be superior to a logistic regression for successful ones.

On the other hand, a recent paper by Aobdia and Caskey (2012) looks into some behavioural reasons why target shareholders may be reluctant to dispose of their shares. They investigate the cost basis effect and test how it impacts the premium and takeover success rate. They predict that the likelihood of takeover completion is higher when the bid exceeds the cost basis of institutions, *ceteris paribus*. The authors use data from 1980 until 2009, where the takeover attempt has to involve an acquisition of at least 50% of the shares in the target company. The final sample consists of 7,067 bids. The logistic models incorporate control variables such as deal hostility, tender offer dummy, competing bids dummy, target's asset value, debt/equity ratio, excess returns, same industry dummy, net income-to-assets ratio, sales-to-assets ratio and a offer/52-week high. The results show that the cost basis does have a positive effect on takeover success even when controlling for the 52-week high price. Deal hostility, contested offers, higher debt/equity and net income/assets ratios for the bidder reduce the chances of transaction completion, while tender offers, same-industry deals and size of bidder's assets increase this probability.

### ***C. Related Research***

Despite the fact that the next two papers do not concentrate explicitly on the subject of this research, they include models which shed some additional light on deal success probability as studied in our framework. For example, Schwert (2000) thoroughly

examines hostile takeovers. Among many models he also investigates the effect of hostility on takeover success. The author looks at 2,346 takeover contests for exchange-listed target firms recorded between 1975 and 1996. The acquisition is defined as successful if the transaction was completed even if the acquirer is different from the original bidder. He uses four different measures of hostility and controls for the accounting performance of target firms. These latter variables used in the probit models are: ROE, sales growth, liquidity, debt/equity ratio, size, market-to-book ratio and P/E. The results indicate that the chance of success is particularly low when the offers have not been negotiated and pre-bid events took place (the two events specified include attempted acquisition by the buyer or merger rumours for the target). Surprisingly, deals labelled as hostile by SDC seem to have a positive impact on deal success, but the models test all four measures of attitude at the same time. The regressions also show that low debt/equity and market-to-book ratios are related to successful acquisitions. In a similar manner, Officer (2003) investigates the effect of termination fees, but also looks at acquisition success. He uses 12 years-worth of data starting in 1988. The final sample has 2,511 observations. The author looks at variables such as target/bidder termination fee dummy, existence of a poison pill which would affect the bidder and a dummy which is equal to one if another bidder has made an offer for the target six months prior to the offer in question. Other binary variables indicate that the transaction has involved cash, the bidder and the acquirer were from the same industry, the transaction was hostile, or it was a tender offer, that both the bidder and the target were from financial services industry, transaction included a toehold and one which indicates that the bidder already held majority of shares in the target prior to the acquisition. Quantitative variables include total market value and the market-to-book value for both the target and the acquirer. The results show that the likelihood of offer acceptance increases with the existence of a termination fee payable to the target and a higher

premium. Furthermore, it rises when the acquirer has a toehold and a majority of shares, but also if the target is in financial services and when the bidder's market value is greater. The likelihood falls if there are competing bids six months prior to the offer announcement or after it, if the acquisition is hostile and also when the target's market value is greater.

#### ***D. M&A Arbitrage***

The first paper on predicting takeover success from target's stock price movements was written by Brown and Raymond (1986). The article is from a slightly different genre of literature in that it focuses on risk arbitrage. The authors collected data from 1980-1984 and end up with a sample of 71 transactions, of which 50% are successful. They inspect target's stock price movements and prove that successful and unsuccessful merger proposals exhibit different probabilities of completion well before the actual outcome is known and these can be inferred from the price reaction to takeover news.

Although Baker and Savasoglu (2002) primarily investigate the M&A arbitrage returns, they also look at the chances of takeover success. Their dataset goes back to 1981 and finishes in 1996. They look into transactions where both the acquirer and the target are public companies and their final sample consists of 4,135 bids. The probit regression results show that the hostility has the greatest and negative effect on the outcome. Same industry deals dummy and log of equity value for the target are both significant and negative, but their impact is small. Bidder's size increases the likelihood, but surprisingly premium is insignificant.

#### 1.4. RESEARCH MOTIVATION

Given the costs associated with unsuccessful mergers and acquisitions, we believe that it is crucial to develop a good understanding of why offers are rejected by target shareholders so that the acquirers can limit the risk of incurring high costs when the chances of acquisition are slim. This paper looks at actions which increase the probability that the target shareholders will accept the bid and the determinants which reduce the likelihood of deal completion. Contrary to the existing literature, we focus on the UK market and offer a systematic approach investigating both cash and stock offers. We try to deepen our understanding of the factors which may encourage the target company shareholders to sell. The following section aims to structure our understanding of the factors which have an effect on the transaction completion likelihood. However, the main contribution of this research is the recognition of the problem of potential endogeneity, as present in the previous literature. Having studied factors which have been proven to influence deal success and takeover premia, we noted that there is a significant theoretical overlap. What is more, there exists statistical evidence that some variables influence both the premium and the success rate which becomes problematic given that premium is one of the most important independent variables in the previously built models. Hence, we conclude that the existing research fails to identify the fact that many variables used to predict success rate also impact the size of the premium. We recognise the issue and address it by employing the two-stage residual inclusion (2SRI) methodology which enables us to separate the indirect effect, i.e. the effect of other variables included in the model on the premium, from their direct effect on bid success.

Next section focuses on literature review and the development of hypotheses for this paper. It is then followed by *Data and Methodology*. In the proceeding section we discuss the empirical results which are followed by *Robustness Checks*. The last two



sections of this paper are *Limitations* and the *Conclusion*, which summarises the findings of this research.

## 2. HYPOTHESES

Below we analyse factors which we expect to have a significant and positive effect on deal completion. In short we believe that a pre-emptive offering process maximises the chances that a transaction will be finalised. Therefore, we propose that in order to get the target shareholders' consent the acquirer should:

1. offer a large premium
2. pay in cash
3. engage in bilateral negotiations, if not possible make sure the transaction is friendly in its nature
4. acquire a stake in the target prior to the official sale process
5. introduce a termination fee

A detailed motivation for the selection of these actions is presented in the following paragraphs.

We are aware of the endogeneity problem and therefore our models take into account the fact that although all of the variables studied have an effect on the probability of success of an offer, some of them will also impact the premium. We, therefore, look at both, the direct (influencing the probability of deal completion) and the indirect (the impact which they may have on the premium which then influences the likelihood of success) effect of these variables.

## 2.1. PRE-EMPTIVE BIDDING

This paper puts forward that contract and transaction specifics will have a great impact on the likelihood of bid acceptance. In this sub-section we look at variables such as premium, nature of the bid, competing bids, method of payment, number of shares to be acquired and the termination fee.

### *A. Premium*

The premium is the potential cause of the endogeneity problem in the existing research but also the main factor that comes to mind when assessing the probability of a bid's success. If the premium is too high the potential returns from the acquisition will be reduced, if the transaction is completed. On the other hand, if the premium is too low the bid might be rejected and this may lead to a loss of a potential investment opportunity. The prediction stemming from economic theory is very straightforward – we expect that a higher premium will increase the chances of bid success. Furthermore, as noted by Walkling and Edmister (1985), the highest premium a value-maximising bidder would pay for a firm should be marginally lower than the net benefits achieved post-acquisition. In general, it is expected that the bid premium the acquirer is ready to pay for the target should be a positive function of the benefits related to the acquisition and a negative function of the target's bargaining power (Walkling and Edmister, 1985).

### *Theoretical Literature*

The economic intuition and theoretical models explaining why higher premia should increase the chances of success seem to be highly appealing. The model by Hirshleifer and Titman (1990) has shown that the relationship between the premium and deal success is indeed positive. Further work on the topic has been carried out by Fishman

(1988) who built a model under the assumption of asymmetric information which can be alleviated in the bidding process. The model predicts that the return of the second bidder diminishes with increasing value of the initial bid. Hence, higher bids shall increase the likelihood of success. Similar conclusions can be drawn from the analysis of the free-riding problem by Grossmann and Hart (1980) who study the issue in an M&A context. They show that dispersed ownership encourages shareholders not to tender their shares in hope that majority of investors will, which would enable them to benefit from the post-acquisition appreciation in the value of the target. The free-riding shareholders have no incentive to tender their shares unless the offer price is equal to the post-acquisition price reflecting all the improvements implemented by the new management. This also implies that higher premia would provide stronger incentives to sell and thus would increase the likelihood of deal success.

### *Empirical Literature*

An empirical study by Walkling and Edmister (1985) covering US transactions which took place between 1972 and 1977 finds that successful bidders incorporate premiums 13 percentage points higher than those who do not manage to finalise the transaction. Bid premium has a positive and significant effect on the success rate in numerous studies (Quirin, 1971; Walkling, 1985; Giammarino and Heinkel, 1986; Holl and Kyriazis, 1996; Betton and Eckbo, 2000 or Officer, 2003). However, earlier evidence by Hoffmeister and Dyl (1981) based on a sample of 117 cash tender offers placed between 1977 and 1979 indicates that the size of tender premium has no effect on completion rates. It was argued that this is due to flawed methodology (as discussed before). However, related papers, including recent ones, also document statistical insignificance of this variable (Hayes and Taussig, 1967; Pellegrino, 1972; Ebeid, 1974; Hoffmeister and Dyl, 1981; Flanagan *et al.*, 1998; Mitchell and Pulvino, 2001; Baker and Savasoglu,

2002; Branch and Yang, 2003). This has been further studied by Aobdia and Caskey (2012) in relation to anchoring near the initial share purchase price by investors. They find that the cost basis is significant even when controlling for the 52-week high price. However, the premium calculated on the basis of share price 4 weeks prior to announcement remains insignificant.

Hypothesis 1:

*The probability of transaction completion will be higher the higher the premium*

*Premium as a Dependent Variable*

Researchers' interest has sparked the emergence of literature modelling the bid premium. Walkling's (1985) article is among one of the first ones on the topic. Further papers which investigate the characteristics of the target and the transaction features are not primarily studying bid premia, but deal hostility and termination fees. The earlier one of the two publications, written by Schwert (2000), includes financial characteristics of the target. In the same paper the author models the likelihood of completing a transaction and the results indicate some overlap in the determinants of deal success and the size of the premium. Two variables which affect both are those related to deal hostility. What is more, research by Officer (2003) provides evidence that variables such as termination fee, tender offer dummy, financial services dummy (both target and bidder from financial services industry), bidder's market value and the ownership of more than 50% of the target impact both the bid premium and success rate. Therefore, we conclude that many variables which on the basis of financial theory are expected to affect the likelihood of takeover completion are also likely to influence the bid premium. Hence, some of the independent variables selected for the purpose of

this research are likely to have a direct effect on the success rate, but also an indirect one by increasing or decreasing the value of the bid premium. The main problem with the existing work looking at bid success is that the researchers fail to recognise the existence of this endogeneity. This paper addresses this problem through the employed econometric techniques as described in more detail in the *Data and Methodology* section. It also looks at both effects at the same time, discussing on the following pages of this paper the indirect and direct effect of the variable in question.

### ***B. Method of Payment***

When deciding how to structure a transaction the bidder also has to choose the method of consideration. In Chapter 2, we have discussed in more detail the factors affecting the acquirer's decision with regard to the method of payment. However, the two which are by far the most common ones are cash and stock exchange and they have significant implications for the target and bidder shareholders. In a cash offer, the target agrees to sell its shares for a pre-specified price. A share exchange takes place when the bidder decides to give away an agreed number of his own shares in exchange for the target's stocks. Alternatively, the bidder can offer a mix of the two.

#### *Bidder's Perspective*

For the buyer, a cash offer implies that the bidding company's shareholders retain the same level of control over their company, thus there is no dilution of ownership or power. Nevertheless, if the acquirer makes a cash offer and it later appears that the target has been keeping away information essential for the valuation of company or the cash flow projections were more optimistic than the reality, the cost of the acquisition might be higher than initially expected, consequently making the transaction potentially

not worthwhile. Clearly, the positive outcome where the target performs better than expected should not be disregarded. In this case a cash offer means that the bidder can fully benefit from the existing upside because target shareholders are not entitled to any of the residual cash flows anymore. On the other hand, assuming that the acquirer offered equity, the transaction is completed and the target appears to be worth less than assumed, the shareholders of both companies will be adversely affected, as the lower-than-expected value of the target decreases the value of the combined company. This is known as the risk sharing hypothesis (Martin, 1996). Also, if the target shareholders anticipate that the acquisition will be paid for in shares, they might be inclined to disclose more information to the acquirer in order to realise higher gains in the future when selling the shares. However, if the realised synergies are higher than projected in the valuation, the dilution of power means that the bidder cannot reap all the profits from this transaction and has to share them with the target shareholders who received bidder's stock in exchange.

### *Target's Perspective*

Choosing cash as a method of consideration implies that the existing shareholders have to give up all control of the target, but they do not have to worry about the true value of the bidder's shares. In a cash offer the bidder indirectly agrees to take on all the risks resulting from the asymmetry of information related to the true value of the pursued company. Target shareholders also do not have to bear any of the uncertainty relating to how the market will react in the period after the announcement and before the actual share exchange. However, in an equity exchange a higher-than-expected increase in value of the combined firm will be beneficial for both companies' shareholders. Assuming that there are no informational asymmetries, the shareholders may still be reluctant to accept

shares as a payment method because the realisation of potential synergies will to a great extent depend on the new management.

### *Signalling*

The decision about the method of payment has certain implications for the bidder and the target, but also for all market participants. Provided that managers are rational, we expect them to focus on maximisation of profits or minimisation of costs. Therefore, a manager is expected to pay for an acquisition in a way that is most financially beneficial to the company. If the managers of a bidding firm are convinced that the true value of their firm's shares is higher than the current share price, they will prefer not to issue equity suggesting cash instead (Goergen and Renneboog, 2004). On the other hand, if they believe that the market valuation of their company is excessive, they will choose a share exchange. Hence, the market may interpret the financing choice as a signal about the company's under- or overvaluation, revising the share price of the bidding firm accordingly. In other words, a negative price correction is expected for all-equity bids and a positive one for all-cash bids, which is commonly referred to as the signalling hypothesis (Leland and Pyle, 1977). In addition, the chosen method of payment tells us about acquirers' beliefs regarding the value of the target. A cash bid is interpreted as a positive signal about the target firm's quality along with its predicted future performance as the bidding firm is exchanging cash for the target's shares, hence indicating they are not willing to share future value increases.

### *Direct Effect*

Papers by Eckbo *et al.* (1990), Berkovitch and Narayanan (1990) or Brown and Ryngaert (1991) also point out the signalling benefits of cash offers in a single-bidder



framework. In work by Fishman (1988) cash is a signal used by high-valuation bidders and allows to deter competition through pre-emptive bidding. Additionally, previous research shows that as the number of bidders increases a higher proportion of the total offer is cash (Berkovitch and Narayanan, 1990). It is not surprising as this payment method enables the bidder to complete the deal faster. Using stock may mean a few-months-long waiting period to get an approval of a registration statement (Lane *et al.*, 1983). What follows, hostile transactions tend to utilise cash more often on average than when the acquisition is friendly (Chen and Cornu, 2002). Furthermore, transactions involving stock mean that the target shareholders have to bear additional risks resulting from the method of payment and thus they may be more reluctant to accept it. Therefore, an offer involving cash as a method of payment will be more successful than those involving a share exchange.

Hypothesis 2:

*The transaction has a higher chance of completion when the method of payment is cash*

*Indirect Effect*

Cash offers show the buyer's determination to finalise a transaction, regardless whether this transaction is hostile or friendly in its nature, which could potentially mean that offers involving cash premia could be higher than those paid for in shares. These results are supported by researches who conclude that all-cash bids tend to be higher than all-stock bids (Huang and Walkling, 1987; Eckbo and Langohr, 1989; Hayn, 1989). Although one other reason quoted in the literature for higher bid premia in cash offers are tax considerations, Franks *et al.* (1988) put forward that premia in the UK were higher for cash than stock offers even before the introduction of the capital gains tax.

This may be explained by the fact that a share exchange offers target shareholders some potential upside. On the other hand, share exchanges pose a lot more risk for the target shareholders who should, therefore, require a higher premium. Additionally, stock-payment indicates overvaluation of the bidder, hence we can conclude that the acquirer should also be less concerned about offering a higher premium (Shleifer and Vishny, 2003). Unlike in the case of a cash offer, assuming overvaluation, the true value of the premium in a share-exchange will be lower than the nominal amount. Given the above we conclude that the effect of the payment methods on the premium is ambiguous.

Hypothesis 3a:

*Using cash as a method of payment will increase the premium*

Hypothesis 3b:

*Using cash as a method of payment will decrease the premium*

### ***C. Competing Bids***

#### *Multiple Bids*

One way of maximising the chances of closing a transaction is engaging in a pre-emptive process with bilateral negotiations. A study of a sample of 10,000 initial public bids in the US during 1980-2005 shows that the initial bidder wins the target only 66% of the time (Eckbo, 2009). Tender offers resolve some of the information asymmetry in the market and convey a signal about the value of the target to other market participants.

Hence, an initial bid will attract more competitors if those assign a higher value to the target by being able to extract greater synergies (Fishman, 1988). Also, in case of a hostile bid the directors may try to find a white knight who will place a competing offer perceived more favourably by the target management.

#### *Direct Effect*

The existence of multiple bids is expected to limit the chances of deal success. Empirical evidence proves that the presence of active competitors has a negative impact on deal completion (Flanagan *et al.*, 1998) and the same has been concluded by Aobdia and Caskey (2012). One potential explanation is the possibility that the new bidder might be perceived more favourably by the management than the original one. However, empirical evidence provided by Schwert (2000) shows that multiple-bidder auctions are actually more likely to be hostile. Overall, we expect that the likelihood of completion will be lower when the competition is greater.

#### Hypothesis 4:

*The likelihood that the transaction will be finalised is lower when there are multiple bidders*

#### *Indirect Effect*

The theoretical model of Berkovitch and Narayanan (1990) demonstrates that targets benefit from increased competition and manage to generate better returns when there are multiple bids. This is in line with the findings of Bradley *et al.* (1988), who additionally show that more competition decreases acquirer's returns, which would imply that under such circumstances the negotiated premium is higher. This is because

in order to win a multiple-bidder contest any new auction entrants have to place a higher offer than the original bidder in order to acquire the target. Already Walkling and Edmister (1985) documented that premiums are 33.5% higher when there is more than one bidder. Results by Betton and Eckbo (2000) provide evidence that the initial bid premium in such cases is lower, but note that the premium increases in subsequent bids. According to more recent research, the premium is greater even when there are potential bidders who have not yet placed an offer (Aktas *et al.*, 2010). Overall, we therefore expect that increased competition will have a positive impact on the premium offered for the target.

Hypothesis 5:

*The premium increases with multiple bidders*

If the option to engage in bilateral negotiations is not attainable, the acquirer should take measures which would ensure that the negotiations remain friendly and that the takeover offer gets the backing of the target's management.

*Friendly versus Hostile Acquisitions*

Rational managers in efficient markets may choose to acquire a company for two reasons – obtaining synergistic benefits or disciplining inefficient management. Synergistic takeovers rely on the possibility of extracting additional profits by combining two firms. The appreciation in value can be a result of increased market power, optimisation of tax assets/liabilities, merging of the R&D or marketing resources or by eliminating overlapping functions within the new company (Morck *et al.*, 1988). Therefore, acquisitions which aim to realise post-transaction synergies are likely to be

friendly in their nature. The second motive is the one which involves the disciplining of inefficient management of the target company. This is a situation in which the bidder tries to address the problem of the agency cost and managers' discretionary behaviour (Williamson, 1984; Jensen, 1986). The goal is to remove the non-value-maximising practices of the target's management which stem from their inaptitude or excessive focus on the extraction of private benefits. Examples of such destructive behaviour include, amongst others, disproportionate growth and diversification, overconsumption of perquisites, provision of overly generous contracts with third parties or debt avoidance (Morck *et al.*, 1988). Hence, disciplinary takeovers which ultimately lead to at least a partial change in management are likely to be hostile. Unfortunately, Morck *et al.* (1988) point out that the nature of the motives is not always clear because some diversifying mergers may encounter managerial resistance, while transactions which aim to remove the management may be friendly if the compensation offered to the target's managers is sufficiently high. However, they argue that friendly acquisitions can also be driven by the need for corporate diversification, synergies, life-cycle decisions of those in charge, while alternative aims of a hostile acquisitions might be shutting down the firm and/or selling its assets.

#### *Reasons for Managerial Resistance*

The first reason for managerial resistance is the shareholder interest theory which states that offers are rejected because managers, acting in the best interest of the shareholders, refuse to accept bids which are below the value of the company (Jensen and Ruback, 1983). This is in line with the findings from the theoretical model of Baron (1983) who argues that managers reject offers because they do not represent the true worth of the company and the rejection acts as a signal conveying information about the value of the target in question. To test the hypothesis that managers decline offers in order to

maximise shareholder-value Jennings and Mazzeo (1993) investigate the relationship between the bid premium and managerial resistance to find that hostility does in fact decrease with increasing bid premium offered for the target. A contradicting theory is the one of managerial entrenchment. It is believed that managers may reject fully rational and financially attractive bids simply because their acceptance would have adverse impact on their wealth (Jensen and Ruback, 1983). Research suggests that the board turnover and the intensity of restructuring within in the organisation increase significantly after the acquisitions (Franks *et al.*, 2001). Agrawal and Walkling (1994) who study the careers of managers of the selling companies, conclude that target CEOs are more likely to get fired and may find it difficult to secure a similar position within the first three years after the takeover. Given the above, it is not surprising that academics found a negative relationship between managerial resistance and changes in private benefits of the management (Walkling and Long, 1984; Cotter and Zenner, 1994). However, there is also a special instance of the shareholder interest theory. Schwert (2000) presents the bargaining power hypothesis in which he states that managers may want to oppose a takeover in order to attract other bidders and to, therefore, increase the bid premium. In such scenarios managerial resistance shall be perceived as a strategic bargaining tool rather than as a sign of managerial entrenchment detrimental to shareholder wealth.

### *Direct Effect*

Hostile takeovers are by definition transactions in which the bidder bypasses the management. Therefore, regardless whether we believe that the managers work towards the maximisation of shareholder value or to increase their private benefits, managerial resistance is likely to reduce the chances of bid acceptance. Indeed, empirical models show that the likelihood of success for hostile bids is lower than in the case of friendly

ones (Aobdia and Caskey, 2012). The same results were obtained by Hoffmeister and Dyl (1981). They show that hostile takeover attempts have a lower rate of completion than friendly ones and the proportion of completed deals can be even less than half the proportion of successful transactions when the offer is friendly (Flanagan *et al.*, 1998). Thus, we expect that managerial resistance will directly reduce the chances of deal completion.

Hypothesis 6:

*The probability of success decreases when the bid is hostile*

*Indirect Effect*

There is also an indirect effect of hostility. The theory predicts that hostile acquirers are usually ready to pay a higher premium as they expect that the future profits will increase after the introduction of more efficient management. Chen and Cornu (2002) provide empirical evidence that the bid premium increases with the proportion of hostile offers in the sample. Hence, we expect that hostility will lead to higher premia.

Hypothesis 7:

*The premium is higher for hostile transactions*

## ***E. Shares to Be Acquired***

### *Benefits of Toeholds*

One strategy which ought to help the bidding company to complete the transaction is a purchase of a toehold, i.e. the acquisition of a small proportion of outstanding shares in the company to be bought. The first advantage of possessing a toehold is a reduction in the number of shares which have to be purchased later on at a premium, therefore “owning a toehold can help the bidder win an auction, and win cheaply” (Bulow *et al.*, 1999, p. 428). It has been additionally stated that “if target management is expected to resist irrespective of the toehold size, then acquiring a toehold is always optimal” (Eckbo, 2009, p. 166). A further advantage is that they can deter other bidders by implying that any new auction entrants would have to pay an even higher premium in order to have a chance of winning the contest (Eckbo, 2009). However, such a shareholding is also advantageous to the bidder even if he does not offer the highest price and fails to win the auction. This is because the winner’s higher valuation will be reflected in the profit made when selling the existing shareholding. What is more, a partial ownership in the target can help overcome the free-riding problem as shown by Shleifer and Vishny (1986) or Hirshleifer and Titman (1990).

### *Use of Toeholds*

Although the literature strongly highlights the benefits of toeholds, it has been observed that they became less popular in the last 20 years and toehold bidding is now very infrequent (Eckbo, 2009). One proposed reason for this fall in their popularity in the US



might be the increase in the costs related to such purchases stemming from increased regulation, market illiquidity or target management resistance (Eckbo, 2009). In the US the 1968 Williams Act put in place a requirement to disclose any shareholdings of 5% or more. Additionally, the 1976 Hart-Scott-Rodino Antitrust Improvements Act introduced a share purchase threshold which requires the notification of the antitrust agencies (Betton *et al.*, 2008). This means that the acquirer has to reveal his intentions early on and this increases the costs relating to the toehold purchase or alternatively reduces the potential benefit resulting from such a transaction. However, these changes do not seem to rationalise the fall of popularity of toeholds across time, because even in 1980s, i.e. after the introduction of both regulations, these were commonly used. The second potential reason for the cost increase also does not find support in the data, as the overall level of liquidity has increased (Betton *et al.*, 2005). However, newer research does provide us with some explanations for the existence of this phenomenon. First, Goldman and Qian (2005) put forward that an acquisition of a toehold in a company whose managers extract private benefits may actually destroy value. This is because the existence of a toehold should indicate that the bidder has some power over the managers. If regardless the agent still rejects the bid, it signals a high degree of managerial entrenchment which may have a negative impact on the share price. Second, Bris (2002) argues that the purchase of a toehold actually increases the costs of the acquisition as it can be perceived as a signal which triggers a share price run-up attributable to those investors looking to generate a return from M&A arbitrage.

### *Direct Effect*

A shareholding in the target provides the bidder with significant advantages because as argued by Flanagan *et al.* (1998) “prior ownership of the target should increase a bidder’s influence on the target’s board of directors. This should increase the probability

that the bidder will receive the board's cooperation and complete its offer" (p. 24). Additionally, toeholds deter other potential bidders from participating in the auction process. In line with the theory, Bates and Lemmon (2002) find evidence that toeholds and bid success are positively correlated and this is consistent with empirical evidence provided by Walkling and Edmister (1985), Holl and Kyriazis (1996) and Elstrand and Weber (2006) and theoretical results of Singh (1998). Analysed data indicates that the probability of success increases with a decreasing number of shares which have to be acquired to obtain control (Flanagan *et al.*, 1998; Hirshleifer and Titman, 1990). The above discussion leads us to believe that the effect of toeholds and the number of target's shares held by the bidder on the bid success should be positive.

Hypothesis 8:

*The higher the bidder's shareholding in the target the higher the probability of success*

*Indirect Effect*

As described above the acquisition of the toehold is likely to reduce the chances of target's hostility towards the acquisition and should result in fewer competing bids on average. In fact, empirical evidence proves that, in line with the deterrence effect, the introduction of a toehold does not only reduce the premium, but also the target shareholders' returns (Jarrell and Poulsen, 1989; Eckbo and Langhor, 1989; Betton and Eckbo, 2000; Betton *et al.*, 2008). The theoretical models by Shleifer and Vishny (2003) and Hirshleifer and Titman (1990) show that toeholds allow the bidder to purchase the target at a lower price. However, others argue that the existence of a toehold may lead to more aggressive bidding (Burkart, 1995; Singh, 1998, Bulow *et al.*, 1999) which should result in a higher premium and this supposition is supported by the

empirical work by Chowdry and Jegadeesh (1994). Given the existing evidence, we are more inclined to put forward that toeholds are expected to reduce the premium offered in an acquisition.

Hypothesis 9:

*The higher the shareholding of the bidder in the target the company the lower the premium*

***F. Termination Fees***

Another potential tool with which the acquiring managers can increase their chances of success is through the introduction of a termination fee. This is a compensation which has to be paid to the target if the transaction is unsuccessful. US data from 1997-1999 shows that almost two-thirds of all announced deals included a termination fee (Officer, 2003). These are also very common in Canada but slightly less frequently used in the UK where the size of the fee is limited by the City Code on Takeovers and Mergers and indirectly by the 1985 Companies Act and is effectively capped at around 1% (Gregory, 2007). Termination fees are quite popular in Germany and Australia but not in Belgium, The Netherlands and Spain (Gregory, 2007). Andre *et al.* (2007) claim that “termination fees are used as an efficient contractual device, where their magnitude is set rationally to account for the expenses incurred to conclude the transaction, the expected benefits from the proposed business combination and potential opportunity costs” (p. 564), however their results seem less clear. Their models show that termination fees are positively related to merger costs, deal value and cash payments which is in line with the above statement. However, they also show that termination fee size is higher the higher the toehold, when the company is owned by a family and is also positively

correlated with CEO retention but lower the higher the number of outside directors – all these results indicate that higher termination fees may be linked to a potential agency problem.

### *Theory*

The first of the two theories postulates that the use of termination fees can be effectively perceived as a form of managerial entrenchment. Its existence allows the managers to distort the bidding process which may prove detrimental to the target's shareholders. This is because such contracts encourage the target management to favour the bidder who offers them private benefits of the highest value. However, the alternative hypothesis states that termination fees may be beneficial to the target shareholders as they incentivise the bidder to reveal his post-takeover plans. These may not be disclosed in the absence of a termination fee because there exists a risk that this information will be used by other bidders to offer a higher price by free-riding on the revealed information (Officer, 2003). Additionally, the bidder may be reluctant to get involved in the preparation of the post-merger integration if the likelihood of deal completion is not to some extent secured by the termination fee.

### *Direct Effect*

Termination fee is expected to affect the likelihood of success in three ways. First, it ensures that target management is fully supportive of the deal, hence the managers will not try to block the transaction. Second, "the significantly higher success rates in termination fee deals are potentially the result of bidders making more substantial investments in the bid process, including the release of non-public information about post-bid strategies for the target's assets, because such investments are protected with a

termination fee from free-riding by other bidders” (Officer, 2003, p. 458). Third, offers with termination fees are less likely to receive competing bids which usually lead to failed acquisitions. Empirical work indeed shows that termination fees enhance the likelihood of deal completion (Flanagan *et al.*, 1998), according to Officer (2003) by 20% and this is additionally supported by univariate analysis carried out by Coates and Subramanian (2000). Regardless whether we assume that managers act in the best interest of the shareholders or try to secure highest private benefits, the introduction of the termination fee should increase the likelihood of deal completion.

Hypothesis 10:

*Termination fees increase the likelihood of deal success*

*Indirect Effect*

There is a potential agency cost which comes from the reduction in the takeover premium resulting from the lack of competition due to the existence of a termination fee. We expect that the reduced competition is likely to have a negative impact on the premium. Although the econometric models indicate that only a small proportion of transactions including a target termination fee receive follow-on bids (Odean, 1998), it has been found that its existence is surprisingly linked with larger premia, also when controlling for other deal characteristics. The difference is as high as 4% (Officer, 2003). This result is consistent with the empirical results by Bates and Lemmon (2003), but contradicts the evidence provided by Barger (2005). Despite most of the empirical work, we postulate that termination fees should have a negative effect on premia because of fewer competitors entering the contest.

Hypothesis 11:

*Premium is lower when there is a termination fee in place*

[Insert Table 1 around here]

## 2.2. CONTROL VARIABLES

Additionally to the above key themes, we also introduce a number of control variables which may influence the chances of deal completion due to their impact on the bargaining power and attitude towards the takeover offer.

### *A. International Acquisitions*

Researchers argue that cross-border acquisitions generate more value for the target shareholders than domestic transactions (Conn *et al.*, 2005; Sudarsanam, 1995; Kuipers *et al.*, 2003). However, there is no agreement in the literature regarding the ability of those to generate positive returns for the acquiring company. Eun *et al.* (1996) note that cross-border M&A can result in wealth gains, in particular when the bidders acquire targets with R&D competences. However, as discussed previously and pointed out by Boeh (2011), cross-border M&A are associated with additional risks and higher information asymmetries.

### *Problems Relating to Cross-border M&A*

After examining international acquisitions by U.S. MNCs, Doukas and Travlos (1988) reach a conclusion that if the corporation expands to the target's country for the first time, it experiences significantly positive excess returns, especially high when the acquisition involves a high degree of geographical and industrial diversification. Nevertheless, there are a number of potential complications associated with cross-border deals, which can be value-destroying to the bidding firm shareholders. The first problem is the informational asymmetry, which is likely to make the valuation more challenging. The fact that a deal involves two firms located in different countries increases the number of unknowns. Harris and Ravenscraft (1991) show that there are fundamental differences between domestic and international acquisitions. Cross-border transactions involve greater information asymmetries (Reuer *et al.*, 2004). "The Church-Tower Principle implies that the difficulty for the lending bank in assessing the default probability of a borrowing firm increases with the distance to it" (Carling and Lundberg, 2002, p. 16). We can extend this framework to M&A transactions and state that you should only engage in business in your proximity simply because you know the market. This also explains the home bias, i.e. investors' preference to invest in firms located in their proximity (see for example Coval and Moskowitz, 1999; Ke *et al.*, 2010). Basu and Chevrier (2011) provide evidence that larger distance in M&A leads to lower abnormal returns for the acquiring company and greater likelihood that the bidder will use stock as a medium of exchange.

### *Cultural Clashes*

The human factor is very often forgotten, but highly important. When the target and the bidder are located in two different countries the companies will have to marry two

different cultures. Hence, there is a risk that the post-acquisition integration process can be complicated by cultural clashes, especially if the cultural gap between countries is considerable (Conn *et al.*, 2005). Such problems may jeopardise the realisation of the forecasted synergies which may result in value-destroying acquisitions. This is not a problem of negligible magnitude. Coopers and Lybrand (1973) rank cultural clashes as the number one cited cause of M&A failure.

Other obstacles that bidders may face when acquiring overseas may be related to statutory and regulatory barriers imposed by the authorities of the target firm's country. Although it has been argued that cross-border acquisitions may encounter less resistance stemming from antitrust issues (Flanagan *et al.*, 1998), governments around the world have over time started to exhibit growing economic nationalism, trying to protect companies which they deem to be of significant importance to the domestic market, while the increased monitoring and creation of supervisory bodies at an international level, such as the European Union, may actually increase the likelihood that a transaction will be blocked. Therefore, having studied the existing literature, we expect cross-border acquisitions to be more successful as those have a lower chance of being rejected by the regulators on the basis of anti-trust issues. Furthermore, we recognise the fact that transactions where the target and the acquirer are from different countries involve additional risks and higher information asymmetry but may offer additional synergies, including but not limited to the co-insurance of cash flows. Therefore, we put forward that acquirers will be willing to pay more for targets located abroad than domestic companies.



## ***B. Industry Diversification***

### *Same versus Different Industry*

Same-industry deals also indicate that the acquisition is a disciplining tool (Bhagat *et al.*, 2005). Additionally, because the bidder is from the same industry he brings in expertise and general know-how. In such cases the acquirers are expected to have better information about resources, suppliers, market demand, operational arrangements, etc. (Gordon, 1991). The opposite should hold for inter-industry deals (see e.g. Koh and Venkatraman, 1991; Montgomery and Hariharan, 1991). The bidder's knowledge and the nature of the bid promise success deriving from correction of inefficiencies and monetisation of the target's growth potential. Greater synergies may be created due to an easier integration process, economies of scale, lower cost of capital for the combined firm, etc. Acquirer's experience in the industry also allows him to design a more attractive offer in respect to the transaction structure and method of compensation (Flanagan *et al.*, 1998). Although same-industry transactions may be an indication of empire building, target shareholders perceive bids made by buyers from the same industry as more favourable (Morck *et al.*, 1990). However, the fact that the bidding company management may already have the necessary know-how and will be less likely to keep the target's management post-acquisitions may lead to greater bid resistance (Walsh and Ellwood, 1991). Furthermore, Flanagan *et al.* (1998) also point out that same-industry offers are less likely to be accepted due to potential anti-trust issues. On the other hand, if that acquirer is from a different industry, he will not have the essential know-how and this increases the chances that the target's management will chose to cooperate hoping that they may run the company even after the transaction is completed. Contrary to our expectations the existing evidence shows that conglomerate transactions generate positive returns to bidders (Travlos, 1987; Asquith *et al.*, 1987;

Moeller and Schlingemann, 2005), while a study by Moeller *et al.* (2004) propounds that industry relatedness is one of the characteristics of large-loss deals, but Conn *et al.* (2005) notice that results for industry relatedness are not statistically significant. On the other hand, Yook (2003) concludes that only non-conglomerate deals may result in synergies, which is consistent with several other studies.

The increased pace of consolidation in many sectors has increased government's concern over the emergence of monopolies which reduce customers' bargaining powers and distort free-market mechanisms and hence same industry deals are more likely to be rejected. However, same-industry deals indicate that the bidder already knows the industry and should be better equipped to draft an attractive offer terms. In line with our expectations, the results of Flanagan *et al.* (1998) show that the probability that a tender offer is successful is higher when the bidder and the target are from the same industry. Despite the fact that same industry deals are more likely aimed at the removal of the target's inefficiencies and hence may more often raise managerial resistance, we put forward that the acquirer's knowledge and expertise in the sector should generally aid them to put forward an offer which is more likely to be accepted, *ceteris paribus*. At the same time the effect on the premium is ambiguous. On one hand, same-industry bidders should be able to estimate the potential operational synergies more accurately giving them more confidence in the true value of the target and hence encouraging them to bid more aggressively. On the other hand, diversifying bidders will face greater asymmetry of information, but this would simply result in greater dispersion of the estimated company value. However, if we assume that the motivation of the transaction is the diversification of cash flow sources, this may mean that bidders from a different industry would be willing to pay even more than the target's peers. They would effectively be offering an additional premium for the co-insurance of cash flows effect. Although Walkling and Edmister (1985) found that the effect of conglomerate deals on

premia is insignificant, the theory urges us to argue that acquirers would be ready to pay more for targets operating in industries different than the one of the acquirer.

### ***C. Financial Performance***

The financial performance of the target is yet another factor which has a strong impact on the chances of a bid success. We have already discussed that some acquisitions arise in order to remove the inefficient management. Hence, we can assume that companies which are less profitable will be acquired by those which are more profitable. We also expect that the existence of inefficient management will be reflected in the target's poor financial performance which increases the likelihood of an acquisition. What is more, companies which become targets of hostile takeovers perform poorly and exhibit lower growth when compared with their peers, although the opposite does not hold for potential friendly deals as targets of such transactions cannot be distinguished from their peers (Morck *et al.*, 1988).

The extant literature strongly supports the argument that the management of a financially sound company shall be well perceived by the shareholders. Flanagan *et al.* (1998) argue that shareholders of such firms are likely to conclude that the management is effective and shall remain in control or may think that the share price is likely to increase even further in the future, allowing them to earn more than in case of a takeover. Although the existing research shows that industries which are characterised by strong profitability and growth do experience a high volume of transactions (Betton *et al.*, 2008), higher abnormal returns lead in general to lower likelihood of a takeover (Palepu, 1986). Results of a recent study supported the hypothesis that better performing companies, regardless whether measured by looking at profitability or assets turnover, are also more likely to reject bids (Aobdia and Caskey, 2012). At the same

time bidders are likely to offer a higher premium for targets which present significant opportunities to improve efficiency (see for example, Chen and Cornu, 2002). Given that profitable companies are already resourceful, in such cases most of the value can be derived through the realisation of potential synergies and not the elimination of inefficiencies. Although empirical studies claim that there is no indirect effect, i.e. performance does not influence takeover premia (Comment and Schwert, 1995; Schwert, 2000), in line with the theory, we expect that poorly performing targets should be more attractive to buyers who would be willing to bid higher in order to win the contest. Well-performing targets are expected to attract a lower premium than those targets which generate poor financial results, as the latter are likely to suffer from entrenchment, offering greater scope for appreciation in value once the inefficiencies are eliminated.

#### ***D. Market Valuation***

One other measure of company performance is its market valuation. Return-seeking investors will be drawn towards companies which provide them with high dividends and/or strong appreciation in the share price over time. Therefore, if we believe that the Efficient Markets Hypothesis holds and there are no market imperfections, the share price should be a reflection of how well the company is performing. Furthermore, the Q-theory of mergers predicts that high market-to-book firms should acquire low market-to-book firms and replace target's inefficient management or eliminate the inappropriate use of assets so that more value will be extracted from existing resources. This goes back to the work by Manne (1965). In Q-theory the biggest improvements will take place when the best performing companies are paired with their most undervalued peers, what can actually lead to waves in merger activity (Jovanovic and Rousseau, 2002). However, the research by Rhodes-Kropf and Robinson (2008) shows that this

does not necessarily hold because although the market-to-book ratio of the acquirer is indeed higher than the one of the target, firms that pair up seem to have similar ratios. There are a few theories trying to explain why companies with low M/B ratios are more likely to become targets. The first states that low ratio indicates ownership of many assets, but few growth opportunities (Myers, 1977). The second points out that the company might be cheap to acquire given the stock undervaluation. Third, the efficiency with which they are run might be lower than the market average (Lang *et al.*, 1989). In line with the theories, earlier literature postulates that companies with higher M/B ratio are less likely to be acquired (Hasbrouck, 1985; Comment and Schwert, 1995), but the data collected by Morck *et al.* (1988) provides evidence that this effect holds only in case of tender offers. Palepu (1986), on the other hand, shows that this is of no importance - when paying in cash or through a stock exchange.

With regard to deal completion, we would expect that companies that perform well and have high M/B ratios are more likely to reject bids as the management should be more favourably perceived by the shareholders and has the power to oppose an offer, *ceteris paribus*. However, empirical research by Hoffmeister and Dyl (1981) indicates that targets with higher price-to-earnings ratio actually enjoy a higher rate of completion than those with lower ratios but following the same line of reasoning, as in the case of the hypothesis on financial performance, bidders should be much more interested in targets which do not exhibit high market-to-book ratios because they provide little scope to remove inefficiencies and generate more value. Accordingly, literature looking at premia and market valuations proves that acquirers pay higher premia for targets which have lower market-to-book ratios (see Walkling and Edmister, 1985).

## *E. Size*

### *Large Targets*

Previous research shows that purchasing more expensive targets relative to the size of the acquiring company may point at managerial motives, such as empire-building (see Roll, 1986; Shleifer and Vishny, 1989; Morck *et al.*, 1990). However, larger size of the target may potentially mean greater synergies post-acquisition which would result from bigger economies of scale, market power, etc. and as pointed out by Morck *et al.* (1988) acquisitions driven by such motives are more likely to be friendly. It should be, however, kept in mind that larger targets are a lot harder to integrate and potential adverse effects of a failed acquisition are greater, the larger the size of the target. Results obtained by Hasbrouck (1985), Palepu (1986), Mikkelsen and Partch (1989) and Shivdasani (1993) prove that larger size discourages takeovers in all transactions, whereas Morck *et al.* (1988) provide evidence that this is true for hostile acquisitions. One reason for this result may be the fact that larger companies usually have a more dispersed shareholder base which makes them harder to acquire. Additionally, acquisitions of large targets also require a significant amount of capital and the number of potential buyers with sufficient financial resources decreases with the size of the target (Flanagan *et al.*, 1998). On the other hand, smaller targets are a lot easier to integrate in the company structure and potential negative effects are much smaller. In fact, Draper and Paudyal (2006) demonstrate that deals with low relative size result in significantly higher excess returns in the short run, but Asquith *et al.* (1983) and Travlos (1987) find the opposite.

Chen and Cornu (2002) argue that companies with higher sales levels are more often acquired in hostile takeovers and reveal that this may result from the fact that such

targets have better financial expertise (i.e. tools to reject a friendly bid) or that the management simply enjoys the fact that they work for a large company. The meta-analytic review carried out by Tosi *et al.* (2000) has also shown that firm size is a very strong determinant of CEO remuneration and accounts for more than 40% of its variance. We can, therefore, infer that private benefits of the CEOs increase with firm size. Given that acquisitions involve changes in the management boards, CEOs of large companies are more likely to reject potential bids as they have more to lose (this is discussed in more detail in the *Limitations* section). A whole spectrum of empirical evidence concludes that the size of the target shows a negative relation with bid success (Hoffmeister and Dyl, 1981; Raad and Ryan, 1995; Mitchell and Pulvino, 2001; Branch and Yang, 2003; Officer, 2003). Although the findings of Schwert (2000) do not show that this relationship is significant, in line with the above theory, we predict that smaller targets will be easier to acquire than larger ones and easier to integrate, hence they should be able to secure a higher premium. What is more, the small relative size makes the target less risky. This means that the management of the acquiring company might be less concerned about overpaying. On the other hand, larger targets may create greater synergies, but the magnitude of negative consequences if the post-merger integration does not proceed as planned is also likely to be much more substantial. Research supports this hypothesis and shows that higher market capitalisation targets secure lower premiums (Hasbrouck; 1985; Comment and Schwert, 1995; Schwert 2000; Eckbo, 2009). This may be a result of a liquidity discount. Recapitulating, larger targets will attract smaller premia either due to the higher level of risk involved, a liquidity discount or both.

## *F. Leverage*

Jensen and Meckling (1976) propose to solve the agency problem by limiting the free cash flows used at manager's discretion. They point out that this can be achieved through the introduction of leverage which would incentive the agents to work towards servicing the existing debt rather than misallocating the assets at their discretion. Lower debt levels mean that the target can obtain cheaper financing from the market and indicate lower riskiness for potential investors. What follows is that the target is valued using a lower discount rate which should result in a higher valuation, but earlier papers do not find that leverage affects the likelihood of a company becoming a takeover target (Hasbrouck, 1985; Palepu, 1986). On the other hand, when the level of leverage increases the shareholders are more prone to bankruptcy risk and the costs of financial distress and liquidation are high. However, financial theory also puts forward that too low level of debt may be a sign of managerial entrenchment as it allows managers to generate higher free cash flows which can be used at their discretion. Hence, targets which rely heavily on equity financing offer significant improvement opportunities to bidders. As noted by Lewellen (1971), financial efficiencies may be attainable even if there is no scope for operational improvement and increasing the gearing of a company with a lower than optimal level of debt would ultimately lead to an appreciation in the target's value.

Assuming that sub-optimal levels of debt are effectively an agency cost and a sign of managerial entrenchment, we can conclude that shareholders of such companies would be more willing to sell their shares than those who have the optimal mix of debt and equity. Empirical research proves that leverage is negatively related to success of takeover attempts and this is irrespective whether we look at debt as a percentage of equity, total assets or changes in those variables (Raad and Ryan, 1995; Saffieddine and



Titman, 1999; Schwert, 2000). We, therefore, predict that targets with low debt levels will be easier to acquire. What is more, Chen and Cornu (2002) show that low debt ratio is also a desirable feature in hostile bidder's eyes as it allows him to secure cheaper and more accessible debt-financing by lowering the leverage levels for the combined entity. Additionally, hostile bidders chose more often targets with high liquidity because this allows the acquirer to bid higher without the need to secure further financial resources (Chen and Cornu, 2002). Results provided by Walkling and Edmister (1985) do indeed show that firms with lower leverage enjoy larger premia. Therefore, we expect that targets which do not rely heavily on debt-financing are expected to be offered higher premia in takeover attempts.

### 2.3. SHARE EXCHANGE

In offers which involve cash, target shareholders should not be concerned about the acquirer's features. However, when the method of consideration is stock, the situation becomes more complex and bidder's characteristics suddenly start to play an important role. Although Shleifer and Vishny (2003) point out that target shareholders might be concentrating on the short horizon, looking to dispose of the shares as soon as possible before the overvaluation gets corrected, sometimes the shareholders may want to keep the shares over a longer period of time. In such circumstances bidder characteristics become significant because the target shareholders are effectively becoming owners of the bidding company. In this section we, therefore, discuss aspects such as financial performance, market valuation, leverage, bidder status, industry and nationality of the bidder as these are likely to influence the level of risk involved in a share exchange and hence may impact the likelihood that target shareholders will agree to accept them.

### ***A. Financial Performance***

There is no empirical evidence on the effect of financial performance of the bidder on bid success. However, if we assume that the method of payment is stock, the financial performance of the bidder may become an important factor in the target shareholders' decision whether or not to engage in such an exchange. Given that the bidder has offered his own shares, an important determinant of transaction success will be how well this company has performed in the past. Good financial results are an indication that the company is creating value for its shareholders. Although one could argue that past performance does not guarantee the same returns in the future, literature which focuses on behavioural finance shows that investors tend to extrapolate past outcomes too far into the future (Lakonishok *et al.*, 1994; Barberis *et al.*, 1998; Greenwood and Hanson, 2013).

Bidders generating a higher rate of return in excess of the industry average will be perceived as more attractive by investors. Therefore, if the target shareholders are offered shares in the acquiring company they will be more willing to accept them if the bidder has been generating profits - optimally outperforming the market and its peers in the past. Hence, given the above share exchange acquisitions have a higher chance of completion if the bidder has been generating strong financial results in the past. Also, if the method of consideration is a share exchange and we expect an appreciation in the bidder's stock price based on historical performance, we can also assume that this will have a negative effect on the premium offered as the bidder is already giving the target shareholders an opportunity to share some of its future profits. On the other hand, well performing bidders are also more likely to be overconfident and as a result we could expect them to bid more aggressively. Hence, we conclude that bidders who generate

good returns for their investors are more likely to offer a higher premium in acquisitions.

### ***B. Market Valuation***

Market valuation is yet another factor which may incentivise or deter target shareholders to accept a takeover offer. We look separately at the financial performance and market valuation because some companies may be undervalued by the market even though they perform better than their peers. What follows, we expect that target shareholders will be less likely to accept shares when the acquirer is overvalued. This results from a fear that a potential correction of this market inefficiency will take place before they dispose of the shares.

The research on this topic is quite scarce; the evidence provided by Officer (2003) shows that bidders with higher valuation do tend to enjoy higher completion rates in acquisition attempts. This result may stem from the fact that the level of valuation is a reflection of how the bidder is perceived by the market. Hence, high value bidders are perceived as well-functioning organisations whose shares are attractive to investors, but this may also be an indication of overvaluation which theoretically should deter investors. Although undervalued companies should be more sought after as they offer greater returns when the price readjusts, target shareholders offering such shares cannot be sure when this misevaluation will be corrected, discouraging them to accept undervalued currency. Furthermore, we put forward that the market is not fully capable of distinguishing overvalued companies from those which are in high demand, but which are priced correctly which means that high value bidders offering shares should be more successful than their undervalued counterparties. We also expect that stock

payments will be employed by overvalued companies which can additionally afford to offer higher premia due to the availability of cheap equity-financing (Shleifer and Vishny, 2003). Further research by Officer (2003) indeed indicates that higher market value leads to higher premia and the same is true for market-to-book ratios. The existence of merger waves seems to provide evidence for our claim.

### ***C. Leverage***

Suboptimal use of debt may indicate financing inefficiencies resulting from managerial entrenchment. Additionally, the optimal level of leverage will be different depending on the industry. However, in an M&A context low leverage may also be an indication of financial stability which should be well perceived by target shareholders participating in a share exchange. Tuo *et al.* (2011) found that leverage is of crucial importance when predicting the probability of winning an auction – after all, cash rich bidders have a lot more fire power and can afford to bid higher in order to win over the target shareholders. This effect is particularly effective in a single-bidder auction, but it is far weaker when more bidders are involved. In any case, bidders usually secure financing when they are certain that the transaction will take place, additionally low leverage may also indicate that bidder is cash rich and that there is low level of corporate control exercised by the debtholders.

It has already been shown by Bruner (1988) that capital structure is one of the drivers of M&A and that bidding firms tend to have greater leverage levels than targets or their peer companies. However, the empirical research by Clayton and Ravid (2002) provided evidence that more indebted firms have higher chances of failure in auctions. This might be because low level of gearing increases the overall stability of the company and therefore should give the seller more security in a share exchange.

Morellec and Zhdanov's (2008) theoretical model establishes that the winning bidder is the one with the lowest level of debt. They infer that it allows the bidder to win due to the ability to secure financing at a lower cost. What follows from here is that cheaper financing is then reflected in the lower discount rate which effectively leads to higher target valuation. Furthermore, less debt indicates that the managers have more discretion and are less closely monitored which also gives them an opportunity to bid higher using their accumulated free cash flows. Hence, bidders with low leverage are able to offer higher premia.

### 3. DATA AND METHODOLOGY

#### 3.1. DATA

Given a very strong focus on acquisitions by US bidders in the previous studies, coupled with the importance of UK investments for the global M&A activity, we have decided to investigate how UK bidders can maximise their chances of deal completion, both at home and abroad. The sample was collected from Thomson ONE Banker provided by the Thomson Financial Securities Data Corporation (UK database). It consists of takeover/merger offers for public targets by UK companies (both public and private) that took place between January 1, 1983 and December 31, 2012. The dataset represents a set of transactions announced over the above period (completed, pending and withdrawn). However, it only includes deals where the proposed transaction involves a change in control. Additionally, financial institutions have been removed from the sample, as they are subject to additional risks and their asset structure differs significantly (see for example, Viale *et al.*, 2009). Transactions with unknown status have been excluded, whereas offers pending for more than one year have been regarded as unsuccessful. The final sample includes 1,419 transactions, 1,073 (75.62%) of which are domestic and 346 (24.38%) are cross-border. Targets are located in 33 countries around the world.

[Insert Table 2 around here]

Basic sample statistics are presented in Table 2. It can be seen that the majority of cross-border acquisitions took place in the U.S. (57.51% of all cross-border deals). Of all the domestic offers 75.21% are accepted; in case of foreign targets this rate is significantly higher (87.00%). Most of the acquirers tend to be public (cross-border 84.97%,

domestic 74.00%). Acquisitions of targets in related industry make up over two-thirds of all takeovers (domestic/cross-border). Most of the offers are friendly and targets are compensated in cash (cross-border 90.17%, domestic 85.37%).

The average percentage of shares acquired in domestic and foreign targets equals 94.28% and 91.78% respectively, whereas the average premium based on the acquirer's stock price one week prior to announcement in most cases reaches 40%. 15.32% of cross-border offers involve a toehold and very few domestic contracts involve a termination fee, but those are much more popular in cross-border transaction (39.02%).

[Insert Figure 1 around here]

Figure 1 depicts the yearly distribution of the deals within the sample, which is consistent with the merger activity pattern (merger waves) described by Martynova and Renneboog (2005). That is, we observe a larger number of deals taking place during the market boom of 1988-1989, a decline in merger activity during 1991-1993 followed by a rise of the number of M&A in the late 1990s, which ended with a sharp downward correction at the period of the 'dot-com' market collapse. Another rise of the merger activity is to be seen during 2004-2007, which changed into a downturn in 2008-2012.

### 3.2. VARIABLES

The factors described above have been reflected in the selection of variables used in the econometric models in this research. The list of all the independent variables is presented in Table 3. Additionally, we control for year and industry effects (target's and acquirer's) by including a dummy.

[Insert Table 3 around here]

### 3.3. METHODOLOGY

We have already discussed the problem of endogeneity as it arises in the context of this research. Our main concern is the fact that some of the explanatory variables are likely to impact both the dependent variables and one of the independent variables – the premium, which is expected to be a crucial determinant of bid success. One proposed way of overcoming the problem of endogeneity was through the inclusion of instrumental variables (IV). Two models which help to address the problem of endogeneity in non-linear settings are two-stage predictor substitution (2SPS) and two-stage residual inclusion (2SRI). When using the former approach the first step is to estimate auxiliary regressions, results of which are then used to generate predicted variables for endogenous variables. The predicted values are then substituted into the model of interest. The second approach uses the same first stage of the process, but the second equation includes both, the endogenous variable and its first-stage residuals. Terza *et al.* (2008) note that although both approaches produce identical results in linear models, 2SRI is superior in that it is statistically consistent, whereas the 2SPS is not. For this reason we decide in favour of the 2SRI in our framework.

#### *First Stage*

In the first stage of the process we have to estimate our endogenous variable – the premium. In order to do that, we apply the OLS procedure to estimate the relationship between the premium and other independent variables. We use the following model:

$$p = \alpha + \sum_{i=1}^n \beta_i X + \varepsilon$$

where



$p$  - premium,

$\alpha$  - intercept,

' $X$ ' - vector of independent variables, ' $X$ ' = [ $X_1, X_2, \dots, X_n$ ],

$\varepsilon$  - error term.

We then use the model to estimate the predicted premia  $\hat{p}$  so that we can then produce the residuals, denoted as  $v$ :

$$v = p - \hat{p}$$

### *Second Stage*

The model incorporates variables which describe transaction features and target's/bidder's characteristics. It investigates how these influence the likelihood of deal completion. Additionally, we include the residuals from the first stage of the process which will account for the endogeneity. It is important to note that our second stage model also includes the endogenous variable – the premium. The model is the following:

$$\Pr(\text{Success} = 1) = \varphi \left\{ \alpha + \sum_{i=1}^n \beta_i Z_i + \beta_{n+1} v + \varepsilon \right\}$$

where

$\alpha$  - intercept,

' $Z$ '-vector of independent variables the same as  $X$  vector plus premium,

' $Z$ ' = [ $Z_1, Z_2, \dots, Z_n$ ]

$v$  – residuals obtained in the first step,

$\varepsilon$  - error term.

Sample models in which we additionally control for year and industry effects are presented below:

*First Stage – Modelling Premium with an OLS Model*

$$\begin{aligned} p = & \alpha + \beta_1 \text{Multiple Bids} + \beta_2 \text{Cash Dummy} + \beta_3 \text{Hostile Dummy} \\ & + \beta_4 \text{Shares Acquired} + \beta_5 \text{Termination Fee Dummy} + \beta_6 \text{Cross} \\ & - \text{border Dummy} + \beta_7 \text{Same Industry Dummy} \\ & + \beta_8 \text{Log of Target's Net Income} + \beta_9 \text{M/B Ratio} \\ & + \beta_{10} \text{Log of Target's Total Assets} + \beta_{11} \text{Target's Leverage} \\ & + \beta_{12} \text{Year Dummy} + \beta_{13} \text{Target Industry Dummy} \\ & + \beta_{14} \text{Acquirer Industry Dummy} + \varepsilon \end{aligned}$$

*Second Stage – Modelling Success with a Probit Model*

$$\begin{aligned} \text{Pr}(\text{Success} = 1) & \\ & = \varphi\{\alpha + \beta_1 \text{Premium} + \beta_2 \text{Cash dummy} \\ & + \beta_3 \text{Multiple Bids} + \beta_4 \text{Hostile Dummy} + \beta_5 \text{Shares Acquired} \\ & + \beta_6 \text{Termination Fee Dummy} + \beta_7 \text{Cross} - \text{border Dummy} \\ & + \beta_8 \text{Same Industry Dummy} + \beta_9 \text{Log of Target's Net Income} \\ & + \beta_{10} \text{M/B Ratio} + \beta_{11} \text{Log of Target's Total Assets} \\ & + \beta_{12} \text{Target's Leverage} + \beta_{13} \text{Year Dummy} \\ & + \beta_{14} \text{Target Industry Dummy} + \beta_{15} \text{Acquirer Industry Dummy} \\ & + \varepsilon\} \end{aligned}$$

We estimate all the coefficients  $[\alpha, \beta_1, \beta_2, \dots, \beta_{15}]$  using a normal Cumulative Distribution Function. A list of all the models created for the purpose of this research is

included in the appendices, whereas the results are discussed and interpreted in the following section.

## 4. RESULTS

### 4.1. UNIVARIATE ANALYSIS

In order to get some insight with regard to what increases the chances of completing a deal, we start our investigation with basic univariate analysis. We look at binary independent variables and test if they have the predicted and statistically significant effect. In line with our hypotheses (Hypothesis 6 and 4) we find that friendly offers and transactions with one bidder have a higher chance of completion (85.74% vs. 40.66% and 80.82% vs. 56.05%) but contrary to our initial prediction (Hypothesis 2), method of payment (cash or stock) has no effect. Transactions involving toeholds and termination fees are more successful (as predicted by Hypothesis 8 and 10; statistically significant difference of around 20% for both variables).

[Insert Table 4 around here]

### 4.2. MULTIVARIATE ANALYSIS: FIRST STAGE – MODELLING THE PREMIUM

In the first stage we model the premium using an OLS approach. Given the relatively large number of independent variables, we have decided to use the Forward Stepwise Regression technique (Gujarati, 2006) which enables us to derive the final model used later on to obtain the residuals which are included in the logit analysis in the second stage. We add variables in the same sequence in which they appear in the hypotheses. We start off with a model with one independent variable - ‘Friendly Dummy’ and add subsequent variables which are then incorporated into the model if they prove significant and removed if they are not. All of the discussed models are statistically

significant and we additionally control for year- and industry-effects relating to the bidder and the target. We also use acquirer-level clustering to account for the fact that one acquirer could have made more than one offer in our sample. The R-squared ranges from 10.42% to 24.01%.

#### ***A. Pre-emptive Bidding***

The first factor in our model is the hostile attitude dummy. We have predicted that this variable should positively affect the size of the premium (Hypothesis 7). However, the empirical results show the opposite (Models 1-21). The premium is reduced in hostile transactions by around 12 percentage points. This may be an indication that targets of friendly takeovers manage to negotiate premia higher than those paid by acquirers when trying to remove inefficient management. The same applies to situations with multiple bidders. As predicted, more competition increases the premium paid for the target by around 14 percentage points (Hypothesis 5; Models 2-23). Also cash acquisitions prove to involve higher premia than those involving stock (6-10 percentage points, Models 3-22, Hypothesis 3a). One potential reason for this might be the fact that transactions involving cash will be most often carried out by acquirers who want to finalise the acquisition in a short period of time which may also mean that the bidder will offer a higher premium to reach his goal. Lastly, shares acquired (Hypothesis 9) and termination fees (Hypothesis 11) were predicted to have a negative effect but the data shows that those are of no statistical importance (Models 4 and 5).

## ***B. Control Variables***

We expected cross-border acquisitions to attract higher premia due to additional synergies which can be potentially extracted and although the results show that the coefficient is indeed positive, the variable is statistically insignificant (Model 6). Following a similar line of reasoning, we have put forward that investors will be willing to pay more for diversifying acquisitions, but this has found no support in the data (Models 7 and 8). In line with our expectations good financial performance of the target leads to lower premia (-1.55 percentage points for a 1 million increase in EBITDA and between -1.65 and -2.20 pp. for net income; Models 9-12) which indicates that acquirers are ready to pay more if the target offers scope for improvement. However, despite the predictions that targets with low market-to-book value/difference in the ratio when compared to sector peers/appreciation in market value should attract higher premia, these variables are of no statistical importance (Models 11-13). We find that the log of target's sales is highly correlated with the log of targets EBITDA/net income. We, therefore, remove the measures of financial performance and include a proxy for size. After adding the log of target's total size we find that, in line with predictions, larger targets do secure lower premia (Model 15, -1.51 percentage points for every million increase in target's sales). We also test the impact of another size proxy which is the log of target's total assets and obtain the same result (Model 16). Proposed reason for this negative effect is the difficulty of integrating larger companies. Finally, contrary to our prediction, we find a positive relationship between premia and gearing (Model 17), but this result is not statistically significant.

[Insert Table 5 around here]

### ***C. Share Exchange***

In the last part we look at bidder's characteristics and investigate whether those are of any importance when the transaction is settled through the means of a share exchange. Contrary to our suppositions we find that financial performance of the bidder (Models 18 and 19) and his market valuation on a stand-alone basis and versus peers/industry are insignificant (Models 20-22). Also, our prediction on a negative impact of leverage on premium finds no support in our data (Model 23). These results contradict the existing theory on value-destroying bidders who have been characterised as those with high market-to-book ratios and low level of leverage.

The above analysis allows us to choose the model which best describes the relationship between the premium offered and the chosen independent variables. The regression which we believe best mirrors this relationship is Model 15 – the inclusion of additional factors as shown in Models 16-23 leads us to conclude that those variables are insignificant and do not improve the overall explanatory power of the model. Hence, Model 15 is used as a basis for obtaining the residuals which are included in the second stage of the modelling process.

### **4.3. MULTIVARIATE ANALYSIS: SECOND STAGE – MODELLING THE SUCCESS**

The enclosed table exhibits the outputs from the multiple regressions estimated using a series of logit models, which enable us to analyse the factors increasing the chances of bid acceptance. As outlined in the *Methodology* section, the variables which have been chosen for the models relate to macro and micro setting of any deal. We started off with models which look at transaction characteristics in order to then proceed with the

analysis of target's characteristics and at the end investigate the bidder's features when the proposed method of payment is stock.

### ***A. Pre-emptive Bidding***

We have provided 8 models to show the relationship between the success rate and a series of variables which we predicted would have an effect on the outcome of a bid. Having run the regressions, we discover that, as predicted, premium has a positive effect on the chances of deal completion (Hypothesis 1). On average the probability that the transaction will be finalised shows a significant increase of 0.9-14 percentage points for every percentage point increase in the premium being offered (Models 24-27). Furthermore, the selling shareholders seem sensitive with regard to the method of consideration (Model 29) but the effect is the opposite to what we have predicted (Hypothesis 2) – cash deters selling shareholders. This may be an indication that investors perceive a share exchange not as a more risky method of payment but one which offers a potential upside. In line with our hypotheses, transactions which are hostile (Hypothesis 6) and those which attract multiple bidders (Hypothesis 4) have significantly lower chances of completion (Models 24-31). This is because hostile bids by definition bypass the management which may create serious resistance lowering the chances that the offer will be accepted by the target's shareholder, whereas multiple bidders fuel the competition, reducing the probability that the original bidder will fail. One variable which is highly significant is the target termination fee. Its inclusion increases the chances of deal completion by 22-31 percentage points (Models 24-31), which might provide further motivation to the bidding party to put additional effort into closing the transaction in order not to lose out on the promised fee. This supports Hypothesis 10.



### ***B. Control Variables***

With regard to cross-border transactions, these do not seem to be more successful (as predicted, Models 24-31) and contrary to our prediction, same industry deals seem to be less likely to succeed, but this effect is statistically insignificant (Models 24-31). The possible reason why the coefficient relating to this particular variable is negative might be related to the target's shareholders' reluctance to sell to one of the competitors. What is more, in contrast to our supposition we find that targets with higher M/B ratio (Model 26), M/B ratio versus sector (Model 27) are more likely to finalise a transaction but in line with our predictions those with higher gearing (Model 27) do tend to reject offers more often. This might be because high gearing is an indication that the company is well-run and its managers have greater power to advise their shareholders to discard bids made by other companies. On the other hand, shareholders of companies with high M/B ratios may be aware of the potential overvaluation and hence are more inclined to dispose of their shares. Contrary to our prediction, targets' financial performance is of no statistical importance. Lastly, although we predicted that size of the target will reduce the chances of a bid being accepted because managers of larger are more likely to exhibit empire-building practices and therefore be more defensive in case of a takeover, this has not been supported by our data. Models 26-28 which incorporate either log of total assets or sales are statistically insignificant.

### ***C. Share Exchange***

We have claimed that markets may not be perfect and therefore selling shareholders may be influenced by bidder's characteristics when considering whether to accept an offer or not. However, contrary to our hypotheses, we discover that the features of the

bidder have no impact on the chances of bid acceptance which may be an indication that the investors believe that markets are efficient and securities are priced correctly, making them indifferent when choosing between a cash offer and a share exchange (Model 29-31).

[Insert Table 6 around here]

## 5. ROBUSTNESS CHECKS

### 5.1. DOMESTIC VS. CROSS-BORDER TRANSACTIONS

We check the robustness of our results by dividing our sample into two sub-sets – one involving only domestic (Table 7) offers and one for cross-border bids (Table 8) – to see whether the previously noted patterns are consistent in those two settings. In line with the overall results, we find that, supporting Hypothesis 1, the premium has a positive effect in a domestic setting (Models 32-35) but proves to be insignificant in cross-border transactions (40-48). In line with our previous findings and hypotheses (Hypothesis 6 and 4) are the results referring to deal hostility and the existence of multiple bidders (Models 32-36, 40-48), both of which have a negative effect on the chances of deal completion. In contrast to Hypothesis 2, we obtain evidence that using cash in domestic transactions lowers the likelihood of deal completion (Model 34; marginal effect of -34.76 p.p.) which maybe an indication that domestic target shareholders are willing to accept the additional risk in order to benefit from the potential upside resulting from a share exchange. This effect does not hold for cross-border transactions (Models 47), presumably due to more severe information asymmetries making selling investors reluctant to accept shares. On the other hand, termination fees only have a positive effect (as predicted by Hypothesis 10) in cross-border deals (Models 40, 41, 46-48) which may be an indication that foreign selling managers are more likely to be influenced by potential private benefits, while domestic agents focus more on shareholder-value maximisation, i.e. the size of the premium offered.

The first control variable in the regression refers to industry relatedness and the result in Model 35 support the findings of the univariate analysis (Table 4) but contradicts prediction which states that acquirers should be more successful when bidding for targets in the same industry. However, this holds only for domestic transactions which may suggest that shareholders do not want to sell their shares to competitors but only unless those are based within the borders of the same country. Domestic results on M/B ratio and gearing (Models 34-36) uphold the findings from the models run on the whole sample. We, in addition, find support for our supposition that larger firms will be harder to acquire (Model 36) but only domestically. Surprisingly, we also find that better performing domestic targets will be more likely to be acquired (Model 36). Variables relating to target characteristics prove to be insignificant in a cross-border setting. This may lead to a supposition that the probability of transaction success maybe be more reliant on managers who look to extract additional benefits than on the shareholders looking to maximise their value. All of the share exchange characteristics remain insignificant.

## 5.2. SAMPLE SELECTION MODEL – PREMIUM

Our dataset consist of public targets and both public and private acquirers. In our approach we ex-ante assume that the dataset is representative of the whole universe of transactions. However, in reality not all the transactions are always recorded by database providers. For example, one could expect that unsuccessful transactions are more frequently omitted by those managing the database. In order to see if there are any specific patterns in missing data on premia, we employ the Heckman selection model. The results of the test for correlation of error terms lead us to believe that there is no

bias in our models referring to premium. A sample outcome from our analysis is available in Table 9.

[Insert Table 9 around here]

## 6. LIMITATIONS

### 6.1. DATA

The first limitation of this research is quite technical in its nature. The available data is quite extensive, however many buyers do not disclose some of the transaction specifics and therefore data on premia, termination fee levels or targets' and acquirers' financials is rather limited despite the fact that all targets in our dataset are public companies. Given that the premium is one of the most important factors in acquisitions, the shortage of observations for this variable constitutes a serious drawback. Also, it is highly likely that our data set misses particularly many observations in the 1980s when information on transactions was not as well recorded and disseminated as it is now.

### 6.2. MANAGERIAL SHAREHOLDINGS

The second limitation of this research is the fact that we do not look at the level of managerial shareholdings. Yet the existing literature provides rather mixed evidence. It has been argued that when managerial shareholdings are low and the ownership is generally dispersed the board may utilise the company's assets to improve managerial benefits rather than to maximise the value of the company (Berle and Means, 1932). These may include shirking or increasing perquisites, sales growth, empire building, improving employee well-being (Morck *et al.*, 1988), selecting a white knight to whom they will sell the company in exchange for job security, offering in addition bid protection (Odean, 1998) or simply blocking a takeover. Furthermore, Jensen and Meckling (1976) have shown that the cost of pursuing non-profit-maximising objectives

is reduced when the managerial ownership is significant. However, the hypothesis that managerial stockholdings lead to better alignment of incentives of the management is contradicted by Demsetz (1983) or Fama and Jensen (1983) who point out that even when managers own a small stake in the company they may be working toward profit-maximisation as they are being disciplined by the market. On the other hand, they also recognise that management with sufficient voting power and little supervision can be more effective securing its jobs and attractive compensation. Shivdasani (1993) provides evidence that managerial ownership discourages hostile takeovers, while Moeller (2005) shows that low CEO and inside directors' shareholdings when accompanied with a presence of large outside investors enable the targets to achieve better premiums while CEO compensation is negatively related to bid premia (Hartzell *et al.*, 2004). What is more, managerial ownership can influence not only takeover premia, but also bid nature (Song and Walkling, 1993; Moeller, 2005).

### 6.3. TARGET'S CEO

An acquisition of a company very often leads to a managerial change, i.e. managers of the acquired company are replaced with new officers (Odean, 1998). Research by Agrawal and Walkling (1994) provides evidence that managers are more likely to lose their jobs in case of a successful takeover, rather than after an unsuccessful acquisition. The managerial turnover is also higher in case of tender offers where the acquirer decides to negotiate directly with the shareholders, and does not consult the current management board. Data shows that within three years after the takeover, replaced CEOs fail to find another similar senior executive position in a public company (Agrawal and Walkling, 1994). "If managers lose their jobs, they not only lose their

firm-specific human capital, but also are likely to suffer a downward revaluation of their general human capital” (Agrawal and Mandelker, 1990, p. 146).

However, one should also keep in mind that managers may be ready to cooperate with the acquirer in order to convince current shareholders to sell their shares and that they do not always oppose takeovers (Aobdia and Caskey, 2012). Their choice will to a large extent depend on the potential private benefits from such a transaction. Those CEOs with illiquid equity or option holdings are easier to convince and require smaller premiums (Cai and Vijh, 2007). While others with more to lose may be incentivised not to block the acquisition by granting them unscheduled options which become exercisable after the merger is consummated or by offering them ‘golden parachutes’ which aim to discourage CEOs to jeopardise profitable acquisitions. Research shows that the more adversely the CEOs are to be affected by the acquisition, the more likely it is that they will be granted such options (Cai *et al.*, 2011). What is more, their cash payments are negatively associated with the likelihood that this CEO will be introduced to the board of the acquiring company (Hartzell *et al.*, 2002), but the equity grants are more likely to be awarded when the target has more bargaining power (Heitzman, 2011).

Unfortunately, there is also a downside to lack of bid-resistance resulting from such private benefits. The extant research puts forward that the larger the gain to the management from the acquisition, the less likely they are to fight the bid (Walkling and Long, 1984). Eckbo (2009) wonders whether managers are ready to sacrifice higher bid premia in return to receive private benefits and this is supported by Cotter and Zenner (1994), Wulf (2004) or Hartzell *et al.* (2004) who find that there is a link between executive compensation and their support for certain transactions. Consequently, we see that transactions involving ‘golden parachutes’ and unscheduled options are value-



destroying for the target shareholders' with an average loss per transaction amounting to around \$127 and \$307 million respectively. The shortfall from unscheduled options translates to a \$54 drop in target value for every dollar received in unscheduled options (Cai *et al.*, 2011; Fich *et al.*, 2013). This lead researchers to believe that there is a wealth transfer from the target to the bidder's shareholders (Fich *et al.*, 2013), but they find no support in their data and instead show that the returns to bidders are not significantly different whether or not the target CEO has received a bonus or not (Fich *et al.*, 2011). What Fich *et al.* (2011) find is that although the premium paid is lower, the post-transaction synergies also tend to be lower.

However, the chances of transaction completion can also be influenced by the structure of the compensation received by the acquiring managers, as those usually have a lot of influence over the management board (Bebchuk *et al.*, 2002; Bebchuk and Fried, 2003). It has been documented that the proportion of share compensation has increased significantly during the 1990s (Murphy, 2003) which had substantially incentivised risk-taking among CEOs (Cai and Vijh, 2007; Croci and Petmezas, 2013) and increased their focus of share price performance. Fama *et al.* (1969) put forward that there is an information loop used by managers who try to analyse their past actions and try to understand how those affected the share price of the company they are running. With regard to M&A transactions this means that the share price reacts positively to acquisitions which are perceived by the market as value-increasing and negatively otherwise (Bollaert and De Bruyne Demidova, 2014). Although the experience of the managers may to some extent impact their responsiveness to signals generated by the market (Aktas *et al.*, 2009/2011/2013), we argue that a negative market reaction should induce them to reconsider a potential bid, especially given that there is evidence that neglecting such signals increases the likelihood of being replaced (Lehn and Zhao, 2006), while those who respond to negative signals by abandoning projects get

rewarded by the market (Jacobsen, 2012). Given the above, we argue that the likelihood of deal completion can to a large degree depend on the compensation not only of the target managers but also of those who made the initial bid.

#### 6.4. COST BASIS

There is growing literature regarding behavioural finance which can be used in an M&A context when assessing the probability of bid success. Although along the lines of Efficient Markets Hypothesis investors should be willing to sell their shares as long as they are offered a price above their market value, this is not always the case. Already Khaneman and Tversky (1979) have shown that individuals when faced with risk and uncertainty do not always act rationally, as predicted by economic theory. Aobdia and Caskey (2012) introduce the concept of investor cost basis and disposition effect which can help to understand why investors may be reluctant to dispose of their shares even when the price offered is above the market value. It has been put forward that this can be caused by two separate effects. First is the Prospect Theory, based on this Shefrin and Statman (1984) note that, on average, investors tend to sell winners too early and hold losers for too long. This goes hand in hand with mental accounting – i.e. “decision-makers tend to segregate the different types of gambles faced into separate accounts, and then apply prospect theoretic decision rules to each account by ignoring possible interaction” (Shefrin and Statman, 1984, p. 780). This means that investors will be more risk-loving when holding shares with unrealised losses and more risk-averse with unrealised gains. Furthermore, even the most experienced traders who are fully aware of the concept suffer from it (Locke and Mann, 2005) and the literature provides evidence for the existence of the disposition effect in institutional investors’ behaviour (Frazzini, 2006). The second possible explanation for this reluctance to loss realisation is

anchoring. In this framework anchoring refers to investors' tendency to rely heavily on the initial information when making an investment decision and where new information is interpreted around the 'anchor' (Khaneman and Tversky, 1974) leading to an anchor bias. Aobdia and Caskey (2012) test the impact of cost basis on the likelihood of success in takeovers and find that the relationship is stronger in case of tender offers, hostile bids, targets with high institutional ownership and short-term investors. Generally speaking, when institutional investors are offered a premium higher than their purchase price the transaction has a higher chance of completion.

## 6.5. MANAGERIAL OVERCONFIDENCE

As pointed out by Malmendier and Tate (2008), overconfident managers tend to overestimate their abilities also when it comes to generating returns and this goes back to the work of Roll (1986) and his managerial hubris. The underlying causes for excessive optimism can be explained by psychology literature. Research in this field has shown that individuals are likely to consider themselves above average (see for example Kruger, 1999 or Svenson, 1981). Furthermore, Camerer and Lovallo (1999) show that this is especially true for highly skilled individuals, whereas Larwood and Whittaker (1997) provide evidence that this tendency is particularly strong in case of corporate executives. What is important in context of this paper is the fact that individuals tend to be overconfident regarding their own future (Kunda, 1987; Weinstein and Klein, 2002) and outcomes which they think depend on them (Langer, 1975). Overoptimism is the greater, the more committed the individuals are to a project (Weinstein, 1980). Therefore, we can assume that the level of overoptimism in CEOs will be exceptionally high. The overconfidence of bidding managers means that they over-invest (Doukas and Petmezas, 2007; Malmendier and Tate, 2008) this may exhibit itself through over-

bidding, bidding for many companies or trying to pursue unachievable targets. We can extend the existing framework and make some predictions about the actions of the target management. If the managers are in general overconfident, we may end up in a situation in which the target management advises the shareholders to reject a perfectly attractive offer simply because they believe the current value of the company is higher or that they will be able to grow the company further and generate even better returns to shareholders in the future.

## 7. CONCLUSION

The results of our analysis provide us with some insight into the factors driving bid success. Unlike the previous studies we address the problem of endogeneity stemming from the fact that many factors influencing the chances that the transaction will be accepted by the target shareholders also impact the level of premium offered for a particular company. The three variables which exhibit a particularly strong impact on the chances of transaction success are multiple bids, hostility and termination fee dummy. Supportive of the existing evidence are our results with regard to competing bids which significantly lower the chances of deal success. On the other hand, the result for hostility has a very strong negative effect and is in line with all the previous research mentioned in the review of the literature section, excluding Schwert (2000) who found the relationship to be positive. However, one variable which has a very strong and positive impact is the termination fee. As in the case of Flanagan *et al.* (1998) and Officer (2003), we find that introduction of such a fee in the contract significantly increases the chances of deal success. Contrary to the findings by Hoffmeister and Dyl (1981), but in line with Walkling (1985) and Hirshleifer and Titman (1990), we find that the probability of deal success increases with the increasing premium.

The above analysis has provided valuable information for acquirers who want to get involved in mergers and acquisitions. The most important conclusion is that although the size of the premium is significant, its importance is fairly negligible when compared with the impact of hostile transactions, competing bids and the inclusions of a termination fee. From the above we can infer that carefully planned bilateral negotiations leading to a high premium would maximise the chances of deal completion. If such process is not a viable option a bidder should try to limit the

chances of emergence of competing bids by offering a termination fee, which makes us believe that it is highly desirable to avoid hostile takeovers and that bidders should try to obtain the target's managers' support. Due to the above, future research could more carefully investigate ways in which one could most effectively reduce the managerial resistance, the chances of emergence of competing bids and the optimal size of a termination fee to be used in transactions. This would provide the acquiring companies with even more insight on how to structure an acquisition and pick targets in order to make sure that the transaction will be executed.

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## 9. APPENDICES

**Table 1 - List of Variables and Expected Effects**

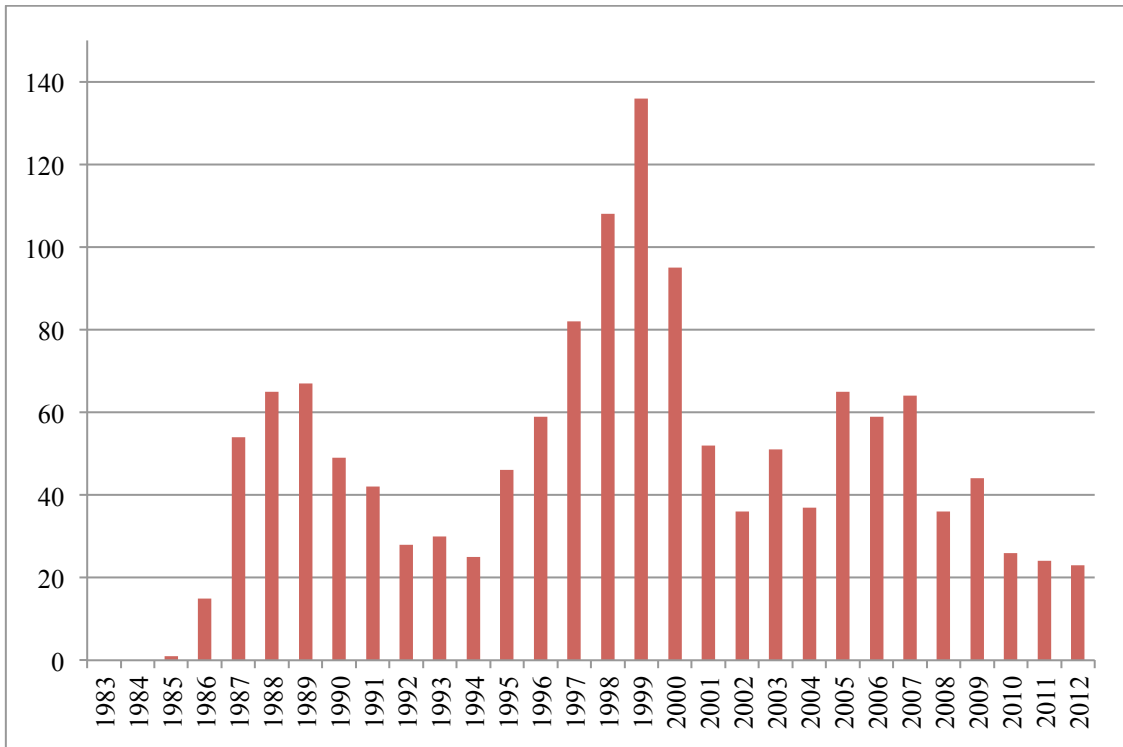
Description	Expected Effect Deal Success	Expected Effect Premium
<i>Steps for Successful M&amp;A</i>		
Premium	+	
Method of payment (cash)	+	?
Multiple bids	-	+
Hostile	-	+
Toehold	+	-
Number of shares needed to obtain majority	-	+
Termination fee	+	-

**Table 2 - Sample Statistics**

	Cross-Border (n = 346)		Domestic (n = 1,073)	
	n	%	n	%
<b><i>Panel A. Target Countries (top 5)</i></b>				
France	9	2.60%	-	-
Ireland	13	3.76%	-	-
Canada	26	7.51%	-	-
Australia	27	7.80%	-	-
USA	199	57.51%	-	-
<b><i>Panel B. Deal Status</i></b>				
Completed	301	87.00%	807	75.21%
Unsuccessful	45	13.00%	266	24.79%
<b><i>Panel C. Acquirer Status</i></b>				
Acquirer Public	294	84.97%	794	74.00%
Acquirer Private	52	15.03%	279	26.00%
<b><i>Panel D. Relatedness of the Bidder and the Target</i></b>				
Same Macro Industry	258	74.57%	738	68.78%
Different Macro Industry	88	25.43%	335	31.22%
Same SIC Code	128	36.99%	396	36.91%
Different SIC Code	218	63.01%	677	63.09%
<b><i>Panel E. Offer Type</i></b>				
Friendly	315	91.04%	863	80.43%
Multiple bids	44	12.72%	113	10.53%
<b><i>Panel F. Contract Specifics</i></b>				
Toehold	53	15.32%	188	17.52%
Target termination fee	135	39.02%	52	4.85%
Acquirer termination fee	46	13.29%	10	0.93%
<b><i>Panel G. Method of Payment</i></b>				
Cash	312	90.17%	916	85.37%
Stock	34	9.83%	157	14.63%
<b><i>Panel H. Transaction Details</i></b>				
	mean	std.error	mean	std.error
Average deal value	x	x	x	x
Average % of shares acquired	91.78%	1.13%	94.28%	0.46%
Average premium (USD mil)	43.43	3.45	39.31	4.45

**Figure 1 - Annual Distribution of Deals in the Sample**

**(no. of deals)**



**Table 3 - Description of Variables**

<b>Name</b>	<b>Type</b>	<b>Definition</b>
<i>Transaction Features</i>		
Cross-border	Dummy	One if the target is located abroad and zero otherwise
Premium	Quantitative	Premium 1 week prior to announcement date
Method of payment (Cash/Stock)	Dummy	One if the method of payment is cash/stock
Multiple bids	Dummy	One if more than one acquirer made an offer
Friendly	Dummy	One if the deal is classified as a 'friendly' acquisition
Toehold	Dummy	One if the acquirer already owns some part of the target
Shares to Obtain Majority	Quantitative	Shares needed to be acquired by the buyer to obtain majority
Target Termination Fee	Dummy	One if the target can expect to be paid a termination fee

**Table 3 - Description of Variables (continued)**

<b>Name</b>	<b>Type</b>	<b>Definition</b>
<i>Control Variables</i>		
Same Macro Industry/ Same SIC Same SIC	Dummy	One if the target and acquirer are from the same macro industry and zero otherwise/ One if the target and acquirer have the same SIC code and zero otherwise
Target Private/Public	Dummy	One if the target is private company and zero otherwise /One if
Target Macro Sector Return	Quantitative	Return for target's sector as classified by Fama-French 17 industries. LTM
Target Macro Sector Mean M/B	Quantitative	Average M/B for target's sector as classified by Fama-French 17 industries, as of the year of transaction
Target Return vs. Market	Quantitative	Over- or underperformance of the target against the sector
Target M/B vs. Market	Quantitative	Over- or underperformance of the target against the sector
Target Sales	Quantitative	Net sales million USD, LTM
Target Total Assets	Quantitative	Target's total assets from the most current financial statement
Target Net Income	Quantitative	Net income million USD, LTM
Target Gearing	Quantitative	Target's total debt divided by Shareholder's Equity from the most current financial statement
Target Cash	Quantitative	Cash held by the target
Target Liquidity	Quantitative	Cash to Total Assets Ratio, from the most current financial statement
Acquirer Private/Public	Dummy	One if the target is private company and zero otherwise /One if the target is a public company and zero otherwise
Acquirer Macro Sector Return	Quantitative	Return for acquirer's sector as classified by Fama-French 17 industries, LTM
Acquirer Macro Sector Mean M/B	Quantitative	Average M/B for acquirer's sector as classified by Fama-French 17 industries, as of the year of transaction
Year Dummy	Dummy	A series of dummies for all the years in the sample to control for year-specific effects



**Table 4 - Univariate Analysis – Deal Success**

Variable	All	
<i>Friendly</i> vs. <i>Hostile</i>	Mean	85.74%
	Mean	40.66%
	<i>p-value</i>	0.0000
	Difference	45.08%
<i>Multiple offers</i> vs. <i>One bidder</i>	Mean	56.05%
	Mean	80.82%
	<i>p-value</i>	0.0000
	Difference	-24.77%
<i>Cash</i> vs. <i>Stock</i>	Mean	78.01%
	Mean	78.08%
	<i>p-value</i>	0.9792
	Difference	-0.07%
<i>Toehold</i> vs. <i>No- shareholding</i>	Mean	97.93%
	Mean	74.02%
	<i>p-value</i>	0.0000
	Difference	23.90%
<i>Termination fee</i> vs. <i>No termination fee</i>	Mean	96.26%
	Mean	75.32%
	<i>p-value</i>	0.0000
	Difference	20.93%
<i>Cross-border</i> vs. <i>Domestic</i>	Mean	75.21%
	Mean	86.99%
	<i>p-value</i>	0.0000
	Difference	-11.78%

**Table 5 – Modelling the Premium**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
Hostile Dummy (+)	<b>-0.1161***</b> (0.0262)	<b>-0.1221***</b> (0.0255)	<b>-0.1281***</b> (0.0258)	-0.0863 (0.0599)	<b>-0.1319***</b> (0.0267)	<b>-0.1240***</b> (0.0258)	<b>-0.1279***</b> (0.0258)	<b>-0.1256***</b> (0.0262)	<b>-0.1624***</b> (0.0293)	<b>-0.1196***</b> (0.0276)	<b>-0.0777**</b> (0.0325)	<b>-0.0777**</b> (0.0325)	<b>-0.1244***</b> (0.0406)	<b>-0.1266***</b> (0.0267)	<b>-0.1225***</b> (0.0255)
Multiple Bids Dummy (+)		<b>0.1388***</b> (0.0329)	<b>0.1360***</b> (0.0328)	<b>0.1474***</b> (0.0500)	<b>0.1360***</b> (0.0328)	<b>0.1337***</b> (0.0287)	<b>0.1361***</b> (0.0287)	<b>0.1352***</b> (0.0287)	<b>0.1429***</b> (0.0366)	<b>0.1514***</b> (0.0345)	<b>0.1444***</b> (0.0396)	<b>0.1404***</b> (0.0393)	<b>0.0903*</b> (0.0475)	<b>0.1463***</b> (0.0329)	<b>0.1414***</b> (0.0321)
Cash Dummy (-)			<b>0.0843***</b> (0.0270)	<b>0.0952***</b> (0.0313)	<b>0.0879***</b> (0.0274)	<b>0.0809***</b> (0.0223)	<b>0.0844***</b> (0.0266)	<b>0.0849***</b> (0.0266)	<b>0.1015***</b> (0.0312)	<b>0.0848***</b> (0.0286)	<b>0.0706**</b> (0.0334)	<b>0.0646*</b> (0.0337)	0.0182 (0.0445)	<b>0.0881***</b> (0.0286)	<b>0.0942***</b> (0.0277)
Shares Acquired (-)				0.0000 (0.0026)											
Target Termination Fee (-)					-0.0270 (0.0284)										
Cross-border Dummy (+)						0.0312 (0.0223)									
Same Macro (-)							-0.0018 (0.0219)								
Same SIC (-)								-0.0094 (0.0207)							
Log Target EBITDA (-)									<b>-0.0155**</b> (0.0061)						
Log Target Net Income (-)										<b>-0.0165***</b> (0.0061)	<b>-0.0220***</b> (0.0065)	<b>-0.0220***</b> (0.0065)	-0.0062 (0.0087)	-0.0111 (0.0110)	
Target Market-to-Book (-)											-0.0004 (0.0003)				
Target vs Industry (-) Market-to-Book												-0.0003 (0.0003)			
Target vs Sector Return (-)													-0.0047 (0.0036)		
Log Target Sales (-)														-0.0072 (0.0106)	<b>-0.0151***</b> (0.5726)
Log Target Total Assets (-)															
Gearing (-)															
Log Acquirer EBITDA (+)															
Log Acquirer Net Income (+)															
Acquirer Market-to-Book (+)															
Acquirer vs Industry (-) Market-to-Book															
Acquirer vs Sector Return (+)															
Gearing (-)															
<i>No. of observations</i>	1,172	1,172	1,172	861	1,172	1,172	1,172	1,172	900	1,093	801	797	521	1,062	1,106
<i>p-value for F-statistic</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>R-squared</i>	10.42%	12.24%	13.02%	12.81%	13.10%	13.17%	13.02%	13.04%	16.58%	14.49%	17.44%	17.15%	16.33%	15.30%	14.62%

**Table 5 – Modelling the Premium (continued)**

	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21	Model 22	Model 23
Hostile Dummy (+)	<b>-0.1116***</b> (0.0273)	<b>-0.1247***</b> (0.0318)	-0.0140 (0.0424)	-0.0349 (0.0366)	<b>-0.1197**</b> (0.0520)	<b>-0.1197**</b> (0.0520)	-0.0851 (0.0548)	-0.0176 (0.0413)
Multiple Bids Dummy (+)	<b>0.1489***</b> (0.0339)	<b>0.1334***</b> (0.0329)	<b>0.1397***</b> (0.0494)	<b>0.1345***</b> (0.0426)	<b>0.1034*</b> (0.0540)	<b>0.1034*</b> (0.0540)	<b>0.1764***</b> (0.0605)	<b>0.1328***</b> (5.0183)
Cash Dummy (-)	<b>0.0947***</b> (0.0272)	<b>0.1172</b> (0.0295)	0.0567 (0.0396)	0.0809** (0.0347)	0.0603 (0.0529)	0.0603 (0.0529)	<b>0.0931**</b> (0.0447)	0.0632 (0.0407)
Shares Acquired (-)								
Target Termination Fee (-)								
Cross-border Dummy (+)								
Same Macro (-)								
Same SIC (-)								
Log Target EBITDA (-)								
Log Target Net Income (-)								
Target Market-to-Book (-)								
Target vs Industry (-) Market-to-Book								
Target vs Sector Return (-)								
Log Target Sales (-)		-0.0081 (0.0065)	<b>-0.0246**</b> (0.0109)	<b>-0.0252***</b> (0.0094)	<b>-0.0202*</b> (0.0117)	<b>-0.0203*</b> (0.0117)	<b>-0.0233*</b> (0.0118)	<b>-0.0202**</b> (0.0095)
Log Target Total Assets (-)	<b>-0.0183***</b> (0.0059)							
Gearing (-)		0.0014 (0.0023)						
Log Acquirer EBITDA (+)			0.0128 (0.0088)					
Log Acquirer Net Income (+)				1.25E-02 (0.0086)				
Acquirer Market-to-Book (+)					-3.00E-04 (0.0002)			
Acquirer vs Industry (-) Market-to-Book						-3.00E-04 (0.0002)		
Acquirer vs Sector Return (+)							-2.47E-02 (0.0202)	
Gearing (-)								5.42E-02 (0.0960)
<i>No. of observations</i>	1,118	833	490	616	313	313	339	463
<i>p-value for F-statistic</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>R-squared</i>	14.27%	15.68%	18.73%	15.89%	23.84%	23.85%	24.01%	18.57%

The table presents an OLS regression, where the dependent variable is the premium offered in a transaction. The independent variables are described in more detail in Table 3.

**Table 6 – Multivariate Analysis**

**All Deals (Marginal Effects)**

	Model 24	Model 25	Model 26	Model 27	Model 28	Model 29	Model 30	Model 31
Cross-border Dummy (-)	0.0233 0.0307	0.0226 0.0306	-0.0187 (0.0528)	0.0471 (0.0571)	0.0731 (0.0590)	0.0193 (0.0827)	0.0169 (0.0829)	0.0028 (0.0558)
Premium (+)	<b>0.0009**</b> (0.0004)	<b>0.0009**</b> (0.0004)	<b>0.0013**</b> (0.0006)	<b>0.1415**</b> (0.0006)	-0.0003 (0.0007)	-0.0007 (0.0010)	-0.0006 (0.0010)	-0.0580 (0.0008)
Residual	0.0013 0.0019	0.0013 (0.0019)	-0.0016 (0.0031)	-0.0014 (0.0030)	-0.0057 (0.0044)	0.0147 (0.0140)	0.0140 (0.0137)	0.0119 (0.0092)
Cash Dummy (+)	0.0028 0.0352	0.0031 0.0335	0.0171 0.0528	0.0534 0.0486	0.0067 0.0799	<b>-0.4846***</b> 0.1832	-0.0632 0.1847	-0.0596 0.1164
Multiple Bids Dummy (-)	<b>-0.2209***</b> 0.0395	<b>-0.2218***</b> 0.0396	<b>-0.2163***</b> 0.0577	<b>-0.2182***</b> 0.0534	-0.1058 0.0829	-0.4861 0.1832	<b>-0.4730***</b> 0.1800	<b>-0.3759***</b> 0.1312
Hostile Dummy (-)	<b>-0.2980***</b> 0.0347	<b>-0.2958***</b> 0.3561	<b>-0.0033***</b> 0.0567	<b>-0.3378***</b> (0.0486)	<b>-0.4150***</b> (0.0660)	-0.0976 (0.0021)	0.1007 (0.2139)	0.0248 (0.1451)
Target Termination Fee (+)	<b>0.2214***</b> 0.0601	<b>0.2220***</b> 0.0598	<b>0.3146***</b> 0.1159	<b>0.2949**</b> 0.1186	<b>0.2406***</b> 0.0771	<b>0.2607***</b> 0.1034	<b>0.2597**</b> 0.1035	<b>0.2748***</b> 0.0828
Same Macro (+)	-0.0111 0.0262			-0.0145 0.0366	-0.0565 0.0544	-0.1646 0.1479	-0.1543 0.1420	
Same SIC (+)		-0.0126 0.0243	-0.0273 0.0304					-0.0722 0.0454
Log Target EBITDA (-)			0.0006 0.0152					
Log Target Net Income (-)				0.0148 0.0099	0.0130 0.0114			
Target Market-to-Book (-)			<b>0.0013***</b> 0.0004					
Target vs Industry (-) Market-to-Book				<b>0.0010***</b> 0.0003				
Target vs Sector Return (-)					-0.0013 0.0017			
Log Target Total Assets (-)			-0.0039 (0.0179)					
Log Target Sales (-)				-0.0196 (0.0134)	-0.0234 (0.0157)			
Target Gearing (-)			-0.0016 (0.0046)	<b>-0.0088***</b> (0.0028)	-0.0098 (0.0064)			
Log Acquirer EBITDA (+)						0.0371 (0.0417)		
Log Acquirer Net Income (+)							0.00030 (0.0003)	-0.00660 0.02170
Acquirer Market-to-Book (+)						0.00820 (0.0293)		
Acquirer vs Industry (+) Market-to-Book							0.00010 (0.0004)	
Acquirer vs Sector Return (-)								-0.05100 (0.0567)
Gearing (-)						-0.2793 (0.4307)	-0.0038 (0.0046)	
<i>No. of observations</i>	1,105	§	539	621	365	168	168	272
<i>p-value for F-statistic</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<i>Pseudo R-squared</i>	30.45%	30.46%	38.49%	37.26%	32.02%	48.35%	48.28%	37.96%

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of completing a transaction. The independent variables are described in more detail in Table 3.

**Table 7 – Multivariate Analysis**  
**Domestic Deals (Marginal Effects)**

	Model 32	Model 33	Model 34	Model 35	Model 36	Model 37	Model 38	Model 39
Premium (+)	<b>0.0013***</b> (0.0005)	<b>0.0012***</b> (0.0005)	<b>0.0013**</b> (0.0007)	<b>0.0015**</b> (0.0006)	-3.60E-05 (0.0010)	-0.0025 (0.0017)	-0.0023 (0.0017)	0.0003 (0.0013)
Residual	0.0053 (0.0049)	0.0054 (0.0049)	<b>0.0424***</b> (0.0156)	0.0095 (0.0366)	<b>-0.0872*</b> (0.0506)	0.0009 (0.0190)	0.0018 (0.0189)	0.0021 (0.0154)
Cash Dummy (+)	-0.0285 (0.0580)	-0.0279 (0.0582)	<b>-0.3476**</b> (0.1440)	-0.0350 (0.3462)	0.7109 (0.4724)	0.3102 (0.3383)	0.1999 (0.2814)	0.2561 (0.2122)
Multiple Bids Dummy (-)	<b>-0.3134***</b> (0.0765)	<b>-0.3155***</b> (0.0768)	<b>-0.8987***</b> (0.2338)	-0.4475 (0.5186)	0.9846 (0.7153)	-0.3256 (0.2598)	-0.3334 (0.2599)	-0.3421 (0.2286)
Hostile Dummy (-)	<b>-0.2840***</b> (0.0705)	<b>-0.2761***</b> (0.0716)	0.1623 (0.1857)	-0.2794 (0.4475)	<b>-1.4702**</b> (0.6286)	0.2997 (0.2846)	0.2821 (0.2881)	0.1450 (0.2168)
Target Termination Fee (+)	0.0912 (0.0634)	0.0902 (0.0630)	0.0785 (0.0788)	0.1174 (7.4145)	0.0995 (0.0820)	0.1802 (0.1701)	0.1770 (0.1698)	0.3775 (0.2494)
Same Macro (+)	0.0016 (0.0293)			<b>-0.0735*</b> (0.0420)	-0.1083 (0.0810)	-0.2576 (0.1747)	-0.2398 (0.1670)	
Same SIC (+)		-0.0199 (0.0291)	-0.0632 (0.0392)					-0.0587 (0.0857)
Log Target EBITDA (-)			0.0150 (0.0187)					
Log Target Net Income (-)				0.0190 (0.0148)	<b>0.0439**</b> (0.0180)			
Target Market-to-Book (-)			<b>0.0017***</b> (0.0003)					
Target vs Industry (-) Market-to-Book				<b>0.0033***</b> (0.0009)				
Target vs Sector Return (-)					0.0047 (0.0059)			
Log Target Total Assets (-)			0.0348 (0.0316)					
Log Target Sales (-)				-0.0221 (0.0576)	<b>-0.1627**</b> (0.0820)			
Target Gearing (-)			0.0183 (0.0258)	<b>-0.0142***</b> (0.0038)	<b>-0.0247**</b> (0.0100)			
Log Acquirer EBITDA (+)						0.0471 (0.0592)		
Log Acquirer Net Income (+)							0.0472 (0.0511)	
Acquirer Market-to-Book (+)						0.0046 (0.0285)		
Acquirer vs Industry (+) Market-to-Book							0.0100 (0.0315)	
Acquirer vs Sector Return (-)								-0.0444 (0.0804)
Gearing (-)						-0.0579 (0.6708)	-0.3422 (0.7321)	0.7153 (0.4906)
<i>No. of observations</i>	839	839	369	451	206	106	106	139
<i>p-value for F-statistic</i>	0.0000	0.0000	0.0000	0.0000	0.0000	0.0015	0.0014	0.0023
<i>Pseudo R-squared</i>	32.79%	32.83%	44.17%	41.24%	36.21%	51.94%	52.15%	42.66%

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of completing a transaction. The independent variables are described in more detail in Table 3.

**Table 8 – Multivariate Analysis**  
**Cross-border Deals (Marginal Effects)**

	Model 40	Model 41	Model 42	Model 43	Model 44	Model 45	Model 46	Model 47	Model 48
Premium (+)	-0.0006 (0.0005)	-0.0006 (0.0005)	0.0021 (0.0015)	0.0022 (0.0015)	0.0010 (0.0014)	0.0001 (0.0001)	0.0008 (0.0007)	0.0007 (0.0007)	0.0010 (0.0008)
Residual	0.0002 (0.0022)	0.000029 (0.0022)	<b>-0.0098**</b> (0.0044)	-0.0071 (0.0047)	<b>-0.0102**</b> (0.0047)	<b>-0.00021</b> (0.0003)	-0.0021 (0.0021)	<b>-0.0026</b> (0.0024)	<b>-0.0016</b> (0.0023)
Cash Dummy (+)	0.0317 (0.0561)	-0.0259 (0.0563)	0.2042 (0.1374)	0.0759 (0.1298)	0.1890 (0.1289)	-0.0153 (0.0267)	0.0043 (0.1161)	<b>0.0979*</b> (0.0568)	-0.0071 (0.0823)
Multiple Bids Dummy (-)	<b>-0.1451***</b> (0.0469)	<b>-0.1448***</b> (0.0462)	-0.1335 (0.0967)	-0.1232 (0.0992)	0.0048 (0.1053)	<b>-0.0183**</b> (0.0087)	-0.0599 (0.0503)	-0.1105* (0.0590)	<b>-0.1205**</b> (0.0520)
Hostile Dummy (-)	<b>-0.2796***</b> (0.0753)	<b>-0.2749***</b> (0.0717)	<b>-0.4546***</b> (0.1156)	<b>-0.5258***</b> (0.0950)	<b>-0.5008***</b> (0.0819)	<b>-0.0357***</b> (0.0130)	<b>-0.2227***</b> (0.0595)	<b>-0.2293***</b> (0.0691)	<b>-0.2408***</b> (0.0735)
Target Termination Fee (+)	<b>0.3000***</b> (0.0723)	<b>0.2977***</b> (0.0697)	-	-	-	0.0303 (0.0109)	<b>0.1849**</b> (0.0745)	<b>0.1887**</b> (0.0749)	<b>0.1987***</b> (0.0720)
Same Macro (+)	0.0264 (0.0410)			0.0384 (0.1027)	0.0170 (0.1031)	-0.0035 (0.0094)	-0.0342 (0.0490)	-0.0030 (0.0798)	0.0042 (0.0487)
Same SIC (+)		0.0349 (0.0335)	0.1590 (0.0975)						
Log Target EBITDA (-)			0.0083 (0.0416)						
Log Target Net Income (-)				-0.0020 (0.0243)	-0.0435 (0.0276)				
Target Market-to-Book (-)			0.0105 (0.0085)						
Target vs Industry (-) Market-to-Book				-0.0209 (0.0518)					
Target vs Sector Return (-)					0.0341 (0.0792)				
Log Target Total Assets (-)			-0.0125 (0.0493)						
Log Target Sales (-)				-0.0068 (0.0267)	-0.0240 (0.0322)				
Target Gearing (-)			-0.0301 (0.0267)	0.0154 (0.0334)	0.0050 (0.0080)				
Log Acquirer EBITDA (+)						-0.0064 (0.0059)			
Log Acquirer Net Income (+)							-0.0157 (0.0228)		
Acquirer Market-to-Book (+)									
Acquirer vs Industry (+) Market-to-Book									
Acquirer vs Sector Return (-)								-(0.0030) (0.0798)	
Gearing (-)									-0.5312 (0.3508)
<i>No. of observations</i>	235	235	78	80	85	145	182	116	137
<i>p-value for F-statistic</i>	0.0000	0.0000	0.0007	0.0016	0.0023	0.0000	0.0000	0.0001	0.0000
<i>Pseudo R-squared</i>	55.11%	55.35%	27.15%	26.09%	34.70%	37.82%	31.40%	39.94%	38.80%

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of completing a transaction. The independent variables are described in more detail in Table 3.

**Table 9 – Multivariate Analysis**  
**Sample Selection Check (Marginal Effects)**

	<b>Model 49</b>
<b>Premium</b>	
Hostile Dummy	-0.0054 (0.0663)
Multiple Bids Dummy	<b>0.1427*</b> (0.0761)
Cash Dummy	<b>0.1224**</b> (0.0607)
Log Target Sales	<b>-0.0236**</b> (0.0110)
<b>Selected</b>	
Hostile Dummy	<b>0.0032***</b> (0.0011)
Multiple Bids Dummy	<b>0.0131***</b> (0.0014)
Cash Dummy	<b>-0.0090***</b> (0.0009)
Target Total Assets	-1.29e-08 (5.15e-08)
Acquirer Total Assets	<b>3.78e-08**</b> (1.82e-08)
Completed	-0.0024 (0.0009)
Cross-border	<b>0.0057***</b> (0.0007)
Public Acquirer Dummy	(0.0017) (0.0017)
<i>No. of observations</i>	123
<i>p-value for Ch2</i>	0.0000
<i>Log Likelihood</i>	-4,552.892
<i>LR test of indep. Equations</i>	0.1566

The table presents marginal effects obtained from a probit model, where the dependent variable is the probability of completing a transaction. The independent variables are described in more detail in Table 3.