A study of joint venture performance and institutional distance

The relationship between institutional distance and announcement return in international joint ventures

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Executive summary:

Does distance matter? Two companies join together in what seems to be the ideal match, but success is often the exception rather than the rule. Joint ventures are unique and arguably one of the most complex types of arrangement and only gets more complicated when firms from different institutional settings cooperate across national and cultural boundaries. Previous theoretical research has provided mixed empirical results on cultural distance and international joint venture performance, but lack of sufficient data and appropriate accounting measures have often led to inconsistent empirical design and results. This thesis builds on the recently developed construct institutional distance and argues that managers need to consider institutional distance, when establishing a joint venture with a foreign partner.

This thesis connects the previously disjointed theoretical constructs of institutional distance and joint venture performance into a theoretical framework. We decompose the institutional distance *political-*, *administrative-*, *cultural-* and *knowledge distance* and match these constructs against joint venture abnormal announcement return for the participating firms. This study sets forth the research question: "*Does institutional distance matter for performance of the participating firms when they enter into an International Joint Venture (IJV)?* We test this question on a sample of 994 IJV partner observations from a broad range of industries and regions. Using event study and multiple regression analyses, this empirical study broadly supports the assertion that announcement return performance is stronger within certain types of institutional distance dimensions. Our findings have yielded a significant improvement for predicting whether IJV announcement will create market value for the participating partners. Further, we have shown that medium political distance and the interaction between high absorptive capacity and high knowledge distance have positive and significant effects on IJV performance, while medium administrative distance has a negative effect.

To validate our findings we complement our analyses with a pilot study that answers the following sub-research question: "*Does institutional distance matter for IJV survival?* The pilot study showed that IJVs with "optimal" distance characteristics were associated with higher survival rates.

These results provide a broader understanding of key determinants of IJV performance. By introducing institutional theory we have provided a number of guidelines for investors and managers

who are involved in IJVs. From an investor's perspective, our findings can be used to enhance his ability to predict the market returns around an IJV announcement, while managers can benefit from using our extended distance dimensions as key determinants when selecting suitable IJV partners.

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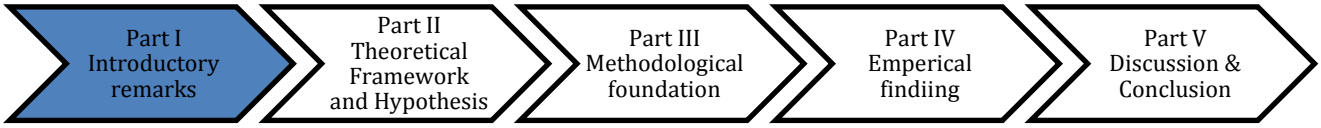
Part I

Introductory remarks



1. Introduction

Joint ventures often seem destined for success at the outset. Two companies come together in what seems to be an ideal match. Demand for the planned product or service is strong. The parent companies have complementary skills and assets and together they can address a strategic need that neither could fill on its own. But in spite of such advantages, revenues decline, bitter disputes erupt, and irreconcilable differences emerge – and managers call it quits (Mckinsey, 2014).

Many companies lack the discipline and experience to address operational realities when operating in foreign markets and when companies strive to stay ahead of evolving trends, they face the complexity of joint venture processes. Not all IJVs experience dramatic endings, but failure is far from rare.

With multiple theoretical lenses being applied, we draw on institutional distance to propose a framework that to a greater extent explains the performance of IJVs. We decompose the institutional distance into *political-, administrative-*, *cultural-* and *knowledge distance*.We aim to match these macro-level attributes with joint ventures to produce recommendations enabling managers to make better strategic choices when establishing international joint ventures.

Our motivation for conducting this analysis came from the announcement of the joint venture between Vestas Wind Systems and Mitsubishi Heavy Motors in 2013. The announcement caused Vestas' stock to increase by 8.94% at the opening but ended at 4.5% showing that market needs time to understand the complexity of types of deals.

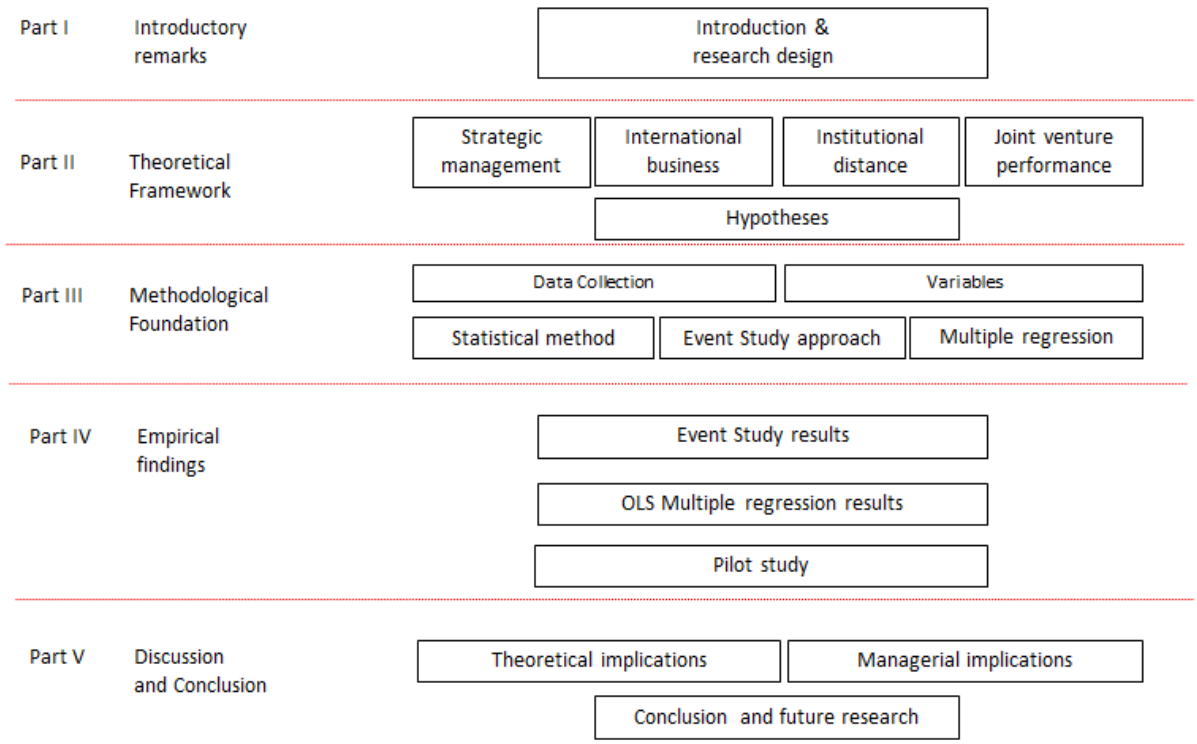
Prior research has focused on cultural distance to explain the underlying differences in national cultural values between home and foreign operations. Empirical studies between the relationship of cultural distance and performance have yielded mixed results of how country differences affect the success of IJVs. Cultural distance, however, does not fully capture the complexity of cross-country differences. Our study builds on the same underlying logic, but we propose the set multidimensional attributes mentioned above, to fully captur the rich diversity in which firm and country differ.

To enable empirical testing of our institutional distance measures, this thesis proposes two measures of performance, namely *announcement return* and *survival*. Our empirical ressearch consist of an event study and multiple regression analyses in which we match institutional distance and performance and test how they are interrelated. By including institutional distance dimension we extend the research on joint venture performance, and should able to get a better understanding of how to anticipate the expected performance, when companies establish a international joint venture.

The paper aims to provide two key outcomes. First, we seek to improve the theoretical understanding of joint venture performance. Second, we hope to improve investor and managerial decision making by introducing concepts of institutional distance to improve the explanatory power of joint venture performance prediction models.

1.1 Structure

Figure 1: Structure



The above model outlines the structure of this thesis. The current section will lay the ground for the thesis, including contribution, purpose and research questions and the methodological approach to developing the analysis. Part II covers the theoretical framework. Herin the theoretal relation strategic management, international business, institutional distance and performance to Join Venture will be wiexplained. Thereafter the construct of institutional distance will be linked to 7 testable performance hypothesis. Part III provides the methodological foundation of the thesis including stastical method, event study approach and OLS multiple regression. Further the data collection process and the selected variables will be described. Part IV present the empirical finding consisting Event study result of each institunal distance variable, multiple regression of variables significantly affecting announcement return of IJVs and pilot study test if findings also are applicable in the long-run. Part V provides a discussion of the theoretical and managerial implications of our results. The thesis rounds of with promising ares of future research and a couple of concluding remarks.

1.2 Definitions and expressions

Throughout the paper several terms and expressions from literature will used repeatedly. Since the definitions in some case vary, we have, below, defined the ones frequently used in this paper to avoid confusion.

International joint ventures (IJV): IJVs are broadly defined as joint ventures that involve firms from different countries cooperating across national and cultural boundaries. Our IJV data has been gathered from Bloomberg as they provide comprehensive coverage of this type of transaction, provided they are in compliance with Bloomberg standards for JVs: "Bloomberg tracks joint ventures where two or more companies combine assets, or assets and cash, to form a new separate entity as a going concern" (Bloomberg 2014).

Institutional Distance: Institutional distance is a measure of cross-country differences (Kostove & Zaheer, 1999) and refers to "*the extent of similarity or dissimilarity between the regulatory, cognitive and normative institutions of two countries*" (Xu & Shenkar, 2002) Berry et al. (2010) developed several new measures of institutional distance, and calculated the numerical distance between various countries. In this paper we use a selection of Berry et. al. (2010) new measures, namely Political Distance (PD), Adminstrative Distance (AD), Cultural Distance (CD) and Knowledge Distance (KD) as proxies for different types of Instititutional Distance which may impact joint venture performance. These four categories will sometimes be referred to as "*distance dimensions*".

Performance: We frequently use the notation "Performance" throughout this paper. This notation is broadly used in the literature and can have different meanings. When referred to in this paper it is a measure of single-day announcement returns (AR). When aggregated across time (a 5-day period) it is referred to as the cumulative abnormal return (CAR) and when used cross-sectionally it means the cumulative average abnormal return (CAAR).

1.3 Purpose and research question

The main purpose of this thesis is to investigate if and how institutional distance affect performance in IJVs. We do this by measuring the effects of institutional distance on the market value of the primary participating firms around the time of the announcement of the IJV. We began by reviewing existing literature and relevant studies with the key focus being on joint ventures, joint venture performance and institutional distance. The problem statement is summarized in the following research question, which serves as a guide throughout the paper:

"Does institutional distance matter for performance of the participating firms when they enter into an International Joint Venture?"

The overall research question will be answered by testing how institutional distance affects the *market value* for the participating firms when establishing an IJV. This research question will be answered through a research design, which is divided into two main parts. Firstly, our study analyses how the market reacts to the announcement of the IJV by calculating the *cumulative average abnormal return* (CAAR) for the 2 days prior and 2 day post the announcement for a sample of 994 IJVs. This method is commonly known as an event study. This gives us a clear indication of the general market reaction to IJVs across region, industry and institutional distances while testing whether IJVs, in general, are significantly associated with positive or negative announcement returns. Secondly, to explain the relationship between IJV performance and institutional distance, we test how the market accounts for institutional distances on the announcement by conducting a multiple regression analysis of common variables *("The Standard Model"*) and controlling for these in *Extended Distance Model 1&2*.

Optimally, one or more of our distance parameters will be significant and thus improve the extent to which we can predict performance when two partners from different countries enter into IJV. This however, does not give us any indication of how the IJVs actually ends up performing after the announcement, in other words, does institutional distance have an effect on the IJV survival. We therefore perform a sub-analysis, where we aim to answer the following question:

a) *Does institutional distance matter for IJV Survival?*

Investors often fall short when predicting the future earnings of joint ventures which to some extent bias our understanding of joint venture performance during longer time horizons. To compensate for this, we test the applicability of our findings through a pilot study, which will give us an indication of how the IJVs performed during a long-term perspective. We test if IJVs with "best case" institutional characteristics according to *Extended Distance Model 1&2* has an effect on IJV survival.

1.4 Contribution

The contribution of this thesis can be regarded from a theoretical and an empirical perspective. From a theoretical perspective, the previously disconnected fields of institutional distance and IJV performance are joined together into a coherent conceptual framework. This study contributes by increasing the understanding of institutional distance effect on IJV announcement return and its relation to long-term performance.

From an empirical perspective this thesis adds to the current literature by testing a theoretical framework for how institutional distance affects joint venture performance. We are the first to combine a numerical approach as provided by Hofstede (2010) to test the relationship between different forms of institutional distance and IJV performance across a large cross-sectional dataset using the most recent data. This multidimensional approach offers a new way of interpreting the impact of distance on a managerial and organizational level.

The limitations to the generalizability of our findings and conclusion will be unfolded in the following section.

1.5 Delimitations

This thesis takes an aggregate theoretical and empirical view of how institutional distance affects joint venture performance.

Prior empirical investigations on IJVs have yielded conflicting results in terms of how to measure performance and its determinants. The general problem has been lack of or sufficient data, which leads to an inconsistent empirical design. Appropriate accounting or

financial measures such as *ROI, ROA, ROIC* are not used to determine JV performance. This is a result of the Financial Reporting of Interest in Joint Ventures *Accounting Standard 27 (AS 27[1])* that disclaims parent firms from explicity publishing financial data of joint ventures in their books resulting in inconsistent or unavailable data (Ren et al, 2009). Our study encounters the same issue. The consequence is that our finding will not be derived from a *"standard"* performance measure, but from a performance proxy.

Other nonfinancial performance measures such as *parent satisfaction, goal achievement* and *learning* have been suggested by scholars to compensate for the lack of accounting performance measures. However, this requires extensive qualitative research such as surveys or interviews. This is beyond the scope of our thesis and we leave this for future research.

Our study focuses on IJV between two parent firms, despite the fact that many IJVs have more than one partner (Beamish & Kachra, 2004). The consequence of our approach is that our investigation does not fully address the complexity of multiple partners' influencing performance, such as the potential for increased synergies or the risk of increased coordination (transaction) costs. Additionally, equity ownership structure represents a primary control mechanism in IJVs (LI, Zhou, & Zajac, 2009). This measurement could benefit our study if tested whether institutional distances affect performance differently in equal vs. dominant equity ownership structures.

1.6 Research strategy

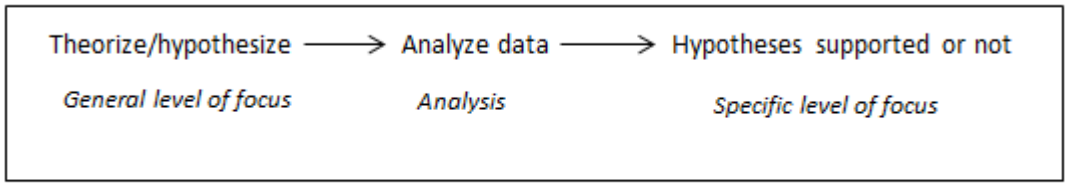
The purpose of this section is to explain how we have approach this thesis from a methodological perspective. There are many ways to conduct a study of international joint venture performance and institutional distance. A case-by-case study would be an obvious way of looking at the above relationship at a very detailed level which would require an inductive reasoning approach including qualitative study approach. However, our goal with this thesis is to investigate the relationship in a broader setting in order to provide a set of generic recommendations. We conduct a statistical analysis of a large sample of international joint ventures as this is a useful method to investigate general population characteristics. It is,

[1] http://www.mca.gov.in/Ministry/notification/pdf/AS_27.pdf

however, not an appropriate method to understand issues in great depth and identify ways to solve problems highlighted, but this is, as mentioned, not the purpose of this thesis.

Conducting a statistical analysis often follows the deductive reasoning approach. Deductive reasoning is a top down approach that works from the general to the more specific as shown by the figure below. In empirical research, this means that the researcher begins a study by considering theories that have been developed in conjunction with a topic of interest. This approach lets a researcher think about research that has already been conducted and develop an idea about extending or adding to that theoretical foundation. The deductive approach follows the process of (1) theory, (2) hypothesis, (3) data collection, (4) findings, (5) hypothesis confirmed or rejected, and (6) revision of theory (Bryman & Bell, 2003). In the deductive approach, research is based on existing knowledge within a particular field, from which hypothesis are deducted, tested, rejected or confirmed. The deductive approach acts as the underlying thought of quantitative studies (Bryman & Bell, 2003)

Figure 2: Deductive reasoning



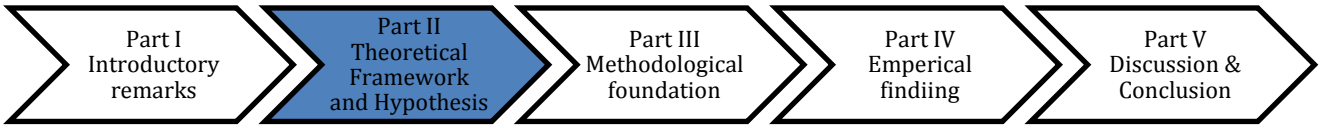
In line with the deductive reasoning, we started out by developing our research question after a lengthy period of reviewing existing literature on international joint venture, joint venture performance and institutional distance. We approach this study by combining multiple theoretical frameworks into one model from which we develop a set of testable hypotheses. Taking a multiple theoretical approach is often referred to as an eclectic approach. This way we ensure the strengths and weaknesses of each theory is considered Christensen & Carlile, 2005).

Although the research on joint ventures is extensive, scholars seem unsuccessful in explaining why so many end up failing. To investigate this issue further, the statistical analysis is followed by a pilot study where we test our findings on a smaller section of the overall data. The purpose of the pilot study is to get an idea of whether our findings are

applicable for long-term IJV performance using IJV survival as a proxy. Our goal here is not to understand the relationship between institutional distance and long-term IJV performance in great depth, but to a greater extent inspire future researchers to resolve some of the findings presented in our pilot study on a case-by-case level.

Part II

Theoretical Framework



2 Literature review

2.1 Positioning in the literature

In the following section we strive to conduct a thorough review of the most relevant theories and findings in the joint venture literature. Our study builds on three theoretical domains, namely: strategic management theory, international business theory and performance theories related to the joint venture. This review will serve as a reference point to our hypotheses and when discussing our result and identifying limitations of our study in the final chapter of the thesis. The literature rewiev is included in this paper as it explains the underlying motives for entering into a joint venture. Therefore, this section will serve as a reference point for our hypotheses in section 3 and when interpreting the results in section 6 and 7 respectively.

The focus in the field of strategic management has been to explain firm performance (Matysiak & Bausch, 2012). The literature argues that performance can be explained from an *industry* or *firm-level* perspective. The dominant approaches to explain above characteristics are the market-based view and resource-based view. The market-based view analyses the external environment and base performance on the industry's competitive characteristics, whereas the resource-based view considers a firm's resources and capabilities and how differences in endowments and ability to appropriate such factors influence the way it performs (Matysiak & Bausch, 2012).

The study of joint ventures has attracted increasing interest from scholars and students of organization. The dominant theories surrounding international business e.g. licensing, joint ventures, acquisitions have focused on the country dimension and its dominant theory – internalization theory – is primarily directed towards *efficiency seeking* thinking. The other dominant theory is directed towards *rent-seeking* thinking where a company uses its resources to create economic gains. To this end, diverse theoretical perspectives, such as transaction cost theory and resource-based theory including capabilities, knowledge or content have been developed to explain firm behaviour and competitiveness (Zhan & Luo, 2006). Each of these perspectives operates at a different level of analysis, however, they serve as important determinants in measuring the expected outcome, e.g. performance or success-rate, in general and for JVs.

From a performance perspective joint ventures suffer from the lack of financial (or accounting) measures to determine its cash flows. Scholars have tried to overcome this barrier by introducing alternative ways of measuring performance such as survival (Beamish & Makino, 2001) or motivation (Klein et al., 2009). Kogut (1991) introduced the real option theory to further augment our understanding by looking at the joint venture as a call-option stressing that performance cannot stand alone, but needs to include motivation for entering a joint venture.

By combining the above considerations, we position our study in the cross field between strategic management as a general rent-seeking approach, international business theory and the assessment of joint venture performance theory.

2.2 Strategic management theory

The theories included in this section are essential for understanding the strategic reasons and motivation for entering into a joint venture. We begin by explaining the broader theoretical determinants (e.g. transaction cost theory and resource-based view) in a joint venture perspective while narrowing the scope by looking at the joint venture motives by using knowledge-based view and absorptive capacity. We employ these theories to develop a set of testable hypotheses which will be described in section 3.

What determines international success or failure has been considered a core question in strategic management and international business. Of the different theoretical perspectives, transaction costs economics (TC) have been dominant in the study of joint ventures. In particular, entry mode into a foreign market, although its origins in internalization theory (Buckley & Casson, 1976) are closely related to transaction cost theory. In a critical review Kogut (1988) compared the transaction cost and strategic behavior perspectives when explaining motivations to form a joint venture. From a TC perspective, the primary objective of a firm is to economize on transaction costs through choosing appropriate governance structures (Tsang, 2000).

Despite being a dominant theory in the study of joint ventures, transaction costs have been criticized for its weaknesses (Tsang, 2000). As argued by Zajac and Olsen (1993), TC tends to over-emphasize the cost minimization and neglects the value creation aspect of a transaction. Furthermore, the transaction cost model only bases entry mode choices by

comparing the performance of different entry mode types, thereby ignoring the endogeneity issue (Brouthers, 2002).

To compensate for TCs weaknesses later studies of joint ventures focused more on the value-creating benefits of transactions. Some scholars (Dickson, 1991; Tsang, 2000) argues that the fundamental motive underlining all other reasons for combining firms' resources and skills, will always be some sort of firm gain. This leads to the resource-based view of joint ventures. According to Choi & Beamish (2013) the resource-based view (RBV) of joint ventures posits that JV performance is driven by JV partner's ability to create synergy by joining complementary resources. The theory argues that to capture synergy through resource complementarity between the partners, resource complementarity is conceptualized as the interaction of both partners' complementary resources (Choi & Beamish, 2013).

2.2.1 Transaction cost theory and Joint Venture

The general assumption of transaction cost theory, formally developed by Williamson (1975) posits that firms can be explained by market failure and the primary objective of a firm is to economize on transaction costs through choosing appropriate governance structures. TC theory suggests three different structures of governance *market, hybrid and hierarchical* structures.

A particular TC view on joint ventures has been in relation to choice of entry mode into a foreign market. From a TC view choice of entry mode should provide firms with the most efficient governance structure. Hence, transaction cost based on mode choices provides the best performance, because "the existence of any given organizational design is its efficiency compared to the set of available alternatives (Brouthers, 2002). However, other scholars suggest that transaction cost based mode choices may not lead to the best performing mode due to its focus on cost minimization, thus ignoring value enhancement (Brouthers, 2002).

2.2.2 The resource based view of the firm and IJV

Penrose (1959) conceptualizes the firm as a collection of resources, each of which is a bundle of potential productive services, bounded together in an administrative framework. The RBV has been developed throughout the 1980s and 1990s as a complement to the industrial organizational view (e.g. transaction cost). It seeks to explain firm performance by identifying the firm's internal resources as means for achieving competitive advantages.

According to the RBV logic *(Barney, 1991)* companies can create a sustainable competitive advantage by having resources that are valuable, rare, in-imitable and non-substitutable. The RBV of the firm clearly rules out best practice as a source of competitive advantage. Instead the RBV framework is interesting as it suggest that IJV that are formed to bundle resources that are valuable, rare, in-imitable and non-substitutable can generate a competitive advantage and thus improve performance (Beamish & and Kachra, 2004; Chen & Chen, 2003; Contractor & Kundu, 1998). If other firms can easily understand and copy a capability, it is not a source of advantage. Barney (1991) groups firm resources into three categories, namely *physical resources, human resources and organizational resources.*

Under the RBV logic, there are several reasons why firms would form joint ventures (Tsang, 2000). RBV stresses the value aspect of the transaction and is concerned not only with the efficient utilization of firms' resources, but also with their efficient development. In his analysis of resource-based explanations to form joint ventures, Tsang (2000) identifies two categories namely *exploitation of resources* and *development of resources*. The first category is directly related to the nature of the firm as a rent-seeking institution. Joint ventures are motivated by the desire of at least one partner to make a better use of its competitive advantage. The second category explores the reasons for forming joint ventures related to the development of firm's resources. In this case, rent generation is not an immediate objective, but rather an objective to manage resources in a rational manner. By doing so, a firm's long-term competitiveness is strengthened.

2.2.3 The knowledge based view of the firm in IJV

Knowledge based view of the firm is an extension of the resource-based view and posit knowledge as a resource. Knowledge can be viewed as a preeminent factor of production and serves as a main source of productivity in the advanced economy and a primary basis for generating economic rent (Grant, 2011). Two processes are critical in the process of creating economic value, namely knowledge generation and knowledge application to the production of goods and services (Grant, 2011). The common characteristics of knowledge is specialization, which can be increased through integration of activities such as learning-by-doing, knowledge acquisition and knowledge sharing. By integration the primary focus is on cooperation and coordination activities. The key to efficiency in knowledge integration is to

create mechanism that economizes on learning (Grant, 2011). In his view, he emphasizes the importance of productive tasks, rules and routines to form the primary mechanisms for such integration.

2.2.4 Absorptive capacity

Absorptive capacity is one of the most important concepts to emerge in organizational research in recent decades (Lane & Koka, 2006). Although absorptive capacity is not directly derived from the knowledge based view, we believe that these are closely interlinked. Introduced by Wesley Cohen and Daniel Levinthal absorptive capacity refers to a firm's fundamental learning processes: its ability to identify, assimilate, and exploit knowledge from the environment. These three dimensions encompass not only the ability to imitate other firms' products or processes but also the ability to exploit less commercially focused knowledge, such as scientific research. Developing and maintaining absorptive capacity is critical to a firm's long-term survival and success because absorptive capacity can reinforce, complement, or refocus the firm's knowledge base (Lane & Koka, 2006).

The concept of absorptive capacity has evolved and expanded over time, even though most scholars have framed it in the context of R&D activities (Lane & Koka, 2006). Some of the most important papers on the subject suggest the following view of absorptive capacity; through its R&D activities, a firm develops organizational knowledge about certain areas of science and technology and how those areas relate to the firm's products and markets (ability to identify and value external knowledge; Cohen & Levinthal, 1989)

Absorptive capacity is closely interlinked with theories about learning and knowledge. The research on IJV learning to date has been largely theoretical or case-based, and has primarily focused on identifying organizational characteristics and processes that may influence IJV learning from foreign parents (Lane et al., 2001). While an IJV's parent often seeks to learn from one another, IJV learning from its foreign parents is considered to be essential for its survival and, hence, the realization of the parents' strategic goals (Hennart, 1991; Parkhe, 1991; Inkpen and Beamish, 1997)

Relative absorptive capacity theory (Lane, 1996; Lane and Lubatkin, 1998) suggests that the IJV and foreign parent must have sufficiently similar knowledge bases and norms in order for the "student" (IJV) to understand the "teacher" (foreign parent). IJVs can create competitive

advantage by internalizing and adapting partner skills and capabilities(Porter, 1986). Transferring knowledge between organizations is always difficult (Szulanski, 1996), but differences between firms in established and emerging economies add to the challenge. Theory suggests that forming a separate IJV organization will facilitate learning by providing the expectation of a stable, long-term relationship which allows trust and knowledge sharing to develop (Beamish and Banks, 1987).

In the above, we have established the main efficiency and rent-seeking drivers based on three general theoretical frameworks in the literature. In summary, the transaction cost theory considers the most efficient governance structure, the resource-based view considers value-creation through efficient utilization of firm resources and the knowledge-based view considers efficient coordination and cooperation to enhance knowledge creation.

In strategic alliances, firms choose the joint venture governance structure when it is the most efficient. Simultaneously, they choose a partner with whom they can develop synergies by efficient use of firm resources and capabilities and they use knowledge as a mechanism to coordinate tasks and cooperation. However, from an operational point of view, these theories do not consider the differences from a cross-border perspective. Therefore, we turn our focus to theories considering *cultural distance* and *institutional distance.* It is, however, important to stress that both theories originate in the dominant theories described above.

2.3 International business theory

This section explains some the underlying issues for companies operating in foreign markets. Although, international business theories cover a broad range of aspects it is beyond the scope of this paper to discuss all of these. Instead, we will introduce the concept of cultural distance as it explains issues regarding establishing international joint ventures. Furthermore, institutional distance (explained in section 2.4) is rooted in the arguments of cultural distance and therefore it is important to explain its underlying nature.

One of the dominant theories surrounding international business e.g. licensing, joint ventures, acquisitions have focused on the country dimension and its dominant theory – internalization theory. Internationalization can be viewed as a process of increasing involvement in international markets. In the following section, we will explore the theories surrounding country cross-national differences (e.g. cultural distance and institutional distance).

2.3.1 Cultural distance

Cultural distance in recent research most often refers to the underlying differences in national cultural values for managers between their MNE's home and foreign operations (Tihanyi et al, 2005). Cultural distance has been used to explain a wide range of MNE strategies and organizational characteristics, such as entry mode choice (Barkema et. al, 1996), international diversification (Grosse and Treviono, 1996) and MNE performance (Gomez-Mejia and Palich, 1997; Morosini et al., 1998).

The most widely used approach to measure cross-national distance is based on Gert Hostede's (1980) cultural constructs. Hofstede developed a set of cultural indicators for a large set of countries, sampled through a questionnaire survey among managers from IBM subsidiaries. He proposed uncertainty avoidance, power distance, individualism, and masculinity as the key distinguished aspects of culture. While many management scholars have embraced Hofstede's cultural scores as the basis of cross-national distance, many have criticized his approach. One argument is that his approach fails to capture an array of dimensions along which countries differ from one another. Another critique is his distance measurements do not change over time (Inglehart & Baker, 2000), while in reality economic and political factors change over time.

2.3.2 Cultural distance and market performance:

When examining the role of cultural distance most studies theorize that, as the cultural distances between firms' home country and host market increase the underlying ability of the firm to operate effectively in the host market decreases (Gomez-Mejia & Palich, 1997). However, theoretical perspectives suggest that there are two different views on how distance affects performance.

Firstly, some researches contend that doing business under conditions of higher cultural distance leads to lower performance of MNE's (e.g., Li & Guisinger, 1992). Lou & Peng (1999) argue that incongruence in national cultures results in lower performance when MNEs enter new markets. The theoretical underlying argument is that high cultural distance tends to lead to intra-organizational conflicts and poor implementation of organizational actions,

given inconsistencies in values and institutions between home and foreign market operations. Consequently, managers in culturally distant markets are less able to take advantage of economies of scale and scope in relation to technology development or joint production. Additionally, high cultural distance can affect performance due to increased training, monitoring and control costs, as well as differences in management cognition of organizational issues (Schneider & DeMeyer, 1991).

Secondly, a number of studies consider cultural distance as having positive influence on performance (Gomez-Mejia & Palich, 1997; Park & Ungson, 1997). According to internationalization theory MNE's are often able to enter culturally distanct markets because of the numerous organizational advantages their foreign operation can provide. For example, companies may realize innovation related performance benefits in cultural distant markets by locating their foreign subsidiaries in advanced R&D environments**.** As MNE's expand into cultural diverse markets, the integration of newly acquired skills with their existing resources can lead to unique resource combinations enhancing overall performance (Morosini et. Al, 1998).

2.3.3 Cultural distance and Survival:

Prior research has provided mixed empirical evidence regarding the specific influence of cultural distance (Brouthers and Brouthers, 2001). Whereas some studies have indicated a negative relationship between cultural distance and performance (e.g., Luo and Peng, 1999), other studies have found positive effects (e.g., Morosini et al., 1998). For example, managing portfolios of foreign operations with greater cultural distance has been found to increase transaction and operating cost, resulting in an increased survival hazard among MNEs (Li, 1995; Park and Ungson, 1997). Meanwhile, high cultural distance has also been associated with low rates of JV failure (Park and Ungson,1997).

Using Hofstede' (1980) classification of culture, Kogut and Singh (1988) formed a "cultural distance" index that has become a proxy of choice for national differences (Barkema. Bell, & Pennings, 1996; Brouthers &Brouthers, 2001). This index does, however, not capture the

complexity of cross-country differences as it neglects to capture the role of societal institutions and nuances in country differences when operating in foreign markets.

In order to capture the pitfalls in the existing literature, we propose a more comprehensive measurement to capture a more full-on view of cross-national differences by introducing institutional distance.

2.4 Institutional distance

In the following, we will introduce the concept of institutional distance theory. This section serves as a key aspect in developing our hypotheses in section 3 and will be a reference point when discussing the implication of our findings in section 8.

Institutional theory is a non-efficiency perspective in which the institutional environment is seen as the key determinant of firm structure and behaviour (DiMaggio & Powell, 1983,1991; Scott, 1995). It is a further development of the cultural distance conceptualization. Institutions have been defined generally as the rules of the game in as society, ”*the formal or informal constraints that shape human interaction*” (North, 1990). Scott (1995) introduced the concept of a three-dimensional country institutional context, comprised of regulatory, normative and cognitive dimensions.

Institutional distance provides a more holistic view of cross-country differences. Institutional distance is a measure of cross-country differences (Kostove & Zaheer, 1999) and refers to ”*the extent of similarity or dissimilarity between the regulatory, cognitive and normative institutions of two countries*” (Xu & Shenkar, 2002). Institutional theory is the foundation for institutional distance. It perceives institutional environment as the key determinant of firm structure and behavior (DiMaggio and Powell, 1983).

Cotemporary institutional theory (Scott,1995) indicates that in order to survive, organizations must conform to the rules and belief system prevailing in the environment (DiMaggio & Powell, 1983; Meyer & Rowan, 1997), because institutional isomorphism, both structural and procedural, will earn the organization legitimacy (Dacin, 1997; Deephouse, 1996). According

to this perspective institutional distance is the extent of similarity or dissimilarity between the regulatory, cognitive and normative institutions of two countries.

Berry et al. (2010) developed several new measures of institutional distance, and calculated the numerical distance between various countries. We have not included all the distance dimensions, as we deem them irrelevant to our study. The distance dimensions' characteristics are explained below.

Table 1: Dimensions of cross-national distance

Distance dimension	Explanation
Political	Differences in political stability, democracy and trade block membership
Administrative	Differences in colonial ties, language, religion and legal system
Cultural	Differences in attitudes toward authority, trust, individuality and importance of work and family
Knowledge	Differences in patents and scientific production

(Berry et al., 2010)

2.4.1 Political distance

Political distance can be measured as the relative difference in the political environment. Berry et al. (2010) approach to measure political distance follows the existing literature (e.g. Brewer, 2007; Dow & Karunaratna, 2006) in characterizing countries along continuous political dimensions, such as institutional checks and balances, democratic character, the size of the state relative to the economy and the external trade associations. Political distance has been found to correlate with the choice of foreign markets to enter, the choice of entry mode and foreign direct investment flows (Garcia-Canal & Guillen, 2008). Regarding political distance by means of investing through a JV, the foreign investor limits its commitment on resources of the host country and shares risk with (at least) a second partner. Additionally, joint ventures are more flexible as an entry mode choice, since they can be more easily dissolved. In summary, when the formal and informal external environment is highly uncertain, foreign investors will prefer equity joint ventures over wholly owned subsidiaries.

2.4.2 Administrative distance

Administrative distance refers to differences in bureaucratic patterns due to colonial ties, language, religion, and the legal system (La Porta et. Al, 1998). Colonial ties and common religion are both factors that reduce administrative distance – vice versa. Administrative distance has been found to correlate with the occurrence of cross-border mergers and acquisitions, and with the choice of foreign markets to enter (Guler & Guillen, 2010). For instance a common language is important as it is likely to influence transaction costs (Demirbag, Tatoglu, & Glaister, 2007). The literature has opposing views on the influence of how administrative distance influence performance. Some authors argue that language diversity increases the risk perceived by foreign investors and, thus their tendency to invest through JVs rather than through wholly owned subsidiaries (Demirbag et al., 2007). On the contrary, other scholars have found that with a higher linguistic barrier, the greater the degree of control parent companies seems to have over their subsidiaries (Harzing & Feely, 2008). Another aspect of administrative distance is the legal system. Scholars agree that a lack of enforcement of property rights and the legal system in general makes foreign operations vulnerable to uncertainty thereby increasing cost of capital (Hail & Leuz, 2006).

It can be argued that administrative distance can be related to both cultural and political distance, but we believe that it is distinct, because it goes beyond national political systems to include both fomal and informal institutional arrangements.

2.4.3 Cultural distance

As noted above, Hofstede (1980) and many other scholars have long demonstrated the importance of differences in cultural values and norms across countries, and their impact on foreign market entry and entry mode choice. From the literature review in section 2 several positive and negative factors have been indicated. One argument is that high cultural distance tends to be negative as it leads to conflicts and poor organizational implementation as a result from complexity and uncertainty (Shane et. Al, 1995). Others Gomez-Mejia & Palich, 1997; Park & Ungson, 1997) have found that a high degree of distance positively affects performance (Gomez-Mejia & Palich, 1997; Park & Ungson, 1997). As MNE's expand into cultural diverse markets, the integration of newly acquired skills with their existing resources

can lead to unique resource combinations enhancing overall MNE performance (Morosini et. Al, 1998). Companies may realize innovation related performance benefits in cultural distant market by located their foreign subsidiaries in advanced R&D environments.

2.4.4 Knowledge distance

Institutional literature proposes that countries differ in terms of their capacity to create knowledge and to innovate (Furman et. Al., 2002). Proximity to knowledge has been argued to affect the location choice of multinational firms, because of the effect of spillovers (Berry, 2006; Guler & Guillén, 2010). Talent, innovation and creativity are not distributed equally across locations and this affects distances between countries. Following the literature on national innovation systems, recent research (Berry, 2010) has measured knowledge distance using the number of patents and the number of scientific articles published per capita (Furman et. Al., 2002; Nelson & Rosenberg,1993). On the one hand, it has been found that for organizational learning to take place, the knowledge distance or 'gap' between two parties cannot be too great (Hamel, 1991) The reason is that too many learning steps will be required if the knowledge gap (or distance) is significant. In this sense, it is believed that knowledge redundancy and overlapping areas of expertise facilitate knowledge transfer (Nonaka and Takeuchi, 1995). As Hamel (1991, p. 97) put it, "*if the skill gap between partners is too great, learning becomes almost impossible*", as the recipient may be unable "to identify, if not retrace, the intermediate learning 'steps' between its present competence level and that of its partner". Additionally recent theory suggests that knowledge distance will have a negative effect on JV performance as firms need a common knowledge base, which is adequate for generating new knowledge structures through using known knowledge structure (Yuhua Qian et. Al., 2011) (Article: Knowledge structure, knowledge granulation and knowledge distance in a knowledge base).

On the other hand, scholars have also argued that too small a knowledge gap may burden the recipient with unlearning old knowledge prior to learning any new knowledge (Burgleman, 1983, Hedberg, 1981 and Nystrom and Starbuck, 1984). In addition, parties may become less satisfied with their transfer activities if there is not much knowledge to be transferred due to too small a knowledge gap. Indeed, a premise for effective learning is a certain degree of knowledge gap between the parties.

2.5 Measuring IJV performance

The conceptualization of IJV performance and its determinant remains an often-debated issue in IJV research (Reus & Ritchie, 2004). Generally speaking, IJV performance has been conceptualized as the following broad constructs: survival, financial outputs, overall satisfaction, achievement of individual or joint goals and learning. Conceptualization such as satisfaction, achievement of individual or joint goals and learning are dependent on extensive surveys and will not be within the scope of this thesis. Instead the following review will focus on announcement return (*the dependent variable in the event study analysis in section 6*) and survival *(the dependent variable in the pilot study in section 7*) as proxies for performance. These determinants are based on reliable data from databanks such as Bloomberg. As there is a considerable disagreement about the validity and reliability of these measures (Krishnan, Martin, & Noorderhaven, 2006). We will elaborate on these, and later in our statistical section a multilevel model combining the measures will be proposed to increase validity and reliability of our model.

2.5.1 Financial output measures

Researchers have become increasingly interested in both profitability measures (e.g., ROI or asset turnover etc.) and market performance measures (e.g., market share) as preferred approaches to IJV performance(Luo, 2002). However, financial measures for the IJV itself have been criticized because they tend to be rolled into consolidated corporate data. Therefore, they are difficult to isolate and are frequently not available at all. Despite these problems, objective measures are preferred when all variables are obtained from the same respondent to avoid common method variance (e.g., Luo, 2002). Due to data availability problems, this section will instead review objective theoretical performance measures, where data is available. At the same time we stress that our study is not affected by common method variance, as this may lead to false correlations and thus runs the risk of reporting incorrect research results.

2.5.2 Portfolio theory and financial performance

In order to combine IJV with portfolio theory and financial performance, we begin by assessing the fundamentals. The traditional view of economics posits that there is a trade-off between altruistic or ethical behaviour and the material well-being of an individual. The key tenet of the traditional view of the economics of investment is what is known as Expected

Utility Theory, which mirrors the ideas of Adam Smith's homo economicus or the 'self interested man' (Smith, 1776). Its modern application argues that investors are completely rational, able to deal with complex choices, risk-averse and wealth maximizing. Essentially, this means that if we imagine a firm to be a nexus of individual decisions, wealth (profit) maximization is what allows firms to be successful and to survive. In such a case, the firm's shareholders should be given the most influence in managerial decisions, which would then be wealth-maximizing decisions. Agency theory supports this idea, whereby managers are agents for its shareholders and should not be allowed to act according to his or her diverging individual interests (Jensen and Meckling, 1976).

Portfolio theory assesses the ability of pushing the portfolio towards or away from the efficient frontier (Markowitz, 1952). From our IJV perspective, this implies that the parent firms should only pursue joint ventures that yields an acceptable combination of risk and return – thus being on the efficient frontier. Only then will the parent companies have met shareholder expectations. According to this perspective, if:

IJV potential **surpasses** shareholder expectation => Stock price increases

IJV potential **meets** shareholder expectation => Stock price remains on the same level

IJV potential **falls short of** shareholder expectation => Stock price will decrease

Following this perspective, one way to measure IJV potential performance, is the stock return of the parent companies around the announcement of the IJV, as this reflects the shareholder expectations of the IJV. In the data methodology section we will explained how this announcement return is calculating using an event study approach

2.5.3 IJV a way of managing investment risk

From a strategic point of view, managers need to actively consider investment risk(s). A given strategic goal can in many cases be reached in several ways that each is associated with different risks. If for example the goal investment is marked access, this can be reached in a number of ways (Hedegaard, 2006):

Organic expansion →Licensing →Franchising →Strategic alliances→Joint venture→Acquisition

Risk associated with investment decisions rises as we move from organic expansion to acquisition; hence the advantages in form of growth and return need to rise proportionally (Hedegaard, 2006). Managers should closely consider these strategic alternatives in the investment process as the decision could be of great value. Joint Ventures are one of the entry-modes associated with the largest amount of risk and thus measuring its performance should take this into account. One way to do this would be to look at the parent companies of the IJV and estimate how their company risk is correlated to the market. However, this measurement will only account for company specific risks, not taking the specific risks related to the joint venture into consideration. The best way to do this would be to try to establish the project risk of each JV. However, as this would require vast knowledge of each JV, this will be beyond the scope of this paper. Instead a substitute measure of how the parent company's risk profile is affected by the JV will be used. Again, as this paper measures performance from a shareholder perspective, the focus will be on the risk that affects shareholders.

2.5.4 IJV performance - CAPM

For the event study (section 6) we leverage on the underlying assumption of the capital asset pricing model(CAPM) when calculating our proxy for performance (i.e. IJV CAAR). This model calculates the expected return of an asset based on its beta and expected market returns. Beta measures the correlation with the market portfolio, thus only looking at systemic risk, as the investor can diversify business risk.

According to portfolio theory, firms can diversify their portfolios of investment by investing in economically uncorrelated foreign operations (Shapiro, 1978). While this might be true, the issue with this argument is that diversification is both easier and cheaper for the stockholder than the cooperation. "Why should firm A enter into a JV with firm B to diversify, when the shareholders of firm A can buy shares in firm B to diversify their own portfolios?" The answer is it that it should not, as it is far easier and cheaper for individual investor to diversify than it is for firms to combine operations (Brealey, Meyer & Marcus, 2012). However it has been found that international presence, can help increase the accessibility and availability of financial resources, since it signals stable cash flow and higher firm quality (Shaver, 2011). Thus entering into IJV might actually improve firm performance, as it signals high firm quality to the investor, but not because of diversification.

In order to see whether JV actually performed we build JV survival theory, see below. This way of measuring performance can be seen both from a short term perspective, namely through announcement returns and beta, and from long-term perspective through JV survival rate.

2.5.5 Survival performance theory

One of the common indicators of IJV performance used by many researchers is survival (Dhanaraj & Beamish, 2004). We leverage on this concept to explain long-term performance in the pilot study (see section 7). The basic assumption of this approach is that the longer the IJV survives, the more successful it is because an IJV is expected to be sustainable only as long as it represents the most efficient organization mode (Inkpen & Beamish, 1997). From this perspective, longevity is a sign of IJV success and termination is a sign of IJV failure. However as illustrated in by Lyles & Baird (1994) this assumption does not always hold: Suppose one IJV was created 10 years ago whereas another was created 5 years ago. With information only on age, it is impossible to say that the former has a better performance than the latter simply because it has existed for 5 years longer (Lyles & Baird, 1994). The first IJV may be the most efficient mode for its two parents, however this information provides an insufficient basis to compare its performance with other IJVs.

Furthermore, using termination as a measure of failure poses a significant limitation, as it is problematic to declare that all terminated IJVs have not been successful. For instance the strong performance of an IJV may lead one parent firm to acquire the other and turn the venture into a wholly owned subsidiary (Berg & Friedman, 1978). In addition, IJV termination may actually signal its success because IJVs may be terminated once participants have successfully accomplished their initial objectives (Kumar, 2005). In these situations, conceptualizing longevity as a sign of failure would be inappropriate.

Scholars have attempted to resolve these issues regarding the validity of survival as an IJV performance measure. To do this, not only IJV survival but also IJV sales growth has been used as a performance measure (e.g., J. W. Lu & Xu, 2006). These studies found that IJV sales growth had a positive impact on IJV survival, providing evidence that IJV exit is often associated with negative performance. By applying multiple other performance measures as criterion, this review confirms the validity of using survival as a performance proxy.

2.5.6 IJV as a real option

The real option approach provides key insights to the nature of IJVs and will be explained below. We draw upon this theoretical concept to get a deeper understanding of our performance proxy (see discussion section 8).

The real option approach provides a complementary explanation of JV that highlights their value as a flexible strategy, especially in high-tech contexts. JVs also represent transitional modes towards complete acquisition that have been interpreted as an alternative to buying strategies. The difference between them lies in the nature of the embedded investment process, since acquisitions represent one-step or full investment strategies, and JVs imply sequential or incremental investment strategy (Estrada et. al. 2010).

According to the real option approach, JVs are analogous to financial call options in the sense that they provide their partners the right (not the obligation) to buy or invest further in the "product" of the JV (underlying asset) at a specific price (exercise price) at or before a specific date (expiration date). As call options, JVs enable partner to reduce downside risk, while maintaining access to upside opportunities by expanding sequentially (Estrada et. al. 2010). Hence flexibility is maintained, while avoiding full resource commitment. From this point of view, the more uncertain the future regarding the underlying asset to be acquired from the JV, the more valuable the JV is relative to other kinds of investment, as the value of flexibility increases. Thus, from a theoretical point of view, we would expect that Industries/companies characterized by high levels of uncertainty perform better than companies with low level of uncertainty around the announcement of the JV. (value of flexibility increases with uncertainty)

Real option theory also suggests a new approach to IJV survival by emphasizing the reasons for IJV termination (cf. Kogut, 1991; Reuer & Tong, 2005). According to real options theory, IJV is an investment to obtain growth options and expand into new and uncertain markets. Thus, if the termination is the realization of a growth and expansion opportunity, such termination can be considered as a success (Kumar, 2005). In this sense, real options theory argues that IJV termination should be evaluated by the link to the original motive of the IJV. In section 7 (Pilot study) the paper will try to operationalize one aspect of how this can be taken into account, namely by separating the terminated JVs into two groups, one where the

parent companies of the JV become separate entities, and another group where one parent has acquired the other. On the one hand the firms in this group have failed, as the transaction based view indicates that that a JV is no longer the most efficient transaction form. On the other hand, we claim that companies in group have been successful, as the termination in the form of acquisition can be seen as a realization of a growth and expansion opportunity. In other words we assume that the motives of these JVs were separately to buy and be bought, and that the JV ended in an acquisition, should be seen as the parents exercising the call option.

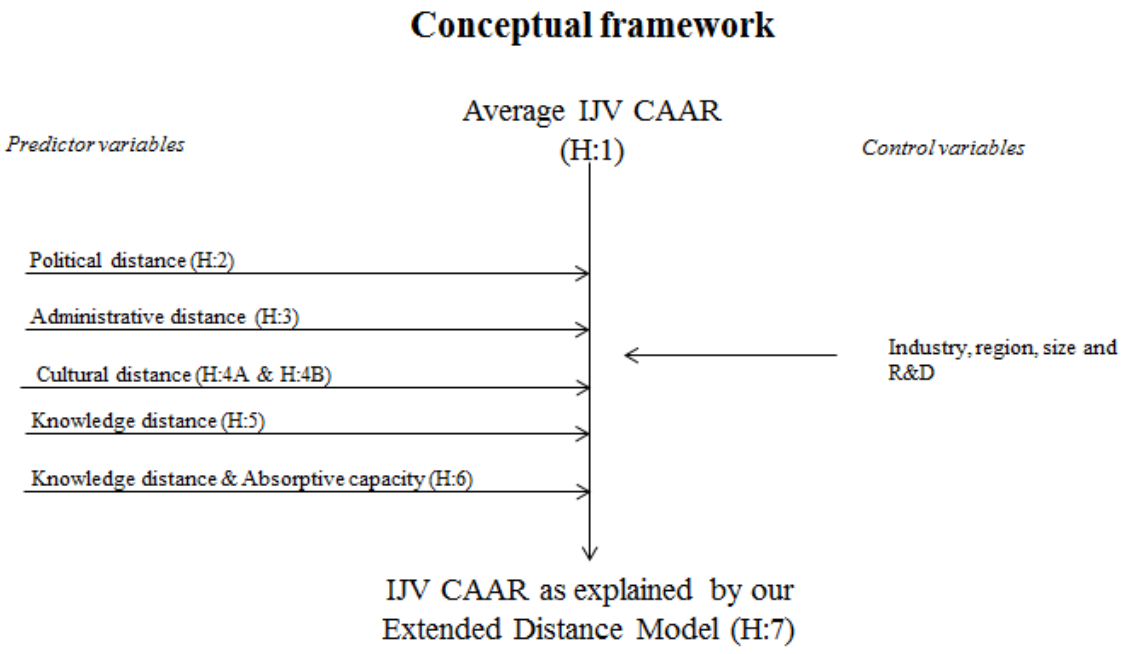
3 Hypotheses

This section lays out, in detail, our hypotheses. Section 3.1 shows an illustration of the conceptual framework that displays how institutional distance affects announcement return CAAR in the IJV. In section 3.1.1-3.1.3, we develop and explain our hypotheses. Lastly, we extend our research by adding an additional set of hypotheses which we test via a multiple regression model.

3.1 Conceptual Frame work

The conceptual framework will yield a set of testable hypotheses concerning how institutional distance affects the announcement return (CAAR). The illustration below displays the conceptual model that we propose for how institutional distance affects the announcement return. We start out by establishing a general overview of the overall announcement return for IJVs by analyzing historical IJV announcement returns of the two primary participants' stocks (according to Bloomberg). We then test each of the distance dimensions separately, which allows us to analyze the relationship between institutional distance and the announcement return to a much deeper extent. We expect that the distance dimensions will interact differently with the announcement return, which is why we incorporate moderator effects in the analysis.

Figure 3: Conceptual framework



3.2 Abnormal announcement returns

Our assessment of announcement return is rooted in the event study method, which can be used for assessing the impact of an event on a firm's stock prices in terms of estimating normal or expected return on the stock in the absence of the event (Farma, Fisher, Jensen, & Roll, 1969).

Empirical evidence suggests that the average joint venture is received by a positive announcement return. Johnson & Houston (2000) found a positive combined partner mean excess return of 1.67% across the entire test population of domestic JV. Additionally, Chen, Hu & Shieh (1991) find that, on average, the US-China joint venture announcements are associated with positive excess return. These studies imply the JVs are associated with positive announcement returns, which leads us to forming the general hypothesis for the population of our JV data:

Hypothesis 1: Abnormal announcement return of the average IJV is positive

The observation that the formation of a joint venture has a positive or negative value is by itself of limited use for theory and practice, hence; an important extension is to learn whether different institutional dimensions leads to different values. Thus, having statistically tested the hypotheses above allows us to dig deeper into the concept of institutional dimensions and investigate which dimensions that significantly affect performance and in what direction. The explanatory value of this type of analysis gives us a more precise answer as to what affects performance in IJVs as it incorporates and explicitly explains the dimensions independently. Thereby, providing a more thorough way of measuring country differences while complementing the concept by taking the countries regulatory system into account. In this way, we hope to be able tell which distance dimensions actually contribute to positive/negative returns, while controlling for below variables to ensure that these do not impact our results.

3.3 Hypothesized relation between institutional distance dimensions and IJV performance

Based on the four distance dimensions described in section 2.4, we will show how the inclusion of a broader set of distance dimensions increases our understanding of how institutional distance affects announcement return CAAR. This is done by testing if/which dominant institutional distance drivers affect announcement return and survival. This is a fundamental question to investigate because the relationship between these institutional distance dimensions and announcement return CAAR will help us increase the evaluation of IJV's performance under different international settings.

3.3.1 Political distance:

Political distance has been found to correlate with the choice of foreign markets to enter, the choice of entry mode, and foreign direct investment flows (Garcia-Canal & Guillen, 2008). In general, we would expect political distance to have a negative influence on performance as partnering with a company based in country characterized by policy-making uncertainty, a low democracy score and so forth will increase the risks due to political instability. However, a key feature by choosing the IJV as a foreign entry mode is that the foreign partner limits his commitment on resources in the host country and shares risk with (at least) one other partner. At the same time, joint ventures are more flexible as an entry mode choice since they can be more easily dissolved. While this is negative for IJV survival, it might not be negative for the announcement return of the IJV as IJV serves as an efficient way of dealing with investment characterized by high level of uncertainty. This leads us to suggesting the following hypothesis:

Hypothesis 2: Political distance has a negative effect on the market valuation of the partnering firms around the announcement of the IJV

3.3.2 Administrative distance

The existence of administrative distance (e.g. through differences in colonial ties, religion, language and legal system) has been found to correlate with cross-border M&As and with the choice of entering foreign markets. A high degree of distance, such as the lack of enforcement of property rights, difference in religion or colonial ties, increases the administrative distance which may lead to higher transaction costs or risks. However,

scholars agree that commonalities reduce administrative distance *(Demirbag, Tatoglu, & Glaister, 2007).* Therefore, we suggest following hypothesis:

Hypothesis 3: Administrative distance has a negative effect on the market valuation of the partnering firms around the announcement of the IJV

3.3.3 Cultural distance

When examining the role of cultural distance most studies suggest that, as the cultural distances between the firm's home country and host market increase, the underlying ability of the firm to operate effectively in the host market decreases. The argument is that high cultural distance tends to lead to conflicts and poor implementation due to higher levels of complexity and uncertainty for managerial decision-making. However, as MNEs expand into cultural diverse markets, the integration of newly acquired skills with their existing resources can lead to unique resource combinations enhancing overall MNE performance suggesting that distance can have a positive influence on performance. Consequently, from this line of argument, we divide our hypothesis into two sub-hypotheses:

Hypothesis 4A: *Low degrees of cultural distance have a positive effect on the market valuation of the partnering firms around the announcement of the IJV*

Hypothesis 4B: *High degrees of cultural distance have a positive effect on the market valuation of the partnering firms around the announcement of the IJV*

3.3.4 Knowledge distance

Knowledge distance is an important determinant for IJV performance as companies' ability to co-create knowledge in the IJV is effected by their common knowledge base. Empirical evidence shows that knowledge is shared more effectively in geographic proximity (Almeida and Kogut, 1999). In the theory section, two views are proposed. First, it has been found, that for organizational learning to take place the "knowledge gap" between the two parties cannot be too large (Hamel, 1991). The reason is that too many learning steps will be required if the knowledge gap (or distance) is significant. In this sense, it is believed that knowledge redundancy and overlapping areas of expertise facilitate knowledge transfer (Nonaka and Takeuchi, 1995). This suggests that knowledge transfer success decreases as knowledge distance between source and recipient increases, negatively influencing expected

performance and survival of the IJV. However, at the same time parties may become less satisfied with their transfer activities if there is not much knowledge to be transferred due to a small knowledge gap. Certainly, a premise for effective learning is a certain degree of knowledge gap between the parties. Thus, there may be a curvilinear relationship between knowledge distance and transfer success. This logic is tested using the following hypothesis:

Hypothesis 5: The degree of knowledge distance does not by itself have a significant affect on the market valuation of the partnering firms around the announcement of the IJV'

From this point of view, we suggest that neither a high or low knowledge distance is preferable. Instead, the ideal knowledge distance is found between these two extremes. Whether more or less distance is ideal will be dependent on the companies' ability to acquire new knowledge (absorptive capacity), and will be explained further in moderator effect section.

3.3.5 Knowledge distance and Absorptive capacity

The literature on inter-firm learning has emphasized the concept of "absorptive capacity" which means that firms differ in terms of their ability to learn (Cohen and Levinthal, 1990). Further, it has been argued that this capacity might be "relative" in nature (Lane and Lubatkin, 1998). That is, a firm's ability to learn is related to the fit between the knowledge of the source and of the recipient. It can be argued that firms with significant common knowledge (or low knowledge distance) would have a high "relative absorptive capacity". In other words, high absorptive capacity both enables a strong knowledge transfer environment which allows the company to transfer new knowledge easier. This suggests the following hypothesis:

Hypothesis 6: The interaction variable of absorptive capacity and knowledge distance has a positive affect on the market valuation of the partnering firms around the announcement of the IJV

The idea is that when IJV partners have a high absorptive capacity, they are able to internalize and utilize new knowledge to a higher extent as absorptive capacity measures a company's ability to learn. In essence, this means the firms with high absorptive capacity are

likely to enjoy more of the benefits (knowledge diversification, spill-over, etc.) and less of the disadvantages (problems of converting advanced explicit knowledge, etc.) of knowledge distance, and accordingly should receive a higher market valuation for entering into IJVs with high knowledge distance.

3.4 The total effect of instititutional Distance on IJV Performance

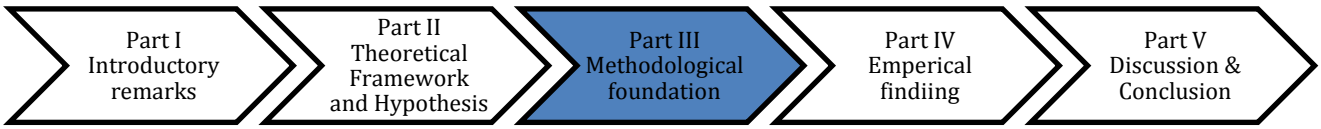
Building on previous theoretical findings, we believe that by including the described distances will improve the overall ability to predict IJV performance. However, we aim to dig deeper by extending the analysis (e.g. the event study) to include a multiple regression analysis of the relationship between announcement return and institutional distance. By regressing our current variables against CAAR, we aim to increase the explanatory power of multiple regression models' ability to predict and explain IJV CAAR for the participating firms. We therefore hypothesize the following:

Hypothesis 7: Our extended distance analysis is useful for predicting IJV CAAR of the participating firms, and provides a better model fit and explanatory power than prior research.

To test these hypotheses, we build 3 CAAR models. The "Standard Model" tests how common variable such *firm size, industry and region* are able to predict IJV announcement CAAR. The "Extended Distance Model 1" tests whether our grouping of distances can help explain CAAR as we separate the distances variables into high, medium and low and see whether any of these has an significant impact. Finally, the "Extended Distance Model 2" tests for optimal IJV CAAR prediction power by looking solely at IJVs with reported political, administrative, cultural, and knowledge distance, and absorptive capacity, and using stepwise regression to find the most parsimonious variables.

Part III

Methodological foundation



4 Data collection

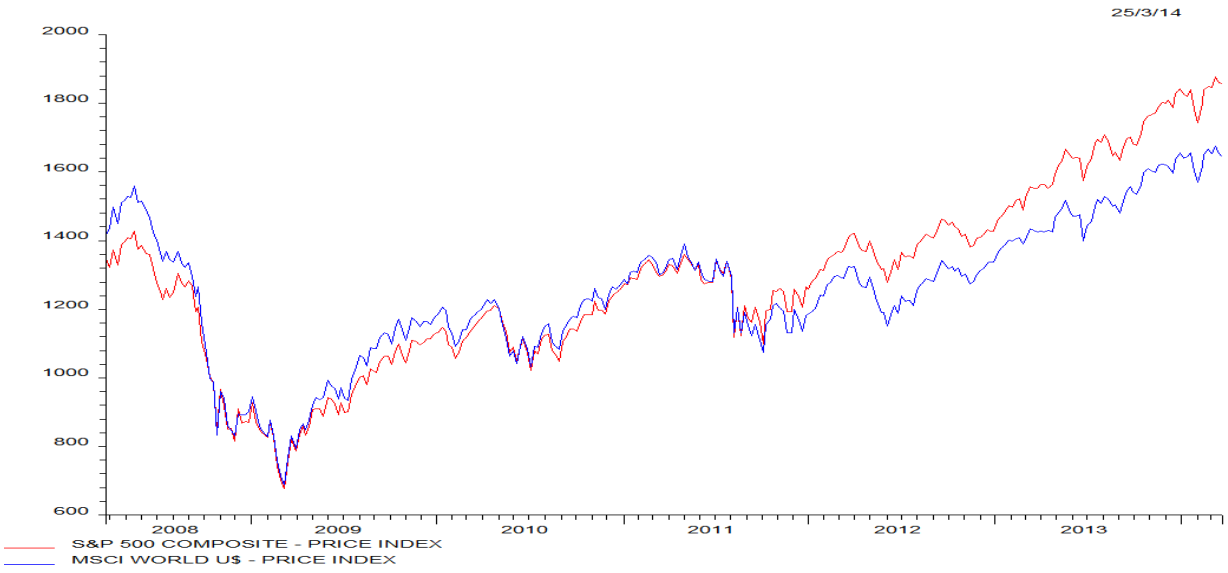
To test the hypotheses outlined above, a data sample from Bloomberg, consisting of 994 stock observations of the participating firms, was selected. Furthermore, institutional distance data (i.e. *political, administrative, cultural and knowledge)*, based on Berry et al. (2010) institutional distance calculations, was selected and matched against the stock data. Following we present an extensive description of the sample characteristics.

The initial data sample population consisted of 10,652 observations of returns from the individual companies involved in the IJVs from 2009-2013.[2] The following section will describe, in detail, our selection characteristics and process in order to develop the final dataset.

4.1 Sample characteristics

4.1.1 Estimation period

Figure 4: MSCI World Index and S&P 500 Index, 2008-2014 Index



Source: datastream

Joint venture data from the period 2010-2013 is used to test the hypothesized effects of institutional distance and announcement return. This period represents a relatively stable

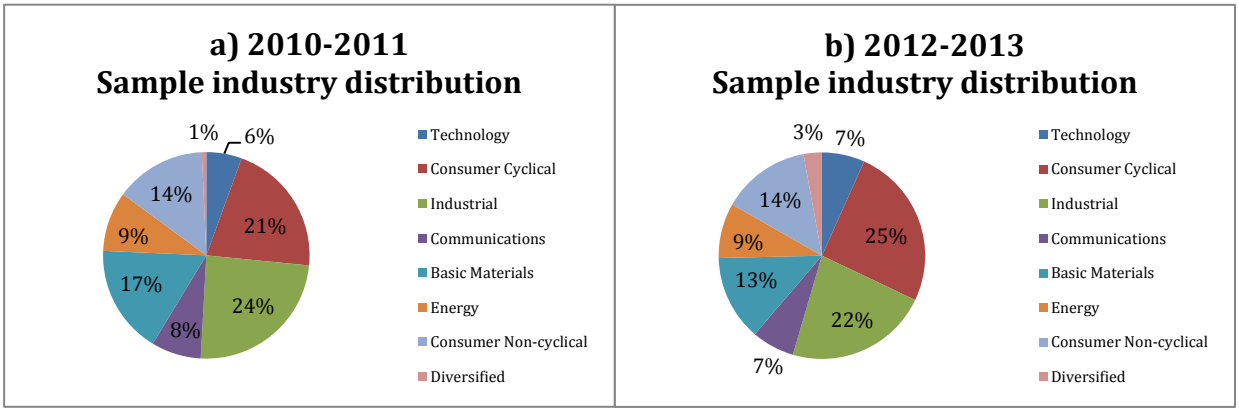
[2] Please note that 2009 data was deleted

economic environment which allows us to test the relationship without accommodating the volatile and risky environment prior to this period. The figure above represents the movements of two stock indices, *MSCI World Price Index and S&P500 Price Index*, and reflects the overall market movements from 2007 to 2014. The figure shows a steady positive increase in both indices in our chosen period of investigation (2010-2013). From the figure it is apparent that the upturn already begin in Q4 2008 which means that we could have included data from a longer period. However, the Bloomberg database only contained a limited amount of IJVs with insufficient underlying data. As a result, we deemed these IJVs as unsatisfactory and excluded these from our analysis.

4.1.2 Sample selection

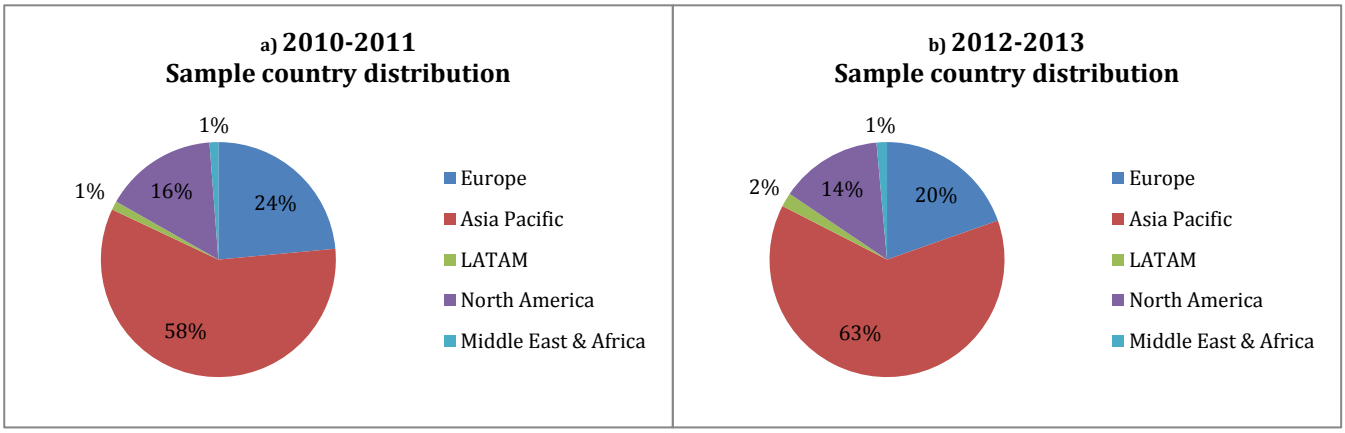
We extracted data from all cross-national joint ventures available in the Bloomberg Terminal from the period 2010 to 2013. We included terminated, pending and completed deals, and we included deals with more than two partners. The sample includes deals from the following sectors: *basic materials, communications, consumer (cyclical), consumer (non-cyclical), diversified, energy, industrial and technology*. We have excluded data from financial industries, because they operate under a high degree of regulation and tend to exhibit significantly different risk and return characteristics compared to non-financial firms (Rajan & Zingales, 1995). Additionally, we excluded the utility sector as these companies tend to be highly regulated, and for this reason they have generally been exclude in performance studies (Kang and Stultz, 1996). To show the validity of analyzing two periods against each other, the two samples must be comparable (representative). Figure 5a and Figure 5b only contain minor differences in industry characteristics, and we deem the samples as representative for our study.

Figure 5: Industry sample distribution



Furthermore, we included all available regions: *Asia-Pacific, North America, Europe, Middle East & Africa, Latin America* (*LATAM) & Carribean*. Looking at the two samples in figure 6a and figure 6b, showing the sample distribution across countries, the countries are fairly closely distributed for the two periods – thereby making our analysis representative to compare.

Figure 6: Region distribution sample



Announcement return criteria

In continuation of the above, via Bloomberg, we extracted stock prices for all joint ventures for a 120-day period prior to the announcement and a 2-day period post the announcement for both the target and acquirer. Simultaneously, we extracted market data from the underlying index of the stock again for a 120-day period prior to the announcement and a 2-day period post the announcement for both the target and acquirer. From this we can find the abnormal return attributable to the announcement.

Institutional distance criteria

We extracted all institutional distance data, based on Berry et al. (2010) calculations, from Penn Lauder Center for International Business Education & Research (Wharton School of Business, University of Pennsylvania), as these measures are the most comprehensive in the literature. We used the latest updated dataset from 2007 in our analysis. The data is comprised of a specific distance number between two countries. So, for example, the political distance between Brazil (BRA) and Belgium (BEL) is a specific number (in this case

492.634) and so forth. It is beyond the scope of this thesis to evaluate the methodology used for calculating the distance dimensions but we have briefly described the methodology behind the calculations in appendix 1. In appendix 1 we have included a table of the variables used to calculate the distance dimensions.

4.1.3 Data quality and limitations

As mentioned, we included deals with more than two parent companies. A joint venture is, by Bloomberg, defined as *a transaction undertaken jointly by two or more parties, that otherwise retain their distinct identities,* and is a deal type under mergers & acquisition. Because joint venture is regarded as a deal type within the M&A-category, they distinguish between target firm and acquire firm thereby only giving data on two of the partners although there might be more. We have tried to verify the definition of *target firm* and *acquire firm.* However, Bloomberg have not been able to satisfy us with a definition telling us what the difference is. We have therefore assumed that target and acquirer can be regarded as partner one and partner two. Furthermore, in the data we extracted, we were not able to get the third, fourth (and so on) partner's stock data.

We segmented all of our countries into regions to make our analysis more transparent. Russia and Turkey are countries that can be placed in both Europe and Asia. In the case of Russia, more people live in the European part of Russia; we therefore, decided to categorize Russia under the Europe Region. Bloomberg categorized Turkey as a part of the European region and so we have done the same.

A main challenge for our study was to determine the most accurate measurement for institutional distance. We have chosen to use cross-national distance data based on Berry et al. (2010) calculations and extracts from Penn Lauder Center for International Business Education & Research (Wharton School of Business, University of Pennsylvania) as these measures are the most comprehensive in the literature. We evaluated the credibility of the article in which the calculations was first published in order to insure validity in our study. According to Columbia University's guidelines to evaluate the credibility of sources an article published in a peer-reviewed scholarly journal have scholarly credibility[3]. Our source was published in the peer-reviewed *Journal of International Business,* which is the official

[3] http://www.college.columbia.edu/academics/integrity-sourcecredibility

publication of the *Academy of International Business*, a top-rated journal in the category *business* and *management.* From this we can establish our reference to be credible and authoritative.

The distance dimensions are only as good as the underlying raw data that was used to create them. We included distance data for *political distance, knowledge distance, administrative distance* and *cultural distance.* All samples, except for *cultural distance*, are from 2007 as this was the newest available data set.

Where there is missing data across countries and time in the data set, we also suffer from the same missing data points. Accordingly, our study uses 2007 distance data thus assuming distances between countries have remained fairly constant since 2007. Given the financial crisis, this assumption has some limitation as market forces likely have had an effect on the institutional settings of the countries being analyzed. However, using 2007 data is a vast improvement to prior studies that leverage on cultural distance data from Hofstede's scores (1980). For instance, to replicate Hofstede's (1980) cultural scores with time-varying measures, we used data from Berry (2010) leveraging on World Values Survey (Inglehart, 2004) between 1980 and 2007 for as many as 69 countries.

In our distance measurements, *cultural distance data* was significantly less comprehensive compared to the other distance data samples. The cause of this problem can be found in the lack of underlying component variables to calculate a precise distance. Furthermore, data from 2005 included the largest set of calculated distances, and we therefore decided to use 2005 data in this study.

4.2 Final dataset

Outlined below is the process used to obtain the 994 observations (497 IJVs) that the analysis is based on. Please note that we did not exclude any of the distance data.

Table 2: Final dataset

General selection criteria	Nb. of IJV Observations
JV 2009-2014 as per announcement date	10,652
Excluding Financial	8,460
Excluding Utilities	8,020
No stock ticker	6,052
No data on annnouncement date	2,030
Remove 2009 data	1,652
Removing observation to fit Event study criteria*	994
Final dataset	994

*For the event study we require stock data for the full 5-day event window and minimum stock data on 100:120 days for estimation window.

5 Statistical method

The following section is structured as follows; firstly we comment on the OLS assumptions regarding sources of bias and inconsistency in the data. This is followed by a detailed description of the variables used in the model. We then shift gears and go through how each of the models (the event study and the multiple regression model) are built from a mechanical perspective.

Our statistical method relies on IJV announcement returns, which reflect investors' response to the IJV, based on present expectations about the future cash flows of a combined firm. In particular, we set out to test whether the dependent variable cumulative abnormal returns (CAR) computed over the five-day window [−2, 2] for the companies involved in IJV is affected by distance. For this purpose we leverage on the event study approach to test for individual variables effect on CAR and multiple regression to test whether these affect can help improve the overall CAAR IJV model. Both of these models builds on Odinary Least Square (OLS) method.

To ensure the validity of our models, we first need to determine whether the OLS model is a valid estimation procedure for our analysis depends upon the assumptions which the method is based on hold.

5.1 OLS tests assumption

In line with several previous studies, we have chosen to use Ordinary Leas Squares (OLS) linear regression and OLS multiple regression to test our hypothesized relationship between CAR and the respective institutional distances. It is beyond the scope of this paper to provide a comprehensive review of regression analysis as a statistical tool. Instead we will discuss some of the theoretical and practical issues of the OLS regression method. We will provide a brief overview of the typical sources of bias and inconsistency in the multiple regression approach.

The idea behind using the OLS is to understand the relationship between the independent variable and the chosen dependent variables and testing for correlations. In the event study analysis this allows us to interpret how much of our dependent variables stems from the

independent variables. In the multiple regression we use the OLS analysis as it enable us to explicitly control for many other factors that simultaneously affect the dependent variable (Wooldridge, 2009).

In statistics, a common issue is one that makes the model biased and inconsistent. In OLS regression model the most encountered problems include omitted variable bias (OVB), model over- and underspecification, functional from misspecification and measurement error (Wooldridge, 2009). To determine whether the OLS model is a valid estimation procedure for our analysis depends upon the assumptions which the method is based on hold. These assumptions are generally captured in the classical linear model assumptions for the OLS multiple regression (Wooldridge, 2009). The table below describes the assumption of the classical linear model:

Table 3: The classical linear model assumptions

MLR 1	Linearity in parameters – the population model is linear in its parameters
MLR 2	Random sampling of *n* observations
MLR 3	No perfect collinearity – in both the sample and the population, none of the independent variables are constant and there are no exact linear relationship among the independent variables
MLR 4	Zero conditional mean
MLR 5	Homoskedasticity
MLR 6	Normality

If MLR 1-4 are satisfied the OLS model is unbiased. The assumption of zero conditional mean (MLR4) can be violated in several ways. Vialations can stem from omitting a relevant variable, including a redundant variable, misspecifying the model, or from measurement error. When also meeting MLR 5, the OLS is the so-called best linear unbiased estimator (BLUE), which essentially means that is the best linear unbiased estimator with the smallest variance. MLR 6 is used to be able to conduct hypothesis tests and make valid inferences. To account for both parameter estimates and the test statistics generated by the multiple regression analysis, the above assumptions need to be met.

The issue related to underspecification and overspecification of the model will be discussed next. Underspecification is more problematic than overspecification since OLS estimates of parameters will still be unbiased and consistent when overspecifying, but it can lead to inflated standard errors (Gujarati & Porter, 2010). The issue of underspecifying a model and omitting important variables is also referred to as an endogeneity problem and is a far more important issue. This bias arises when an important variable, call it j_i, that is correlated with the independent variable, call it x_i, is excluded from the model. The excluded variable, j_i, will then influence the dependent variable through the error term. x_i will in this case be endogenous and biased, because it is impossible to know whether its effect on the dependent variable stems from x_i or from j_i. It is challenging to evaluate whether an endogeneity problem is present, due to the unobservable nature of the error term (Wooldridge, 2009). In the context of our study there are several variables, such as distance dimensions, absorptive capacity, for which data was unavailable. All these variables could be correlated to risk and return outcomes as well as one or more of the included independent variables. We have, however, mitigated the risk of underspecification to the extent possible by including significant control variables (Gujarati & Porter, 2010).

From the above discussion, the issue of overspecifying a model is less problematic as it causes no bias in the model. However, it can have an inflationary effect on the standard errors, thus rendering the OLS coefficients less precise. Such imprecision in coefficient estimates can also arise through the issue of multicollinearity (Wooldridge, 2009). Perfect collinearity among variables is rarely an issue in non-experimental data, but data can be close to perfectly linear, which can cause higher standard error on regression coefficients. Our models guard against overspecification by using stepwise regression which ensures that only the most parsimonious variables are included.

Lastly, the issue of measurement error in the explanatory variables can also introduce both bias and inconsistency into the estimation of OLS coefficients. Measurement errors arise when an imprecise measure of an economic phenomenon is used in a regression. The literature typically suggests using an instrumental variable, if it can be found. Otherwise, it can be assumed that the measurement error is uncorrelated with each explanatory variable, which will ensure unbiased and consistent estimation of OLS coefficients. In our study, there are potential issues with measurement error on the measured R&D investments. In this case

scholars have found that R&D investment (R&D/sales ratio) is a less useful and precise measure for small- and medium-sized companies, which may not have formal R&D activities or may not record them properly (Kleinknecht, 1987), and for service-based companies that tend to have low R&D ratios (Hipp & Grupp, 2005). As our Absorptive Capacity measure is defined as LogR&D/LogRevenue some potential issues with measurement errors within this area is likely. We will address the OLS assumptions at a later stage.

5.2 Variables

5.2.1 Dependent variables

Cumulative abnormal return (CAR) – Our assessment of announcement return is rooted in the event study method, which can be used for assessing the impact of an event on a firm's stock prices in terms of estimated normal, or expected return, to the stock in absence of the event (Farma, Fisher, Jensen, & Roll, 1969). Conceptually, event study analysis differentiate between the returns that would have been expected if the analysed event would not have taken place (normal returns) and the returns that were caused by the respective event (abnormal returns). CAR is driven by the investors' expectations about the future performance (e.g. cash flows), however, though CAR tries to exclude the firms general economic progress we cannot completely eliminate it, thus, some biases might occur. The announcement return measure is widely used in previous studies of joint venture performance.

5.2.2 Explanatory variables

Institutional distance – We test if including institutional distance (political, administrative, cultural and knowledge distance) will improve our ability to predict the market value for the participating firms. These concepts are segregated into the categories high, medium and low to test if the different degrees of the distance dimensions have a significant impact on IJV performance. These measure are calculated according to Berry et. Al (2010), see theory section 2.4.1-2.4.4 and appendix for further explanation and definition.

Absorptive capacity – We define absorptive capacity as the logarithm of firm *R&D investment* over firm size, measure by the logarithm of revenue. Firms investments in R&D can effect performance, since R&D investment can be regarded as conferring real options

because of the sequential and discretionary nature of these project (Mitchell & Hamilton, 1988). Because the effects of R&D investment can persist over time, prior studies suggests that measures of R&D investment should include both current R&D expenditure and accumulated investment in R&D (Tong et. Al., 2008). For the observations with missing data for R&D expenditures, these were treated as cluster marked *"Unavailable"*.

Interaction between the variables

According to Brouthers & Brouthers (2001) researchers need to account for potential interaction effects among variables. Using interaction terms is appropriate when explanatory variables not only affect the dependent variable independently of each other. When reviewing the institutional distance dimensions we will not only look at the individual effect of the dimensions. Instead we will try to account for potential interaction effects so that the moderating/intensifying effect of one variable's role on the other variable will not be ignored (Brouthers & Brouthers, 2001). One of the purposes of this paper is to provide empirical evidence on the potential existence of such an interaction effect among institutional distance dimensions and performance. In this study we hypothesize that the relationship between knowledge distance and announcement return is stronger at higher levels of absorptive capacity. Including a term where knowledge distance and absorptive capacity is multiplied, such that the effect of knowledge distance on the dependent variable comes to depend on the level of R&D investment, can test such an effect. In a more generalized format, the inclusion of an interaction term in the regression looks like this:

$$\beta x_{Degree\ of Knowledge\ distance} \times \beta x_{Degree\ of\ Absorptive\ Capacity}$$

This makes it is possible to detect both the direct effect of Knowledge distance and Absorptive Capacity effect on IJV CAAR, aswell as an effect of Knowledge distance that is dependent on the degree of Absorptive Capacity.

5.2.1 Control variables

Common for the literature on IJV performance and institutional distance is the mixture of interpretations and the subjectivity of the results. The total impact of institutional distance on performance is contingent on complex set of combinations between firm strategy, resources & capabilities and the external environment etc. Therefore, to assess the effects of institutional distance on performance our study has incorporated control variables. We control for size, industry and region and these variables are analysed collectively in the section below. Prior scholars such as Tang (2013) analysed performance on IJVs and found that both industry and region level variables had and affect on IJV survival.

Firm size is one of the most common variables controlled for in the reviewed literature. Size can affect performance through firm-level economics and diseconomies of scale (Contractor, Kundu & Hsu, 2003). We control for size based on the logic that firm size reflects past success and the accumulation of both resources and competencies that can potentially enable it to further strengthen performance and deflect risky situations. This is reflected in past research indicating that a firm's size tends to impact both its level of slack, market position, structure, ability to make decisions and thus also its performance (Frank and Goyal, 2003). Firm Size, following the general scholarly tendency, is included in the dataset as the natural logarithm of revenue to correct for a positive skew in the data (e.gO'Brien, 2003; Tong & Reuer, 2007) The second control variable is industry affiliation. Tihanyi et al. (2005) found that the cultural distance-international diversification relationship for high-technology industries was negative, while positive for others. Industry affiliation has implications for R&D levels, risk, the role of intangibles and capital intensity, which all impact performance (Ruigrok, Amann & Wagner, 2007). Country of origin effects has only recently been recognized as authors have sought to verify and build theories in new geographical areas. Home market size affects the need to internalize and location affects the proximity of advantageous trade partners. Hence, country of origin has important implications for internationalization and its link to firm performance (Ruigrok, Amann & Wagner, 2007).

5.3 The Event study approach

Event study methodology is frequently used to identify the stock price reaction of a specific event, and based on the reaction allow the researcher to conclude whether the event was detrimental or beneficial to the firms shareholders (McWilliams, 1997). The earliest applications of the event study were by Fama, Fisher, Jensen and Roll (1969). The event study method has become popular because it obviates the need to analyse accounting-based measures of profit, which have been critized because they are often not very good indicators of the true performance of firms. For example, managers can manipulate accounting profits because they can select accounting procedures (Benston, 1982). Stock prices, on the other hand, are not subject to manipulation by the insider. Given that this method is increasingly used to assess the impact of managerial decision making it is important to consider whether it has been implemented correctly (McWilliams & Siegel, 1997). Firstly, confounding events in the event window, such as major executive changes, restructuring or divestures, forecasted changes in sales or earnings, major contracts has been shown to generate significant abnormal returns which can cause biased results in the model (McWilliams & Siegel, 1997). It is beyond the scope of this paper to test the data for confounding events and we leave this for future research. Secondly, event studies are often used to test the efficient market hypothesis (Kritzman, 1994). In the short run, when stock returns are measured over periods of days or weeks, the usual argument against market efficiency is that some positive and negative serial correlation occurs. Since most event studies implicitly tests the efficient market hypothesis some studies have attributed this forecastability to the tendency of stock market prices to "overreact" due to investors are subject to waves of optimism and pessimism that cause prices to deviate systematically from their fundamental values. They suggest that such overreaction to past events is consistent with behavioural decision theory, where investors are systematically overconfident in their ability to forecast either future stock prices or future corporate earnings (Malkiel, 2003).

Event study tools

Excel and Stata are common choices when choosing a tool to conduct event studies; yet, both come with downsides: Excel is limited to small event studies studying one single event for one or very few firms. As we have close to 1,000 observations followed by multiple independent data variables using excel is not feasible. Stata, on the hand, requires advanced

programming for implementing this type of analysis, and was therefore used to perform the OLS multiple regression analysis. Instead, we used the statistical tool *"advanced abnormal return calculator"* provided by www.eventstudytools.com which builds on the same underlying logic as Stata. Eventstudytools have received a range of scholarly awards/award nominations[4], thus validating the use of this tool.

Conducting an event study implies a fairly structured sequence of steps: (Eventstudytools, 2014) and can be described in the following steps:

1. Identify or define the date upon which the market has received the news associated with the event of interest.
2. Specify the returns of the individual firms' stocks for the scenario that the event had not taken place (i.e., in absence of the news about the event). This step implies the choice of a 'normal' return model that predicts the returns for the analysed stocks for the event window.
3. Calculate the difference between the actual observed returns and the 'normal/ no-news' returns for each firm and day in the event window. This yields the 'abnormal returns' (AR) that can be attributed to the occurrence of the event of interest. These single-day 'abnormal returns' can then be further aggregated across time to 'cumulative abnormal returns' (CARs) or cross-sectionally to 'average abnormal returns' (AARs). Aggregating the abnormal returns across both time and firms yields the 'cumulative average abnormal returns' (CAARs).
4. In a final step, significance testing then establishes whether the abnormal returns found at any of the AR-, AAR-, CAR- or CAAR-levels are statistically valid/ significant. For an overview, the analysis steps make up the subsequent sequences of choices and analysis steps.

See appendix 2 for a thorough review of the method

[4] *2012 William H. Newman Award Finalist (Academy of Management), 2012 Best Conference PhD Paper Prize (Strategic Management Society - SMS), 2012 Best Conference Paper Price For Practical Applications Finalist (SMS), Nomination for 2012 Best Overall Conference Paper Prize (SMS), and 2010 Best Paper Journal of Strategy and Management/Outstanding Paper Award at the Literati Network Awards for Excellence (2011)*

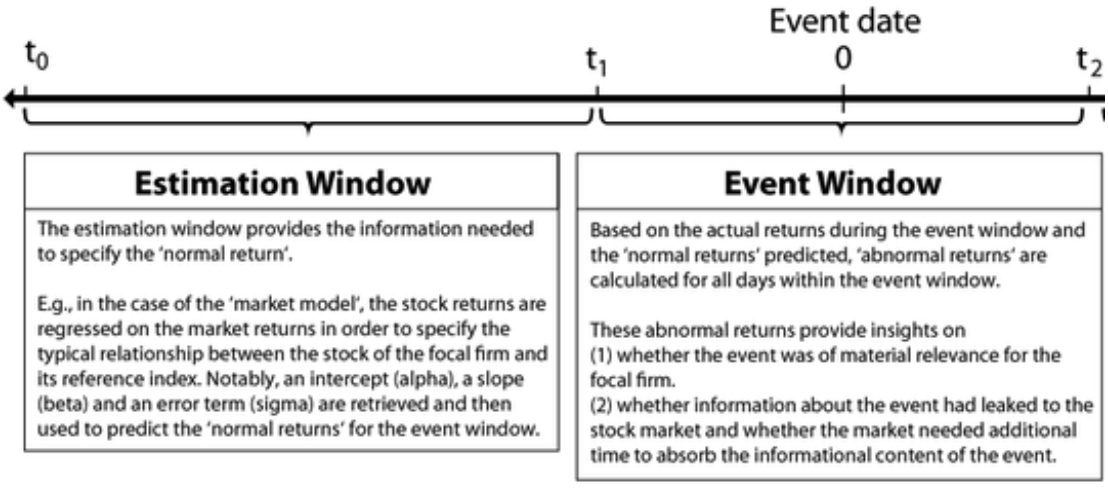
5.3.1 Choice of return model

Depending on the return model chosen, event studies either imply the use of an event window only (e.g., the market-adjusted model) or an event and an estimation window (e.g., the market model). Most often, scholars opt for the market model, which establishes the normal returns based on a regression analysis that regresses stock returns on market returns over the estimation window. Through this analysis, the typical relationship between the stock and its reference index is established and captured in two parameters (i.e., alpha, beta). Following in the footsteps of most scholars, we have chosen to use the market model and we collected historical stock data from Bloomberg and regressed these against what Bloomberg defines as the stocks respective index.

5.3.2 Defining the event date, estimation window and event window

When conducting the market model analysis, we need to choose the underlying parameters, notably (1) the event dates to be studied, (2) the length and position of the estimation window and (3) the length of the event window. Figure **7** illustrates the concepts required for an event study using the market model.

Figure 7: Event study



Adapted from Benninga (2008)

As described in the above figure, the estimation window contains the information needed to specify the “normal return”. As we are using the market model the stock returns of the JV need to be regressed on market returns in order to find out the typical relationship between the firms in the JVs and its reference index.

Choices about the event window are largely related to whether the researcher assumes information leakage before the event and whether one thinks that the capital market needs a 'digestion period' to fully capture the implications of the event. Choices about the estimation window, instead, depend on (a) the researcher's assessment of which time period prior to the event can be considered as a 'normal' period (i.e., a period throughout which the stock and its respective reference market have co-evolved in a typical pattern) and (b) data availability. Most commonly, researchers settle for five-day event windows (i.e., [t1= -2 and t2= +2]) around the event date and a 120-day estimation window located right before the event window (t0=-122)

We used Bloomberg to extracted historic closing prices for the entire population of joint venture. For the 2-day period post the announcement for both the target and acquirer. Simultaneously, we extracted market data from the underlying index of the stock again for a 120-day period before the announcement and a 2-day period post the announcement for both the target and acquirer. From this we can find the abnormal return attributable to the announcement. Note that event studies may imply a hierarchy of calculations, with ARs being compounded to CARs, which can again be 'averaged' to CAARs in cross-sectional studies (sometimes also called 'sample studies'). There is a need for significance testing at each of these levels:

5.4 Significance testing the event study analysis

Explaining abnormal returns by means of regression analysis is only meaningful if the abnormal returns are significantly different from zero, and thus not the result of pure chance. This assessment will be made by hypothesis testing. Following the general principles of inferential statistics, the *null hypothesis (*H 0) thus maintains that there are no abnormal returns within the event window, whereas the *alternative hypothesis* (H 1) suggests the presence of ARs within the event window. Formally, the testing framework reads as follows (case study tools, 2014):

$$H_0 : \mu = 0 \qquad (1)$$

$$H_1 : \mu \neq 0 \qquad (2)$$

In our final step, significance testing is used to establish whether the abnormal returns found at any of the AR-, AAR-, CAR- or CAAR-levels are statistically significant, by testing whether they are significantly different from zero (2).

The literature on event study test statistics(i.e. significance tests) are very rich. Generally speaking, significance tests can be grouped in parametric and nonparametric tests. Parametric tests assume that individual firm's abnormal returns are normally distributed, whereas nonparametric tests do not rely on any such assumption*s.* We use a histogram to test whether our data is normally distributed (see appendix 5). In research, scholars commonly complement a parametric test with a nonparametric tests to verify that the findings are not due to biases, for example, caused by outliers (Schipper and Smith, 1983). In our study we use the t-test for our paramtric test and supplement with the nonparametic GSIGN-test (see below).

5.4.1 Why different test statistics are needed

Nonparametric test statistics ground on the classic t-test. Yet, scholars have further developed the test to correct for the t-test's possible prediction errors. Among the nonparametric tests the sign-test based of Cowan (1992) is very popular. Generally, nonparametric tests tend to be more powerful than parametric tests, and within the nonparametric tests the generalized sign test GSIGN is one of the most powerful tests for shorter CAR-windows and longer periods. The choice of test statistic should be informed by the research setting and the statistical issues the analyzed data holds. Specifically, event-date clustering poses a problem leading to (1) cross-sectional correlation of abnormal returns, and (2) distortions from event-induced volatility changes. Cross-sectional correlation arises when sample studies focus on (an) event(s) which happened for multiple firms at the same day(s). Event-induced volatility changes, instead, is a phenomenon common to many event types (e.g., M&A transactions) that becomes problematic when events are clustered. As consequence, both issues introduce a downward bias in the standard deviation and thus overstate the t-statistic, leading to an over-rejection of the null hypothesis.

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There have been several attempts to address these statistical issues by recommending the use of nonparametric sign tests for applications that require robustness against non-normally distributed data. Past research (e.g. Fama, 1976) has argued that daily return distributions are more fat-tailed (exhibit very large skewness or kurtosis) than normal distributions, what suggests the use of nonparametric tests.

5.5 Multiple regression

Through our event study analysis and multiple regression we conduct a series of both t-test on each of the β parameter in the model, where H0: β i =0, i =1,2,…k. However, this approach is not always the optimal way to determine whether the overall model is contributing information to the predication of y (Mendenhall, Willian 2012). In multiple regression models for which a large number of independent variables are being considered, conducting a series of t-test may cause the experiment to include a large number of insignificant variables and exclude some useful ones. To compensate for this issue, we want to test the utility of the multiple regression model, by using an output number that encompasses all β parameters (Mendenhall, Willian 2012). For this purpose the F-statistic is useful.

For the general multiple regression model, $E(y)=\beta 0+ \beta 1x1+\dots +\beta kxk$, the we test:

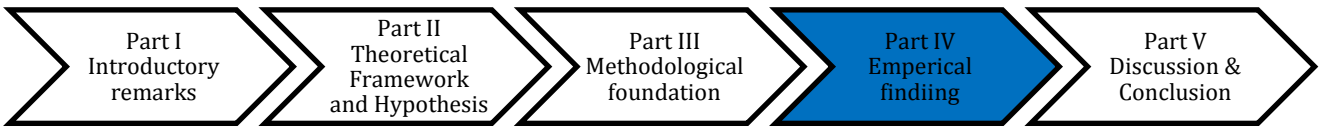
Ho: $\beta 1= \beta 2= \dots = \beta k=0$

Ha: At least one of the coefficient is nonzero

The test statistic used to test this hypothesis is an F statstic. We rely on statistical software (Stata) to calculate the F-statistic and thus it will not be within the scope of this paper to explain how it is mathematically extrapolated. Instead we note that the F is the ratio explained variability to unexplained variability, and thus the larger the total variability accounted for by the model, the larger the F-statistic. To determine whether the F-statistic is large enough to reject the null hypothesis and conclude that the model is more useful than no model at all for predicting y, we use statically software to see if the F-value under our models degree of freedom corresponds to an acceptable significance level (p-value).

Part IV

Methodological foundation



6 Results

In section 6.1 the results from event study are presented. This includes the CAR analysis where we find the general market reaction to IJV announcement and how it differs across industry and region and test whether these returns are significantly different from zero. From here we add each of the institutional distance parameters to the analysis, thereby identifying how the market evaluates different degrees of distance respectively. Furthermore, we present the results for the interaction variable of absorptive capacity and knowledge distance on how it can affect our ability to predict CAAR. In summary, the results provided in this section will answer H1 and will give us a preliminary indication of H2 to H6.

In section 6.2 the result from the multiple regression analysis is presented. We start by elaborating on the OLS assumption (from section 5.1) to ensure the model fit. Hereafter, we introduce the results from the Standard Model and the Extended Model 1&2 thereby answering H2 to H7. The extended model contributes to prior research by in addition to testing for common variables such a company size, sector and industry, our model additionally incorporates institutional distances and absorptive capacity which we expect will lead to a better understanding CAR of IJV.

6.1 Event study analysis

Overview of announcement returns for the independent IJVs

We start out by determining how the market, on average, respond to news of a joint venture partnership by conducting the event study. We divided our estimation period (2010-2013) into two sub-periods, namely 2010-2011 and 2012-2013. We did this to validate the results across time.

From examining the results, we can see that, on average, IJVs are awarded with a positive return on the announcement day on a company level - AR(0) and for the following day AR(1) for both periods. This confirms our first hypothesis stating that on average JV announcements are positively received by the market. However, if we look at the results during the event window we note that AR is more often negative than positive for AR(-2), AR(-1) and AR(2).

Table 4: Overview of announcement returns

	AR(-2)	AR(-1)	AR(0)	AR(1)	AR(2)
2010-2011:					
Number of Positive AR in 2010-2011	279	269	304	303	269
Percentage Positive (576 Companies)	48.4%	46.7%	52.8%	52.6%	46.7%
2012-2013:					
Number of Positive AR in 2012-2013	202	208	221	224	179
Percentage Positive (418 Company)	48.3%	49.8%	52.9%	53.6%	42.8%

When combining the two periods and analyzing how, on average, the market react to joint venture announcement by combining both parents stock returns, our results in the table are again confirmed with a 57.5% of the events had a positive CAR on the announcement day.

Table 5: Number of positive AR

	AR(-2)	AR(-1)	AR(0)	AR(1)	AR(2)
Number of Positive AR in 2010-2013	243	234	286	270	228
Percentage Positive (All 497 events)	48.9%	47.1%	57.5%	54.3%	45.9%

As the event study program does not provide us the statistical variable to control the significance level of our results, we manually validate these findings (e.g. testing wether the t-value is significant), by calculating the *degrees of freedom (df).* For the market model, df is calculated from the following formula:

$$df = N - 2$$

Where N is the number of observations. df for the two periods are therefore:

$$df(2010 - 2011) = 576 - 2 = 574$$

$$df(2012 - 2013) = 418 - 2 = 416$$

We can then interpolate the t-values need from the t-table from a 90% confidence level. We see that for a 90% confidence interval and a dF of 100 a t-value of 1.660 is needed, while for a dF of 1000 the t-value need to be 1.646. Having a dF-value of approximately 500 for both periods we can now calculate the value needed for a 90% confidence interval:

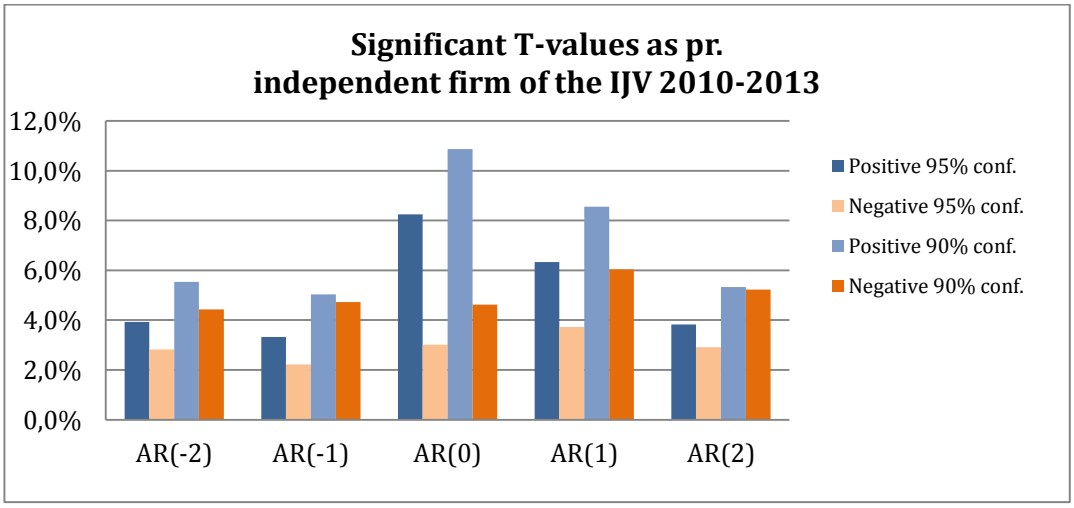
T-value (90% confidence level) = 1.660-400/900* (1.660-1.646) = **1.654**

Using the same approach, we calculate the t-value needed for a 95% confidence level:

T-value (95% confidence level) = 1.984-400/900*(1.984-1.962) = **1.974**

Having determined a satisfying significance level for our announcement return analysis, we move on to analyze the AR-results more carefully by inspecting the results from a 90% and 95% confidence interval for both positive and negative announcement returns.

Figure 8: Significant t-values independent firms



The table above shows that there where more significant positive ARs (blue bars) than negative ARs (red bars) during the event window. These result were especially noteworthy on the day of the announcement AR(0) where 10.9% of the 994 observations showed positive significant returns on the 90% confidence level and only 4.6% had significant negative returns. The same tendency can be seen at the 95% confidence level, where 8.2% where significantly positive and 3.0% negative.

According to these results investors should be more likely to earn a profit by buying the stocks in the companies at the announcement of IJV, rather than going short.

CAR Analysis

In the section above we analyzed abnormal returns (AR) for each day in the event period (Announcement day +2/- 2 days). In the following, we will analyze AR during the entire period, thus finding the *cumulative abnormal return (CAR)*. The result show that 520 companies experienced positive returns, while 474 experienced negative returns. To check if

these are significant we test if the t-values are above the threshold for the 90% and 95% confidence interval.

We use a dF value of 1,000 since it is a fairly assumed approximate of the degrees of freedom of our 994 observations in our IJV population. For a 90% confidence interval and a dF of 1000 a t-value of 1.646 is needed, while for a 95% confidence interval the t-value need to be 1.962. The results are illustrated in table 6.

Table 6: CAR analysis

	95%	90%
Nb. of Positive significant companies	67	93
Nb. Of negative significant companies	30	48

6.1.1 Total IJV CAAR

The following section will provide us with a benchmark for assessing how the market evaluates IJV formations for the participating firms. We calculated the CAAR value to be 1.01% (see appendix 3), however, as shown by the figure below we experienced some outliers which could bias our results. Outliers are defined as data points that are statistically inconsistent with the rest of the data. Removing outliers is a complicated process as some of the "questionable" data points ends up being outliers while some are not. Questionable data points should never be discarded without proper statistical justification. In line with prior research we use a scatter plot (Figure 9) to make sure that inconsistent data is removed

Figure 9: Total event CAR plot

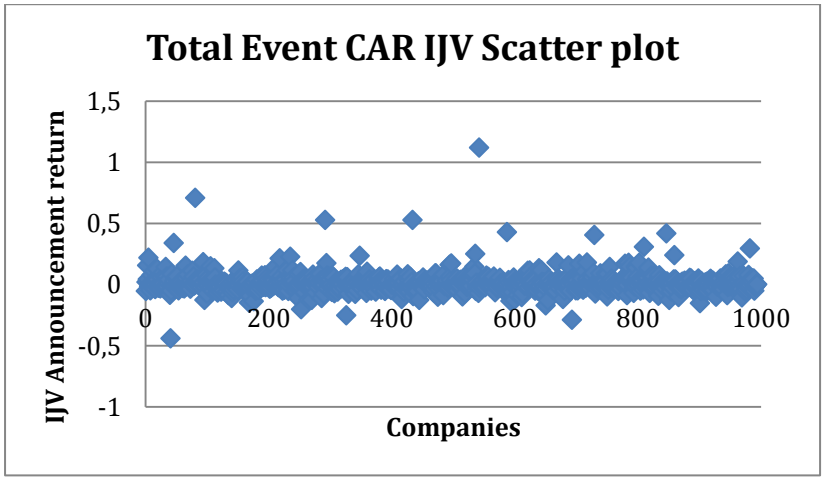
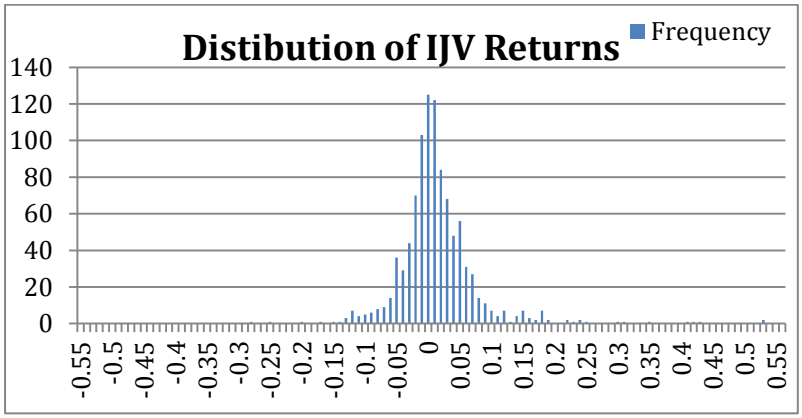


Figure 9 shows the cumulative announcement return for the event period and typically ranges from -20% to +20% for the companies involved in IJV. We therefore, removed data point beyond this criteria. From the scatterplot it is evident that 3 data point are inconsistent with our criteria. These data points had an abnormal return (AR) of 112%, 70% and -44% during the event period (see appendix outliers).

We then tested our data for normality by looking at the frequency of returns and from the figure we can see that it is bell shaped thus showing evidence of normality (see Dealing with OLS assumption for). We tested for skewness and Kurtosis by taking the natural logarithm of announcement return and none of these seemed present, and we deemed the data worthy.

Figure 10: Distribution of returns



After the removal of outliers and checking for normality we got the following results for the CAAR.

Table 7: Estimating CAAR

CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-Test
0.87%	988	4.24557	3.24795

The figure above show that after removing outliers our IJV CAAR went from 1.01% to 0.87%. . Using the Logaritmic returns to perform the analysis we get a similar result 0.79% with a t-test value of 4.07 confirming that our returns are normally distributed and significantly positive. In conclusion we confirm *H.*

HI: The average announcement return for the participating firms in IJVs is positive (0.87%) with extremely high significance

Industry and Region level CAAR

In the following section we test CAAR on an industry and region level and test if they are significantly different from zero. Table 8 show the CAAR-values on an industry level.

Table 8: CAAR - Industry and Region

Grouping Variable	CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-Test
Technology**	1.47%	60	1.97942**	1.69608*
Consumer Cyclical	0.15%	225	0.3835	0.4018
Industrial**	1.27%	234	3.2884**	2.80986**
Communications	0.53%	73	0.86271	0.9183
Basic Materials*	1.08%	152	1.66602*	0.31525
Energy	1.00%	90	1.30315	1.38004
Consumer Non-cyclical*	1.16%	138	1.94814*	1.43066
Diversified	-0.65%	16	-0.95707	-0.42287

*Significant at the 90% confidence level. **Significant at the 95% confidence level

From table 8 we can see that four industries showed a CAAR value higher than the average CAAR (0.87%). *Technology(1.47%)* and *Industrial(1.27%)* where significantly different from zero at a 95% confidence interval according to the t-test and GSIGN-test. Proving that abnormal returns around IJV for *Technology* and *Industrial* on average are positively different from 0% and that the number of positive CAR is significantly higher than expected from the companies' 120-day estimation period.*Consumer, non-cyclical (1.16%)* and *Basic Materials (1.08%) also* had a CAAR value above the average CAAR, however, only *Consumer, non-cyclical* was significantly diffent from zero according to the t-test.

We now move on to look whether region influnces IJV CAAR. We use the same procedure as above and test if CAAR-values are significantly different from zero. Results can be seen below:

Table 9: Grouping variables

Grouping Variable	CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-Test
Asia Pacific**	0.63%	597	2.50646**	2.03773**
Europe**	1.34%	216	3.37136**	2.06617**
North America	1.03%	147	1.61124	1.33787
LATAM	0.36%	15	0.24863	1.44935
Middle East & Africa	2.84%	13	0.79878	0.02823

*Significant at the 90% confidence level. **Significant at the 95% confidence level, n =988

The results show that CAAR varies across region with *Asia Pacific* and *Europe* having positive significant CAARs according to both the t-test and the GSIGN test at a 95% confidence level. Proving that abnormal returns around IJV for *Asia Pacific* and *Europe* on average are positively different from zero and that the number of positive CAR is significantly higher than the number expected from the companies' 120-day estimation period. Note that *Asia Pacific* has a lower CAAR when comparing to the average CAAR. Additionally, it is worth noting that the CAAR-value of companies from Middle East & Africa involved IJVs appear to be significantly higher than the other regions, with a CAAR of 2.84%. However, as the CAAR-value is based on 13 observation we are not able significantly conclude whether these companies in fact are awarded with a higher CAAR-values.

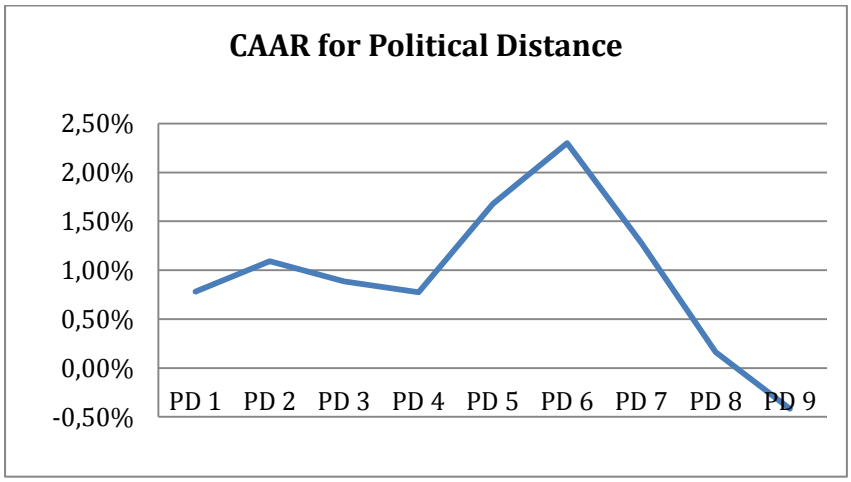
In conclusion, when testing for industry and region, it appears that CAAR for the IJVs are affected most within *technology*, *Industrial and Europe*. We test these findings in our multiple regression model to validate these results.

6.2 Institutional distance and performance

In the following section, we test each institutional distance on an individual level by looking at their relationship with CAAR. In order to measure to what degree each distance dimension affects CAAR we segregated each dimension into a scale from 1 to 9, where 1 is low distance and 9 is high distance.

From section 3.1.3 we hypothesized that political –and administrative distance have a negative impact on CAAR. Furthermore it was hypothesized that high and low cultural distance would have positive impact on CAAR. Lastly, we expected that knowledge distance would not have any significant affect on CAAR as a stand-alone measure. Our initial analysis yielded following results:

Figure 11: CAAR for Political distance



Looking at Figure 11, we can see that the highest CAAR levels are realized when political distance is between 5-6 based on the scale. This analysis has led us to reconsider our hypothesis as medium political distance appears to have a positive effect on performance.

Figure 12: CAAR for Administrative distance

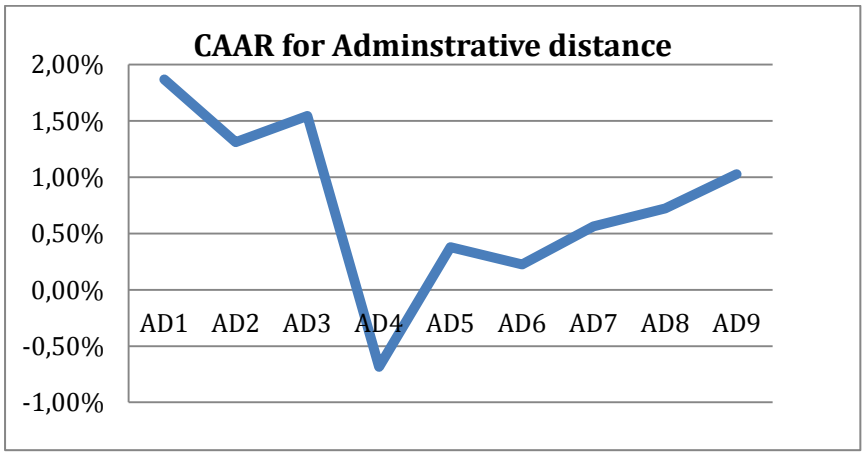
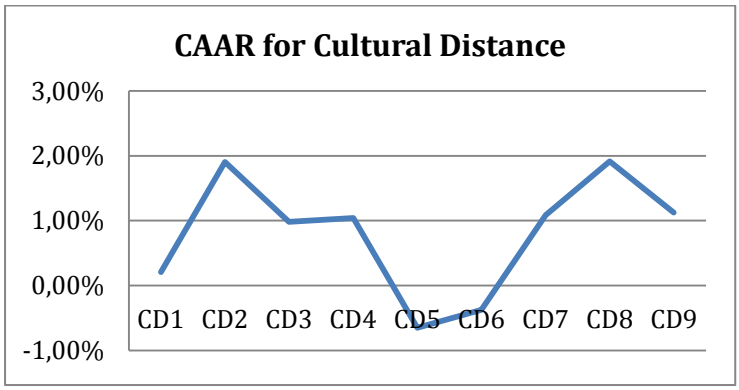


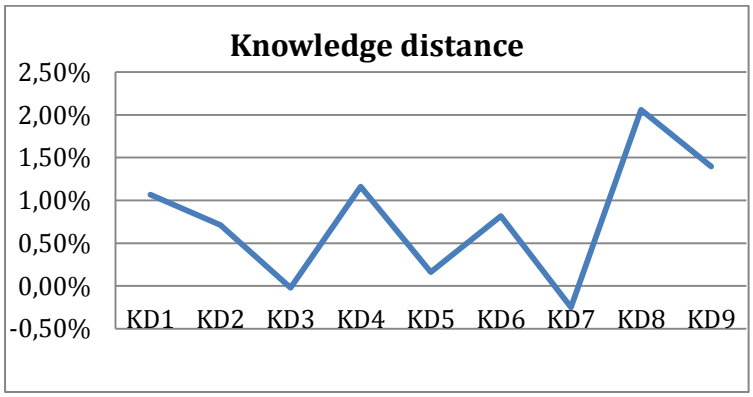
Figure 12 show that the market awarded the highest CAAR to IJVs with low administrative distance. Interestingly, we can see that the market expects medium distance to have a negative effect on CAAR and high administrative distance a fairly good effect on CAAR.

Figure 13: CAAR for Cultural distance



Looking at Figure 13 we can see that CAAR fluctuates across different degrees of cultural distance. The line peeks in both low and high levels of cultural distance, which indicate a somewhat U-shaped relationship between CAAR and cultural distance.

Figure 14: CAAR for Knowledge distance



From Figure 14 CAAR does not seem to follow any specific pattern besides the highest CAAR is associated with high knowledge distance. As expected, this result does not provide any significant indication of how knowledge distance affect CAAR.

We have now analyzed each distance dimension individually, however, we need to analyze these preliminary indications further in order to confirm these findings from a statistical point of view. Instead of using the 1 to 9 scale we now distinguish the degree of distance by low, medium and high distance. Each group is of equal sample size and in the proceding section we test which distance dimensions are associated with the highest CAR. The results are shown below.

6.3.1 Political distance and performance

From table 10 we can see that medium political distance receives the highest CAAR value on 1.59% during the event period. Both medium and low Political Distance show results that are positive and significantly different from zero at the 95% confidence level (according to the t-test). However only Medium Politic distance pass the CAR GSIGN test and have an announcement return vastly above population average. We can therefore conclude that, the market on average rewards IJVs with medium political distance with the highest announcement return thereby providing support for *H2*.

Table 10: Political distance and performance

Grouping Variable	CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-Test
High PD	0.34%	244	0.88944	1.59878
Medium PD	1.59%**	244	3.19121	2.09065**
Low PD	0.92%**	244	2.68342	1.39652

*Please note that 256 deals were deleted from our sample due to unavailable distance data leaving 732 deals left for analysis.

6.3.2 Administrative distance and performance

The results from administrative distance, showed in Table 11, indicates considerably varying results. In line with our initial expectation we can see that the highest CAAR is awarded to IJVs with low degrees of administrative distance, thereby providing support for *H3*. Both high and low administrative distance show results that are positive and significantly different from zero, at a 95% confidence level (according to both t-test and GSIG-test).

Note also that Medium Administrative Distance has a negative CAR. The result is not significantly negative, but the result deviates a great deal from the average CAAR for IJV (0.87%). We investigate this further in the multiple regression.

Table 11: Administrative distance and performance

Grouping Variable	CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-test
High AD	0.77%**	304	2.23482**	1.98829**
Med AD	-0.03%	304	-0.10215	0.17584
Low AD	1.58%**	304	3.45552**	2.89945**

*****please note that 76 deals were deleted across the 2010-2013 period where no distance data was available, leaving 912 deals left for analysis.

6.3.3 Cultural distance and performance:

Table 12 display that CAAR varies across high, medium and low cultural distance. In line with our hypothesis the highest CAAR is awarded to IJVs with both low and high cultural distance. Both of these are positively significant according to both t-test and GSIGN-Test, and above average IJV announcement CAAR. This provide support for hypothesis 4.

Table 12: Cultural distance and performance

Grouping Variable	CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-test
High CD	1.34%**	218	2.50738**	1.33208*
Med CD	-0.11%	218	-0.32886	1.05318
Low CD	1.18%**	220	2.61798**	2.08966**

*please note that a total of 332 deals were deleted across the 2010-2013 period where no distance data was available, leaving 656 deals left for analysis.

6.3.4 Knowledge distance, absorptive capacity and performance

High knowledge distance, as illustrated by Table 13, is awarded with the highest CAAR. Both High and Medium Knowledge distance are significantly positive according to both t-test and GSIGN at the 95%-level. This provides some support for rejecting hypothesis 5, as CAAR seems to be somewhat dependent on knowledge distance. We do not completely reject this hypothesis yet, instead we will test whether Knowledge Distance has a significant impact on average IJV CAAR in our multiple regression (section 6.3).

Table 13: Knowledge distance and performance

Grouping Variable	CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-test
High KD	1.1%	285	2.49633**	2.28597**
Med KD	0.7%	286	2.2446**	1.96507**
Low KD	0.6%	285	1.57255	1.01525

*please note that a total of 132 deals were deleted across the 2010-2013 period where no distance data was available, leaving 856 deals left for analysis.

In section 3.1.3 we argued that knowledge distance should be linked to absorptive capacity since a firm's ability to integrate new knowledge is key for enhancing performance. We hypothesized that firms should be able to better manage new knowledge (e.g. higher degrees of knowledge distance) if they had a high degree of absorptive capacity. In other words, we

believe that IJV performance is optimized with a combination of high absorptive capacity and high knowledge distance. So far, we do not know if the market is able to take this into account. We therefore test if this is the case by looking at combinations of absorptive capacity and knowledge distance.

Table 14: Knowledge distance, absorptive capacity and performance

	Low AC	Med AC	High AC	Unav. AC
Low KD	**0.94%**	0.25%	0.28%	0.57%
Med KD	0.75%	0.04%	0.49%	1.30%
High KD	0.75%	0.09%	**1.23%**	1.91%

*Unav. AC = unavailable data to calculate absorptive capacity.

When we tested the combination of absorptive capacity and knowledge distance a large fraction (40%) of the company R&D data was unavailable. Prior studies have dealt with this issue by assuming missing R&D expenditures are zero (e.g. Minton & Schrand, 1999), which as a consequence means that absorptive capacity is zero. From a theoretical perspective, this also makes sense. For example, US firms have been required to disclose almost all R&D expenditures since 1975 (White, Sondhi, Fried, & Aiello, 2003). So missing values for R&D is most likely due to negligible expenditures (O'Brien, 2003).

As a consequence our results are somewhat biased, which is why we added the category "*unavailable AC"* into table 14. However, when interpreting the other results it appears that there are some interaction effects between the two constructs. CAAR is highest when both absorptive capacity and knowledge distance is high. Unexpectedly, medium absorptive capacity yields significantly lower CAAR values than both low and high absorptive capacity. Comparing these findings to hypothesis 6 we see that there are some indication of higher absorptive capacity and high knowledge distance leads to the highest CAAR. Although, these findings are not statistically significant we still deem them worthy of further interpretation.

6.3 Multiple regression

From the analysis above, we learned how each individual distance dimension affected IJV announcement CAAR. In the following, we extend our model and perform a multiple regression thereby analysing how each distance variables affects IJV announcement CAAR (H2:H6). This enable us to test whether the inclusion of these variables improve the ability to predict CAAR (H7). To perform this analysis we have build two "Extended Distance Models". These two models will contribute to prior research by testing for common variables such a company size, region and industry, institutional distances and absorptive capacity. We believe that this will improve our understanding of IJV CAR. Please note that the Multiple Regression Models below are derived from the same dataset as the event study[5].

6.3.1 Dealing with OLS assumption – Avoiding model Bias

As an extension of the discussion in section (section 5) we will now go through our tests to ensure that statistical issues that may cause biases are both identified and dealt with. We have tested for normality of residuals, heteroscedasticity and multicollinearity for our multiple regression models.

Normality – The distributional characteristics of regression residuals can be tested statistically using e.g., the Jarque-Bera test (Thadewald & Büning, 2007) or by visual inspection of a normal probability plot (a so-called Q-Q plot) or by informally comparing a histogram of the sample data to a normal probability curve. The empirical distribution of the data should be bell-shaped and resemble the normal distribution. Generally, our inspection reveals only slightly violations of residual normality in the regression, also after removing outliers (see appendix 5). Such non-normality does not bias findings, but decreases efficiency, potentially leading to higher standard errors in the downside risk regressions. Besides removing outliers, applying more advanced statistical methods is above our statistical level.

Heteroscedasticity arises when the unobservable error is non-constant. This does *not* cause ordinary least squares coefficient estimates to be biased, although it can cause ordinary least squares estimates of the variance (and, thus, standard errors) of the coefficients to be biased,

[5] Common for all the 3 Models below is that they all excludes 20 of these observations, due to missing revenue data, which is needed for our Size and Absorptive capacity variables. Further Model 2 and 3 exclude deals where there is no distance data for the countries of IJV partners.

possibly above or below the true or population variance. Thus, regression analysis using heteroscedastic data will still provide an unbiased estimate for the relationship between the predictor variable and the outcome, but standard errors and therefore inferences obtained from data analysis are suspect. Biased standard errors lead to biased inference, so results of hypothesis tests are possibly wrong, for example, if OLS is performed on a heteroscedastic dataset, yielding biased standard error estimation, a researcher might fail to reject a null hypothesis at a given significance level, when that null hypothesis was actually uncharacteristic of the actual population (making a type II error). From the scatter plot (appendix 5) we have regressed the standardized residuals with the standardized predicted values. If heteroscedasticity is present the figure the points in the left side will be tighter and fan out when moving to the right in the figure, which is a typical manifestation of heteroscedasticity. Our inspection shows small signs of heteroscedasticity, but it is not so apparent that we know it is there. To test if heteroscedasticity is at a statistical significant level one can perform a White test (White, 1980) or a Breusch-Pagan test (Breuch & Pagan, 1979), however, this is above our statistical level, and we leave this for future research. Based on the scatterplot (appendix 5) we deem this worthy for analysis.

Multicollinearity expresses linearity between independent variables, which in case of high levels can cause inflated standard errors on the coefficient, which reduce the efficiency of OLS. The problem of multicollinearity can be intensified when interaction terms are included in the regressions (Greene & Zhang, 2003). There are multiple ways of dealing with multicollinearity. One possibility is to increase the sample size, however, with the current dataset consisting of 994 events, we do not believe this is a problem. We analyzed the correlations coefficients as well as the variance inflation factor (ViF) of all the independent variables in the regression. ViF is a common method of analyzing multicollinearity. A common rule of thumb is that when ViF > 5 then multicollinearity is high. Also a ViF below 10 has been proposed as a cut of value (Kutner MH, Nachtsheim CJ, Neter J, Applied Linear Regression Models, 4th edition, McGraw-Hill Irwin, 2004.) For all our models VIF is below 5 showing a low degrees of multicollinearity (see appendix 5 to 7). However, in order to secure a low degree of multicollinearity *Asia* & *Industrial* was excluded in all our models, as they did not fulfil the tolerance requirements/level.

6.4 Multiple Regression Models

In the following we will present the results from the OLS multiple regression analysis. First, we analyse the distance variables' effect on IJV announcement CAAR (H2:H6). Second, we test whether the inclusion of these variables improve the ability to predict CAAR (H7). We leverage on three models: *A Standard IJV CAAR Model* and two *Extended Institutional Distance Models*.

The *Standard IJV CAAR Model* use common predictor variables to explain IJV Announcement CAAR. The model includes the variables *size*, *industry* and *region* and test whether these have significant effect for predicting IJV CAAR, and if they are appropriate for predicting overall CAAR-values. Table 15 is an overview of the *Standard IJV CAAR Model* results before insignificant variables where removed.

Table 15: Standard IJV CAAR Model before insignificant variables were removed

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.053	.008		6.898	.000		
Firm Size	-.013	.002	-.230	-5.805	.000***	.627	1.596
LogRampD	.001	.002	.017	.439	.661	.625	1.600
Europe	.010	.005	.066	1.933	.054*	.859	1.165
MiddleEastampAfrica	.017	.017	.032	1.015	.311	.970	1.031
NorthAmerica	.003	.006	.019	.580	.562	.894	1.119
LATAM	.006	.016	.011	.343	.732	.972	1.029
Technology	.006	.009	.021	.623	.534	.849	1.178
ConsumerCyclical	-.007	.006	-.051	-1.277	.202	.630	1.588
Communications	-.003	.008	-.011	-.319	.750	.815	1.227
BasicMaterials	-.005	.006	-.028	-.742	.458	.712	1.405
Energy	.010	.008	.048	1.324	.186	.763	1.311
ConsumerNoncyclical	.000	.006	-.002	-.045	.964	.720	1.388
Diversified	-.033	.019	-.054	-1.672	.095*	.952	1.050

The variables that show significant results for predicting CAAR will be included and controlled in the *Extended Institutional Distance models* to ensure our ability to detect the "pure" effect of the distance dimensions[6]. The Extended Distance Models test if *political-*, *administrative-*, *cultural* – and *knowledge* distance enhance our ability to predict IJV announcement CAAR. Each distance dimension is tested individually and and through a segregation of *high*, *medium* and *low*. Furthermore, we test if absorptive capacity enhances our ability to explain IJV announcement CAAR. Below we will present our significant multiple result (*H2-H7*) please see appendix 4 for overview of the *Extended Distance IJV CAAR Model* results before insignificant variables where remove.

6.5 Multiple Regression Results

The section is structured as follows: First, the models overall statistical usefulness is tested according to an ANOVA F-test. Thereafter, the significant coefficients of our models are analysed and we comment whether these findings provide support for confirm or rejecting our hypotheses (*H2: H6*). Finally, the overall explanatory power of our Standard and Extended Distance models are assessed. This enables us to confirm or reject whether the inclusion of our Institutional Distance measures increases the ability to predict the changes in the market value of the partnering firms around IJV announcement (*H7*).

When there are important differences between the results in the reported models below and their counterparts in appendix 5 to 7, these differences will be noted and discussed. If nothing is mentioned, the three models exhibit similar results. The Standard and Extended Distance Models' overall statistical significance and explanatory power and variables with significant coefficients are reported below:

6 Please note that there most likely will be other significant variables, which our model has not taken into account, when controlling for variables affecting CAAR.

Table 16: Multiple Regression Results

Model	Standard Model	Extended Model 1&2	
Hypothesis		H2, H3,H4,H5,H6, H7	H7 #
Intercept	0.050***	0.040***	0.065***
Size	− 0.013***	− 0.011***	− 0.015***
Energy	0.013*	0.013*	0.025**
Europe	0.010**	0.011**	−
Middle East and Africa	0.013	0.016	0.062*
Knowledge Distance	−	0.000	−
Absortive Capacity	−	− 0.007*	0.073***
Knowlegde Distance × Absortive capacity	−	0.002***	−
Medium Political Distance	−	0.008*	−
Medium Administrative Distance	−	− 0.012***	− 0.017***
Multiple R	0.228	0.359	0.4755
Multiple R Square	0.052	0.129	0.226
Adjusted R Square	0.048	0.129	0.217
F-significance	0.000	0.000	0.000
# of observations	969	839	436

***Notes:** *p<0.10, **p<0.05, ***p<0.01 # Stepwise regression used to find the most parsimonious variable. #Analysis is based on 436 deals, as deals with missing distance data were removed

Testing the multiple regression model - Anova analysis

CAAR is the dependent variable for both the standard model and the extended models. The table 16 above report that all models are highly statistically significant according to the F-test ((p < 0.0001) since the significant F-change statistics exceed our selected confidence levels (α=0.10, α=0.05 and α=0.01). Hence, the data provides strong evidence that at least one of the model coefficients is nonzero. In other words, this means some of the predictor variables in both models have the ability to explain the variation in the dependent variable (Lind et al.,2006). In summary, we deem our models statistically useful for predicting CAAR.

Coefficients

The first section of variables listed in table 16 (i.e. size, energy, Europe and Middle East & Africa) are the control variables that were significant in predicting CAAR in the Standard model or the Extended model1&2.

The Standard and the Extended Models 1&2 display negative ($-0.015 \leq \beta \leq -0.011$) and highly significant results for Firm Size effect on IJV announcement CAAR ($P<0.01$). As we expected size has a negative effect on IJV announcement CAAR. Essentially this means that investors would be better off by investing in smaller companies around the announcement of an IJV. Furthermore, all the regression models confirm that the Energy sector has positive and significant for IJV announcement CAAR. This suggests that market assigns additional positive market value for IJV if the company is within the Energy sector. When testing for regional effects, we find that Europe has a positive and statistically significant effect on CAAR in the both Standard model and the Extended model 1[7]. Likewise, Middle East & Africa is positive across all models, but only at a statistically significant level in the Extended model 2.

In section 6.2 we tested the relationship between CAAR and each of our Institutional Distance variables individually to get a view of their effect on performance. In continuation of section 6.2, we now test whether the hypothesized distance variables *(H2-H6)* have a significant effect for predicting CAAR.

From the results of the individual CAAR analysis (section 6.2) we saw that Political distance did not provide support for *H2,* as CAAR for Low Political distance (0.92%) only just exceeded the average CAAR (0.87%). Instead, our findings provided support for some political distance having a positive effect on CAAR (Medium Political CAAR: 1.59% and statistically significant level according to the T-test and GSIGN test). The multiple regression models (table 16) confirm these initial findings, as Low Political Distance is not significant in any of the models, after controlled for size, region and industry effects. In conclusion, our *Extended Distance Models did not provide support for either confirming or rejecting H2.*

[7] Was Excluded from Extended Distance model 2, as it was not one of the most parsimonious variables.

However, the Extended Distance Model 1 did provide support for some Political Distance have a small, but statistically significant effect on CAAR (Medium Political Distance β=0.008). As this result took us by surprise we test how medium political distance affects IJVs completion and survival (see pilot study).

The individual analysis of CAAR and Administrative Distance provided initial support for *H3* since CAAR for Low Administrative distance was notably higher from the average CAAR (1.58% vs. 0.87%). Before insignificant variables were removed see appendix 4, the Extended Distance Models found Low Administrative Distance to have a positive effect on CAAR. However, both the standard model and the Extended model 1&2 excluded Low Administrative distance from the models, as it did not meet the stepwise regression criteria. Nevertheless, Extended model 1 & 2 found that some degree of Administrative Distance has negative and statistically significant affect on CAAR (Medium Administrative Distance; $-0.017 \leq \beta \leq -0.012$ with $P<0.01$). Lastly High Administrative Distance did not have any significant on our CAAR models. Consequently our *Extended Distance Models 1&2 partly confirms hypothesis H3, as some degree (Medium) of Administrative Distance has a negative impact on IJV CAAR.*

The individual CAAR analysis on Cultural Distance provided initial support for H4a and H4b. However, none of the cultural distance dimensions (high, medium or low) met the stepwise regression criteria's as none proved to be significant in any of the models. Consequently our multiple regression models did not provide support for confirming nor rejecting *H4a* and *H4b.* As Cultural Distance has been researched in depth since Hofstede(1980), we will not analyse this further.

The individual CAAR analysis and Knowledge Distance did not provide initial support for *H5* as the results suggested Knowledge Distance had a positive moderating affect on CAAR (High Knowledge Distance CAAR = 1.1%). From the Extended Distance Model 1&2 neither high, medium nor low Knowledge Distance yielded a significant impact on CAAR. As this result show that Knowledge Distance as stand-alone does not significant impact on IJV CAAR *our Extended distance models provide support for confirming H5.*

When testing for Absorptive Capacity as an independent variable, the Extended Distance Model 1 shows negative and Low significant effect on CAAR ($p<0.10$). In hypothesis section 3.3.5 we commented on the potential interaction effect between Knowledge Distance and Absorptive Capacity. In the Extended Distance Model combining these variables yielded a highly positive and highly significant effect CAAR($P<0.01$)
Consequently *the Extended Distance Model confirm*s *H6.*

Lastly, by looking further into Absorptive Capacity in the Extended Distance Model 2, which excludes IJV from countries that do not have complete distance data, we find that Absorptive Capacity has a highly positive and highly significant effect on CAR at IJV announcement (see table 16). We comment on these results in the discussion (section 8), and move on to the analysis of whether the inclusion of our Institutional Distance measures has increased our ability to predict IJV announcement CAAR.

H7: Explanatory power Increased

The correlation coefficient Multiple *R* explains the degree to which two or more predictors (independent variables) are related to the dependent variable. Our Multiple *R*-values are 0.228, 0.359 and 0.475 meaning that the predictor values are positively related to IJV announcement CAAR value. The problem with interpreting the *R*-square value is that it increases for every time a variable is added, unless the variable has nothing to add to the understanding (Lind et al.,2006). Consequently, adding a variable to the model does not mean that it will improve the fit of the model[8]. To ensure that the model fit improves, we use the adjusted *R*-square as it amends this by deflating or reducing the *R*-square by some factor.

The adjusted *R*-square value for the standard model (0.048) indicate that the model is able to explain 4.8% of the original variance and leave 95.2% residual variability of the original variability. As mentioned in the literature review, cross-sectional studies are commonly associated with lower degrees of explanatory power. However, a 4.8% improvement in predicting announcement returns from an investor perspective can be regarded as a decent improvement.

[8] Low R Square (R^2) and low Adjusted R Square ($\bar{R}^2$), does not necessarily mean that the model has an inappropriate set of regressors (Lind, 2008)

Extended Distance model:

Until this point, we found the Standard Model can explain 4.8 % of CAAR. In the Extended Distance Models we build on the Standard Model, and control for its significant variables. In Extended distance model 1 we include our institutional distance variables, grouped from high to low. At the same time deals with no Knowledge distance are removed[9] in order to test the interaction effect of knowledge distance and absorptive capacity on IJV CAAR. While Extended distance model 2 uses stepwise regression to find the most parsimonious variables to predict CAAR from all of our variables[10]. In other words these Extended distance models can be used for testing whether the inclusion of our institution distance variables will improve our ability to predict CAAR.

From the Extended model 1 we get an adjusted *R*-square value of 0.119. This essentially means, that by including the distance dimensions we can improve the model fit, hence, also our ability to predict IJV announcement CAAR by 7.1%. From an investor perspective this explanatory power can be used for predicting future IJV CAAR and thus potentially beating the market.

The Extended Model 2 incorporates the same variables as the Extended Model 1 (including full measure distance dimensions), but deviates in the way that the model seeks to find the predictors (variables) that together yields the highest possible predictor of CAAR. In statistics, a simple model sometimes outperforms a complex model with many independent variables. This is often referred to as *parsimonious*, which essentially means to explain a phenomenon using fewer parameters (e.g. independent variables). We therefore used stepwise regression to find the most parsimonious model to find out which variables yields the most effective way of predicting CAAR. The Extended model 2 yields an adjusted *R*-square of 0.217, thereby almost doubling the explanatory power of Extend model 1, while quadrupling the explanatory power of prior research variables in the Standard model.

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[9] The number of observations decreases from 969 to 839 due to unavailable knowledge distance data between the partnering countries of IJVs.

[10] The number of observations decreases from 969 to 436 due to unavailable knowledge, political, cultural, administrative, distance data between the partnering countries of IJVs.

In conclusion our data fully confirms *H7: The Extended Distance models is useful for predicting IJV CAAR of the participating firms, with a much better model fit and explanatory power than prior research.*

Table 17: Result summary

	Effect on market valuation of the partnering firms around the announcement of the IJV	**Event study results**	**Multiple regression Significant results**
H1	*Announcement return of the average IJV is positive*	✓	✓
H2	*Political Distance has a negative effect*	⊗	⊗
H3	*Administrative distance has negative effect*	✓	✓⊗
H4a	*Low degrees of Cultural distance has a positive effect*	✓	⊗
H4b	*High degrees of Cultural distance has a positive effect*	✓	⊗
H5	*Knowledge distance has no effect*	✓	✓
H6	*The interaction variable of absorptive capacity and knowledge distance has a positive effect*	✓	✓
H7	*Our extended distance analysis is useful for predicting IJV CAAR of the participating firms, and provides a better model fit and explanatory power than prior research.*	✓	✓

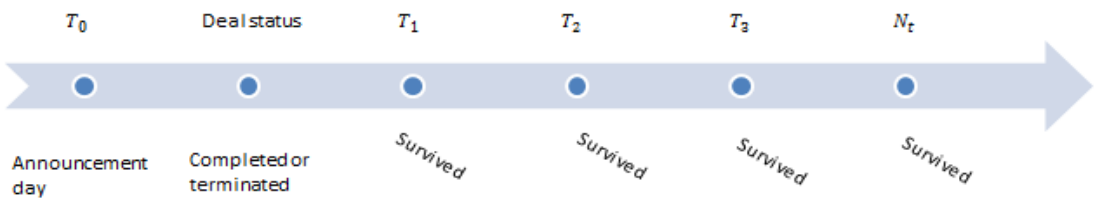
We will place the results into a wider theoretical and practical context in the next chapter.

7 Pilot – What happened post IJV-Announcement

Until this point we have tested the relationship between institutional distance and announcement return CAAR (performance) for IJVs. We found that Medium and Political Distance and the Interaction effect between Absorptive capacity and Knowledge Distance all had an incremental positive effect on CAR (according to both t and f-test). At the same time Medium Administrative Distance had an incremental negative effect on CAR (according to both t and f-test), while Low Administrative Distance had a significant positive CAR, but was not tested in our multiple regression as it did not meet the Tolerance criteria, as co-linearity with other variables was too strong. While these results are very interesting from the perspective of a stockholder with a short-term investment horizon, they did not yield much information on how these joint ventures actually performed after their announcement. As we described in section (Event study section), one issue with using announcement return as an indicator of performance is that investors sometimes are overconfident in their ability to project future earnings which means that their forecasts can be wrong. To accommodate for this weakness, we conduct a pilot study which looks at the performance of the IJVs for a three year time horizon (e.g. survival).

In order to test the performance of the IJVs in our sample during a longer time horizon we constructed a pilot study in which we separated into different stages indicated by the timeline below.

Figure 15: IJV timeline



The figure represents the lifecycle of a joint venture. In t=0 the IJV is announced and is pending approval. Thereafter, the IJV will either be completed or terminated noted by the deal status. If completed the joint venture will be operational and success will be dependent on survival (unless it is established with a limited time horizon).

In our pilot we set out to find what happened to these IJV through different criteria and how distance impacted this. Below we have run announcement return analysis against whether the IJVs today where Completed, Pending or Terminated. The following section is structured as follows. We begin by looking at the IJVs *post* announcement (e.g. by looking at the deal status). Bloomberg define deal status as either *pending, completed* or *terminated*. We again perform a CAAR (Abnormal return analysis) on our sample to get an indication of whether the market was able to evaluate the IJVs differently. This will give us an idea of whether the market was efficient in its projection of future earnings. This is followed by an analysis of the relationship between termination (before completion) and institutional distance. This will give us an indication of whether termination was caused by any of our distance dimensions. Lastly, we analyse the completed IJVs by looking at their survival in a three year time horizon. In this analysis we test the survival performance for IJVs within the following categories: IJVs with *High knowledge distance & absorptive capacity; High political distance; Medium administrative distance (negative performance).*

7.1 Deal status analysis:

From the terminology used by Bloomberg, we categorize IJVs by deal status; *pending, completed or terminated* and compare it to the announcement return. Completion can be seen as success criteria as IJV are announced from the expectation that they will eventually be completed. Pending is an odd-size category, as most of these IJV eventually completed. Finally the category Terminated shows the IJV which did not IJV completion before they were terminated.

Table 18: Deal status analysis

Grouping Variable	CAAR Type	CAAR Value	Number of CARs considered	CAAR t-test	CAAR GSIGN-Test
Completed	(-2,2)	1.13%**	568	3.9211**	3.28752**
Pending	(-2,2)	0.56%	402	1.88387*	1.12323
Terminated	(-2,2)	-0.19%	18	-0.18711	0.28796

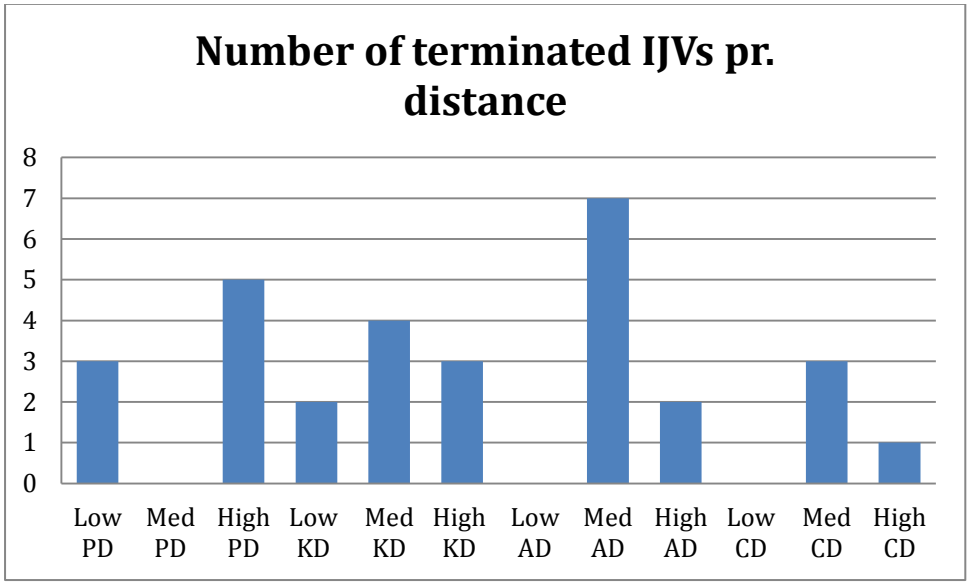
** Significant positive at a 95% confidence level * Significant positive at a 90% confidence level

From the above table it appears that the market was semi-efficient in its projection of the IJVs performance. The market awarded completed IJVs with the highest CAAR (1.13%). This result is significantly positive when analyzing the T-test and the GSIGN-test. The

terminated IJVs showed a negative CAAR, indicating the marked did not assign any (or small negative) value to these IJV – this seems fair as terminated IJV does not create future cash-flow, some learning value can be expected but as theory suggested this is likely to be mitigated by transaction cost. Additionally we note that as Terminated CAAR is consisting of only 18 CAR firm observations from 9 IJVs.

With this information it is interesting to investigate if and how Termination is related to institutional distance. As mentioned, institutional distance have been found to have a negative impact on IJV performance/survival. To investigate this further we analysis the 18 company observations (9 IJVs) who terminated before they were completed. Below figure shows the number of IJVs that terminated in each distance category (own data creation).

Figure 16: Number of terminated IJV[11]



The above figure shows some interesting characteristics. Analyzing the graph, we can see that distance appears to help us predict which IJVs that terminate before completion. The results from this analysis yields findings in line with the results from the multiple regression analysis in the following ways. Firstly, in the regression analysis we saw that the marked assigned significant positive value to IJVs with *medium political distance*. As we can see from the graph none of the terminated IJVs had this characteristic. Thus if these IJV are

[11] Please note that 5 of the deals from Cultural Distance and 1 deal from Polical Distance´of the 9 IJVs are not a categorized, as the IJVs consisted pairs of countries who's Cultural distance or Political distance is yet to be measured

efficient (assumption based on Transaction cost theory) then PD has a positive effect on both CAR at announcement and whether IJV terminate or not. Secondly ; the same appears to be the case for Administrative Distance, as no IJV with Low Adminstrative terminated before completion (Low Politcal Distance had the highest positive CAR in the announcement return analysis) and 7 out 9 terminated deals had a medium Political distance (Medium Politcal Distance had a significant negative effect on CAR in the Multiple regression announcement return analysis). No clear Termination pattern was seen for Knowledge distance or for Cultural distance where too many Cultural distance calculations were not available.

In other conclusion distance matters from both a market perspective (CAR) and in determining which deals that are more likely to terminate before completion.

7.2 Completed deals analysis

In the following section, we study, how the IJVs that are completed have performed within a three year by using longevity as a measure of IJV performance. Our longevity-proxy for performance is in this case based on survival (i.e. as predicted by the survival theory). We selected IJVs within following categories; high absorptive capacity & high knowledge distance, medium political distance and medium administrative distance (negative performance). The sample was selected from the following criteria

- IJV announced at 01-05-2011 at the latest. In order to secure 3 years survival data.
- Deal status: Completed
- Ownership needs to be available (above 0)

The table can be interpreted such as (✓) represents "yes" and (⊗) represents "no".

From the inspection of the table 19[12], we can see that IJVs with *high absorptive capacity & high knowledge distance* has a high survival rate. Only 2 our of 10 IJVs where terminated within the three-year period. Furthermore, all the IJVs with *medium political distance (appendix 8)* in our sample survived within the threeyears. We can therefore say, by using longevity as a measure of performance, IJVs with these characteristics generally have a

[12] Table 19 is reduced to only include absorptive capacity & high knowledge distance. Please see appendix 8 for further analysis

positive performance. These findings are in line with the results we got from the multiple regression analysis in the previos section.

The multiple regression analysis, showed that *medium administrative distance* had a negative impact on performance. From the table 19 (see appendix 8), we can see that rougly 40% of the IJVs with this characteristics where terminated within the first three years. Although, we cannot complete conclude on this result, we belive that it is a strong indication of distance helps us explain IJV survival or termination.

As discussed in section 2.5.6, termination is not always considered a failure in an survival perspective. Some JVs are meant to end as they are designed with a finite goal or set of specific tasks in mind, with dissolution anticipated hereafter. Makino, Chan & Beamish (2007) noted the importantce of capturing the motivation for the IJV termination, that is, whether it was intended or unintended. For example, if a partnership had a finite duration (e.g. 3-5 years) and terminated accordingly it is not regarded as a failure. Furthermore, according to real option theory (Kogut, 1991 and Reuer & Tong, 2005) IJV is an investment to optain growth options and to expand into new and uncertain markets. Thus, if the termination is the realization of a growth and expansion opportunity such termination can be consideres a success (kumar, 2005).

In light of this, we analysed the IJVs that where terminated further. The two IJVs with *high absorptive capacity & high knowledge distance* where terminated due to *"fundamental business issues*[13]*"* and "*worse-than-expected business performance*[14]*"*, and there where no evidence that the JV was constructed with a finite duration. Therefore, the termination seems unintended and can be regarded as a failure. However, looking at the terminations for the IJVs within *medium administrative distance* in 4 out of 5 terminations ended with either one of the partners buying the remaining shares or keeping the remains of the operation ongoing, thus, absorping the JV into their organization. Again no empirical evidence could support the argument that this was intended (or motivated). However, from a theoretical perspective acquiring the remaining stocks can be regarded as a sign of intended termination. However, our

13 http://www.buybuychina.com/when-e-tailers-fail-lekutian-and-the-challenges-of-online-retail-in-china/

14 http://www.windpowermonthly.com/article/1188550/ge-harbin-end-chinese-joint-venture

analysis did not yield any empirical evidence to support of this argument, but mainting the operations is likely to be caused by the realization of a growth option or a market expansion.

A further investigation of the pilot sample, shows that many of the IJVs that fall into the *medium political distance* category have similar characteristics, that is, they involve natural resources such as oil, gas, metals or the like. In many contries, the government is a major stakeholder in the production of natural resources and thus have a major effect on the decision making process. When political distance is present it causes uncertainty and higher risk. This should have a negative impact on performance in the IJV. But it seems that investors seem to reward IJV within natural resources when political distance is present. An explanation can be that when political distance is present establishing a joint venture with a local partner (for natural resources) reduces some of the risks and this is why the market reward these IJVs.

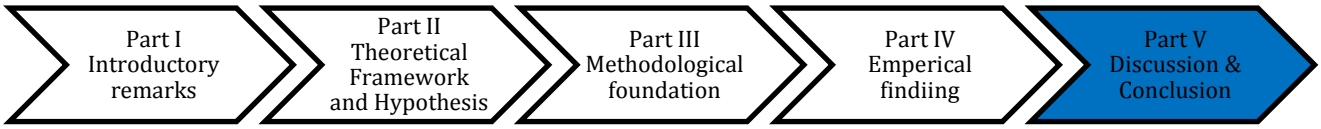
As predicted by our return model (multiple regression analysis) the firms with optimal distance characteristics such as *high AC & KD* and *medium political distance* also proves to outperform IJVs with the least efficient distance (*medium administrative distance*) measures when using the survival concept. This argument is further supported as some of the IJVs that appeared under the *high KD & AC* also appeared in the *medium political distance* category. Although, only a few IJVs appeared in both categories, it emphasizes that some of our distance measures appear to help us explain survival (performance) when studying IJVs.

Table 19: Pilot analysis

Parent name	Parent name	Total ownership	Announcement	Completed	Survived T=1	Survived T=2	Survived T=3	Terminated
High Absorptive capacity & High Knowledge distance								
Baidu Inc (49%)	Rakuten Inc (51%)	100%	1/27/2010	✓	✓	⊗	⊗	✓
Neusoft Corp (50%)	Harman International Industries (50%)	100%	4/23/2010	✓	✓	✓	✓	⊗
Toshiba Corp (51%)	TCL Corp (49%)	100%	7/16/2010	✓	✓	✓	✓	⊗
Honeywell International Inc (51%)	Hunan Boyun New Materials Co (49%)	100%	7/16/2010	✓	✓	✓	✓	⊗
Neusoft Corp (30%)	NEC Corp (70%)	100%	8/31/2010	✓	✓	✓	✓	⊗
Koninklijke DSM NV (50%)	EI du Pont de Nemours & Co (50%)	100%	9/23/2010	✓	✓	✓	✓	⊗
Harbin Electric Co (51%)	General Electric Co (49%)	100%	9/27/2010	✓	✓	✓	⊗	✓
Johnson Matthey (49%)	Aoxing Pharmaceutical Co (51%)	100%	1/24/2011	✓	✓	✓	✓	⊗
Lenovo Group (51%)	NEC Corp (49%)	100%	1/27/2011	✓	✓	✓	✓	⊗
Sollers OJSC (50%)	Ford Motor Co (50%)	100%	2/18/2011	✓	✓	✓	✓	⊗

Part V

Discussion and concluding remarks



8 Discussion and Managerial Implications

In this thesis we have proposed a new approach to conceptualizing, measuring and examining the influence of institutional distance on joint venture performance. The purpose of this section is to discuss our results into a wider theoretical and practical context; thereby answering the question "Does institutional distance matter for IJV performance?".

Instead of relying on the widely used Hofstede cultural distance approach, we have used institutional theories to ground our conceptual definitions, analysis and choice of empirical dimensions and indicators.

8.1 Institutional effects on IJV performance

There has been a general absence of empirical studies seeking to understand the effects of differences in national institutional context on how international joint ventures perform. Part of the explanation for this is the challenge associated with developing appropriate measures for IJV performance and to numerically assess institutional distance dimensions. In this thesis we make a contribution towards filling this gap by measuring the relationship between performance and institutional distance, thereby giving managers and investors a broader understanding of which distance dimensions that effects performance.

Overall, this paper provided an empirical basis for the argument that high absorptive capacity vs. knowledge distance and medium political distance has a positive and significant effect on the IJV return model. Furthermore, our results showed that medium administrative distance have a negative impact on the return model.

The underlying mechanism explaining this relationship is that IJVs high absorptive capacity and high knowledge distance and medium political distance, on average, are received positively by the market, in the form of higher abnormal returns around IJV announcement. Our findings are supported by Busenitz, Gomez & Spencer (2000) who proclaims that when firms are embedded in country-specific institutional arrangements their performance is negatively affected when faced with weak (unfavourable, inadequate and inefficient) institutional contexts. On the other hand, when faced with a strong (favourable, adequate and efficient) institutional context, firm performance is likely to be improved. From this perspective medium political distance and high knowledge distance and absorptive capacity

are regarded as favourable settings by the market whereas medium administrative distance is regarded as unfavourable. Below we will discuss the implication of these finding from a theoretical and practical perspective.

8.1.1 Institutional distance, theoretical approach

Our empirical findings are an interesting addition to the group of studies existing on the relationship between joint ventures and performance.

Our results are noteworthy with regard to the theoretical discussion about how much the national differences impact the success of an IJV. Researchers (Kogut & Singh, 1988; Roberts and Greenwood, 1997) have suggested that adding institutional and cultural context variables helps us increase our understanding of the potential transaction costs in two ways. First, according to Delios and Beamish (1999) institutional context variables provide a valuable extension to transaction cost theory because they refer to conditions that undermine property rights and increase risks in exchange. Secondly, Brouthers and Brouthers (2000) suggest that cultural context variables need to be added to transaction cost theory because they tend to influence managerial cost and uncertainty evaluations in target markets. Our results make sense as unfavorable institutional distances makes it harder for firms to interact and adapt in new markets This may lead to increased transaction costs thereby effecting performance negatively.

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and adapt in new markets This may lead to increased transaction costs thereby effecting performance negatively.

8.2 The impact of Joint Venture and Institutional Distance on performance

Does the stock market react positively to joint venture formation? We set out to address this question. Prior research found that IJV formations have a positive and significant effect on the market value of the participating firms. Our results were consistent with prior findings (CAAR= 0.87%), thereby providing independent empirical validation of an important theoretical axiom using a broad cross-sectional data frame and a more recent time period than prior research.

Additionally, our data yielded significant result for the control variables firm size, Energy, Europe and Middle East and Africa. Firm size has a negative and significant effect, which was consistent with our expectations, therefore validating prior research that size has a negative on IJV performance. Prior research on M&As found that the Technology sector had a positive and significant impact on M&A-announcements. Similarly, we found that the Energy sector had a positive and significant effect on the market value of the market value of the participating firms at the announcement of IJVs. Europe and Middle East and Africa also showed positive and significant effect the market value of the market value of the participating firms at the announcement of IJV. From a stockholder perspective these findings are interesting as they provide an indication of which characteristics that increase or decrease market value around an IJV announcement. While the control variables provide interesting results, the real value of our data analysis is found in our distance analysis (section 6.3). In particular, how managers and investors can utilize our findings. We continue this discussion below.

Different performance of Joint Ventures across Distances:

Does institutional distance matter to this stock market reaction? We set out to address this question in the light that little and insufficient research had performed on institutional distance and performance (see litterature review section 2.5). To determine if the stock market assigns different values to different distances between IJV participating firms, we examined a set of distance that could lead to different valuations. Thereby, demonstrating that the magnitude and value creation from joint ventures varies across IJVs with different institutional distance chararecteristics. In the following we will discuss the effects of institutional distance dimensions on performance and provide insight on how these findings can affect managers and stockholder who are concerned with the study on joint venture performance.

Medium Political Distance:

Our findings showed that medium political distance yielded the highest CAAR. From a theoretical perspective, higher political distance is associated with low political stability, many institutional actors with veto power and so forth (Brever, 2007), so naturally this result was unexpected. We expected CAAR to be highest at low levels of political distance. Prior research has found these variables to correlate with the choice of entry mode and foreign direct investment flows (Garzia-Guillén, 2008) meaning that political distance in general is expected to have a negative impact for the market value of the trading partners.

We believe that two potential explanations could have led to this unexpected result. First, the market is aware of potential issues regarding political distance but awards the partners for choosing the joint venture mode of entry since it is a way of reducing the risk and uncertainties associated with foreign entry mode. Second, a possible explanation could be that the market wrongly assesses the potential impact of political distance. However, from the results from the pilot study we saw that IJVs with medium political distance have a high completion rate and have a high survival rate.

To endorse these findings future research should study the impact of political distance more thoroughly. For example by investigating how political distance affects IJVs performance long-term (e.g. 5-10 years).

Medium Administrative distance:

Our medium administrative distance findings proved to be a somewhat of a mystery. We expected that when administrative distance increase the CAAR would decrease. Our results however, strongly indicated that medium administrative distance had a negative impact on CAAR, whereas high administrative distance did not seem to affect CAAR to the same extend. Administrative distance is measured as the difference in colonial ties, religion and legal system. Regulative distance was found to be the most impeding factor for firms' operations in foreign countries (Chao & Kumar, 2006). Since administrative distance is closely related to administrative distance, our results could suggest, that investors reward joint ventures that are diverse based on religion and colonial ties. Furthermore, this positive diversity is offset by differences in legal systems, where the ability to enforce property rights is limited.

Our pilot study indicated a completion rate below the average and a termination rate above average in our three-year survival analysis. Assuming that our pilot is representative the market will from historical observations of past IJV failures assign a negative value to IJVs with medium administrative distance. A possible explanation could be that certain combinations of IJV partner countries with medium administrative distance have previously failed and the market is aware of this. Why these failures appear most significant for IJVs with medium administrative distance is unknown and is yet to be researched. From our perspective a possible explanation could be that IJV partners invest the necessary resources to manage administrative distance when the distance is high, but neglects to do so at lower levels of administrative distance. We therefore suggest, that future research should study these types of IJVs on a case-by-case level to find the underlying issues that are driving these failures.

Knowledge distance and absorptive capacity:

In line with our expectations, our findings showed that the interaction between knowledge distance and absorptive capacity had a positive effect on CAAR. From our extended model 2 we found highly positive and highly significant results for absorptive capacity for the companies' market valuation at IJV announcement.

As our absorptive capacity measure is a function of the IJV partners R&D (logarithmic) over revenue (logarithmic), this finding suggest that the market estimates that R&D intensive companies entering into an IJV will yield higher future cash-flows . Joint ventures are often established with the premise of pooling resources together for the purpose of accomplishing a specific task, whether being a new project or a new business activity. Joint ventures can act as a vehicle for learning, creating economies of scale and scope, enable companies to address host government policies, facilitate entry into new product- or geographical markets, help firms strengthen or consolidate existing market positions or assist with risk management (Glaister & Buckley, 1996). In essence, absorptive capacity deals with these processes as absorptive capacity enables IJV partners to identify, assimilate, and exploit knowledge to create value.

In our extended model 1 knowledge distance did not yield any significant impact on the market valuation of the IJV partners. Likewise, absorptive capacity only yielded low significant results ($p<0.10$). However, when measuring these variables combined in the form of an interaction variable positive and highly significant results were found ($p<0.01$). This suggests that the market awards IJVs where firms with high absorptive capacity partner with companies where the knowledge distance is high. From a theoretical perspective this makes sense since knowledge distance on one hand increases the chances of knowledge spill-over but on the other hand makes it more difficult to internalize and utilize new knowledge. Internalizing knowledge becomes increasingly difficult at high levels of knowledge distance, but with high absorptive capacity firms will have a better chance of internalizing the knowledge and thus enjoy the benefits of knowledge spill-over and knowledge diversification.

From the pilot study the result indicated no clear pattern as to whether IJV with high knowledge distance terminated more or less than low or medium knowledge distance.

Furthermore, our survival analysis indicate low failure rates in the 3-year period suggesting that the high amount of absorptive capacity is able to overcome the obstacle of high knowledge distance in most of the cases.

Our study solely treats absorptive capacity in terms of the companies R&D investments. Future research should focus on developing this concept from a joint venture perspective and investigate how firms can achieve optimal utilization of their absorptive capacity when choosing an IJV partner. Since R&D projects often span over longer time horizons, we suggest that future research investigates the IJV performance with these characteristics in a longer term than our 3-year period.

Managerial and investor implication:

From our findings, we can derive a number of specific guidelines for executives and investors who are involved in IJVs. These can be summarized as follows:

- *Some degree of political distance can be beneficial*. According to our findings some degree of political distance is favored by the market and associated with low termination rates. Prior research have suggested that political distance has a negative impact on IJVs, however with our new empirical findings, we are confident that managers can take on more political distance and still be successful[15].

- *Do not underestimate administrative distance.* IJVs with this characteristics is both unflavored by the market and our pilot study showed high failure rates. Managers should therefore invest the necessary resources to overcome and manage potential disputes.

- *Opportunities for more complex collaborations can be achieved for those companies with high levels of absorptive capacity*. Our findings show that firms with high absorptive capacity should, when establishing joint venture partnerships, aim to find a

[15] Future research should validate these results on a long-term basis.

partner where the knowledge distance between their respective home countries are high. This is both from a market perspective and a survival perspective regarded as performance-enhancing.

- *Beating the market.* From a stockholders perspective our findings can be used to enhance their ability to predict the market returns around (-2/+2 days) the announcement of an IJV. When adding institutional distance variables the explanatory power increased signifantly (adjusted *R*-square went from 0.048 to 0.217). Knowledge about how the capital markets react upon the announcement of IJVs is valuable for surveying investors sentiments and thinking. It provides an indication for how investors perceive individual competitive moves in the light of past behavior of similar events. Stock market responses may then serve as a benchmark for the legitimacy of the firm's decision.

- *Partner selection criteria*. From an agency theory perspective the manager should act in the best interest of their owners e.g. they need to consider the stockholders reaction when establishing a joint venture. Managers can use our significant variables when selecting an IJV partner. Accordingly, partnering with a company with medium political distance, high absorptive capacity and high knowledge distance is more likely to receive a positive market reaction whereas choosing a partner where medium administrative distance is present should be avoided.

In summary, from our discussion we can see that our results only provide broad findings and we therefore recommend further studies into the relationship between institutional distance and IJV performance. In section 10 we list ideas of how to improve and extend future research.

9 Conclusion

Does distance matter? With multiple theoretical lenses being applied, this study proposed the following research question: "*Does institutional distance matter for performance of the participating firms when they enter into an International Joint Venture?"* We decomposed institutional distance into *political-, administrative, cultural– and knowledge distance* and segregated these into groups of high, medium and low. To strengthen the concept of knowledge distance we introduced the notion of absorptive capacity.

By matching the institutional distance dimensions against performance, using announcement return as the primary proxy, we have provided empirical support for the research question. The analysis yielded following results: First, medium political distance has a positive and significant effect on the market value of the participating firms. Second, medium administrative distance has a strong negative and highly significant effect on the market value of the participating firms. Thirdly, the interaction between absorptive capacity and high knowledge distance has a highly positive and significant effect for the market value of the participating firms. Our findings suggested that knowledge distance, by itself, does not have any significant effect on performance (as a stand-alone variable).

To validate our findings we complemented our analysis with a pilot study that aimed to answer the sub-research question: "*Does institutional distance matter for IJV Survival?"* using survival as a proxy for performance. The pilot study indicated the following: First, IJVs with medium political distance characteristics had a high completion and survival rate. Second, IJVs with medium administrative distance had a completion rate below average and a termination rate above average.
Additionally, we found that by incorporating institutional distance measures into our framework we were able to increase the ability to explain the expected outcome of IJV performance from 4.8% to 21.7%.

Although international joint ventures still remain one of the most complex types of arrangement this study have provided researchers and practitioners with a broader understanding of what can cause a joint venture to succeed or fail. This study has contributed in two ways. First, we contribute to existing literature on international joint venture

performance by adopting an institutional theory perspective and investigating its relationship with IJV performance. We leverage on a novel numeric approach to institutional distance proposed by Berry et al. (2010) and match these dimensions against announcement return for the participating firms in the IJV. In this regard our study is unique and educating. Secondly, using institutional theory we were able to provide a number of guidelines for investors and managers who are involved in IJVs. From an investor's perspective, our findings can be used to enhance the investor's ability to predict the market returns around the announcement. In general, knowledge about how the capital markets react upon the announcement of an IJV is valuable as it provides an indication for how investors perceive information about similar events. Stock market responses may then serve as a benchmark for the legitimacy of the firms'decision. Accordingly, we suggest that managers take key information about political distance, administrative distance and the interaction between absorptive capacity and knowledge distance into account when selecting suitable IJV partners.

10 Future research & limitations

Broad scope

This thesis broadly measures the relationship between institutional distance and IJV performance. To get a deeper understanding of our results, we suggest, that future research investigate how institutional distance affects performance on an individual level e.g. by conducting case-by-case studies on IJVs. This could provide insight to the underlying issues of each distance dimension to enhance the theoretical understanding of the field. An alternative strategy could be to survey executives about how different institutional dimensions affect the day-to-day issues in a joint venture. Such an approach requires specific sampling and very clear questions.

Alternative measures

It would be interesting to extend this study by using alternative measures for the dependent and independent variables. On the dependent side, it would be valuable to extend this study by using accounting measures like ROI, ROIC if possible. On the independent side, including Berry et al.'s (2010) other measures e.g. economic distance or financial distance or brand-spill-over, ownership share, past IJV experience. These could have a significant effect on IJV performance as stand-alone measures or in interaction with the distance variables. Researchers exploring institutional distance and IJV performance in future studies also need to consider a greater range of moderator effects for the field to advance.

Using CAAR as measure:

We did not specifically address the issue pertaining to using an event study to calculate our performance proxy. Confounding events in the event window, such as major changes, restructuring or divestures, forecasted changes in sales or earnings, major contracts has been shown to generate significant abnormal returns which can cause biased results in the model (McWilliams & Siegel, 1997). Future research should investigate our data to see if they are biased by confounding events.

Methodology

Our study exhibited some sensitivity to including or excluding outliers. Rather than trying to determine which outliers should be taken out, future research should apply other regression methodologies that are less sensitive to outliers compared to OLS. An example of such a methodology is Least Absolute Deviation (LAD), which minimizes the sum of absolute residuals, thus giving less weight to extreme values (Wooldridge, 2009).

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12 Appendices

Appendix 1 : Method of calculating Institutioanak distances

In the following we will briefly describe why the Mahalanobis approach is better suited and thereby more thourorh than the traditional Euclidean approach.The Euclidean method is perhaps the most widely used method in this line of study. It is defined as the geometrically shortest possible distance between two points. A key problem with the Euclidean method for calculating distance is that, although it is a metric, it does not take into consideration the correlation between the variable indicators used to computing it (Heather Berry artikel, 2010). When two or more variables are highly correlated with each other, they are capturing the same characteristics. Therefore a distance measure that ignores correlation would be giving more importance or weight to the characteristic measured by the correlated variables. A second problem with the Euclidean distance is that it does not take into account the variance of the variables (Heather Berry artikel, 2010). In order to overcome the methodological limitations of the Euclidean approach, Penn Lauder calculates dyadic distances using the Mahalanobis method, which is scale-invariant and takes into consideration the variance–covariance matrix. When measuring distances between pairs of countries, the Mahalanobis distance is a better choice than the Euclidean method for three reasons. First, the variables that characterize countries tend to be very highly correlated with one another. Second, the variance of the variables differs massively, both cross-sectionally and over time. And third, variables that characterize countries are typically measured on different scales. For instance, GDP per capita and inflation are measured using different units. The Euclidean approach does not allow for multiple scales (Heather Berry artikel, 2010).

Table 1

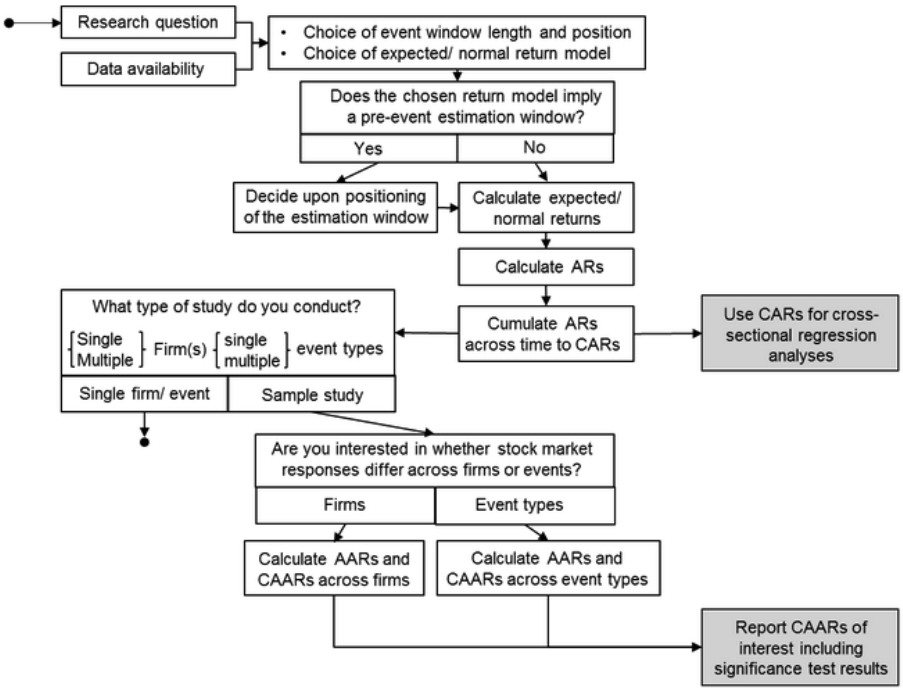
Explanation		Source
WDI	World Development Indicators	http://data.worldbank.org/data-catalog/world-development-indicators
POLCONV	Political Constraint Index	http://www.nsd.uib.no/macrodataguide/set.html?id=29&sub=1
CIA Factbook	The World Factbook CIA	https://www.cia.gov/library/publications/the-world-factbook/
WVS	World Values Surveys	http://www.worldvaluessurvey.org/
USPTO	United States Patent and Trademark Office	http://www.uspto.gov/
ISI	Institute for Scientific Information/Thomson ISI	http://isi-thomsomreuters.net/

Table 2

Political Distance	
Policy making uncertainty	Political stability measured by considering independent institutional actors with veto power
Size of state	Government consumption (% GDP)
WTO Member	Membership in WTO
Regional Trade Agreement	Dyadic membership in the same trade bloc
Adm. distance	
Colonizer-colonized link	Whether dyad shares a colonial tie
Common religion	% population that share the same religion in the dyad
Legal system	Whether dyad shares the same legal system
Culture Distance	
Power distance	WVS question on obedience and respect for authority
Uncertainty avoidance	WVS questions on trusting people
Individualism	WVS questions in independence and the role of government in providing for its citizens
Masculinity	WVS questions on the importance of family and work
Knowledge Distance	
Patens	Number of patents per 1 million population
Scientific Articles	Number of scientific articles per one million population

Appendix 2: Event study choices and Analysis steps

Figure 1: Flow Chart of Event Study Choices and Analysis Steps



Source: Eventstudytools.com

Appendix 3: Average market retun for participating firm before removal of outliers

CAAR for IJV, before removal of outliers.

CAAR Value	Number of CARs considered	CAAR t-test	GSIGN
1.01%	994	4.06372	3.2426

Appendix 4: Multiple regression model before removal of insignificant variables

1) Standard Model before insignificant and deals that did not meet multicolinearity criteria:

Model 1 Summary incl. Annova testing[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.242[a]	.059	.046	.0597958	.059	4.583	13	954	.000***

a. Predictors: (Constant), Diversified, LATAM, Communications, LogRevenue, Technology, NorthAmerica, MiddleEastampAfrica, Energy, BasicMaterials, ConsumerNoncyclical, Europe, ConsumerCyclical, LogRampD b. Dependent Variable: CARValue

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.053	.008		6.898	.000		
Firm Size (LogRevenue)	-.013	.002	-.230	-5.805	.000***	.627	1.596
LogRampD	.001	.002	.017	.439	.661	.625	1.600
Europe	.010	.005	.066	1.933	.054+	.859	1.165
MiddleEastampAfrica	.017	.017	.032	1.015	.311	.970	1.031
NorthAmerica	.003	.006	.019	.580	.562	.894	1.119
LATAM	.006	.016	.011	.343	.732	.972	1.029
Technology	.006	.009	.021	.623	.534	.849	1.178
ConsumerCyclical	-.007	.006	-.051	-1.277	.202	.630	1.588
Communications	-.003	.008	-.011	-.319	.750	.815	1.227
BasicMaterials	-.005	.006	-.028	-.742	.458	.712	1.405
Energy	.010	.008	.048	1.324	.186	.763	1.311
ConsumerNoncyclical	.000	.006	-.002	-.045	.964	.720	1.388
Diversified	-.033	.019	-.054	-1.672	.095+	.952	1.050

Notes: +P<0.10, *P<0.05 **P<0.01 and ***P<0.001

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	AsiaPacific	.[b]	.	.	.	.000
	Industrial	.[b]	.	.	.	.000

a. Dependent Variable: CARValue

b. Predictors in the Model: (Constant), Diversified, LATAM, Communications, LogRevenue, Technology, NorthAmerica, MiddleEastampAfrica, Energy, BasicMaterials, ConsumerNoncyclical, Europe, ConsumerCyclical, LogRampD

2. Extended model 1 before insignificant removal:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.373[a]	.139	.115	.0574382	.139	5.727	23	814	.000

a. Predictors: (Constant), Diversified, LowPD, KDvsAC, Technology, LATAM, LowCD, MiddleEastampAfrica, Communications, NorthAmerica, BasicMaterials, MedAD, LogRampD, Energy, ConsumerNoncyclical, MedPD, KnowDist, HighCD, ConsumerCyclical, LogRevenue, HighAD, Europe, MedCD, HighPD

b. Dependent Variable: CARValue

Model 2	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.027	.011		2.400	.017		
LogRevenue	-.010	.002	-.168	-3.895	.000	.565	1.769
LogRampD	-.001	.002	-.022	-.526	.599	.598	1.673
KnowDist	.000	.000	.031	.751	.453	.620	1.614
KDvsAC	.002	.000	.234	6.833	**.000**	.904	1.107
LowPD	.013	.009	.095	1.480	.139	.255	3.918
MedPD	.019	.008	.138	2.333	**.020**	.304	3.293
HighPD	.017	.009	.124	1.854	**.064**	.238	4.208
MedAD	-.011	.005	-.081	-1.949	**.052**	.609	1.643
HighAD	.004	.006	.032	.679	.498	.485	2.061
LowCD	.003	.006	.018	.456	.648	.683	1.463
MedCD	-.007	.007	-.051	-1.066	.287	.455	2.196
HighCD	.007	.007	.046	1.063	.288	.567	1.764
Europe	.007	.007	.052	1.142	.254	.510	1.962
MiddleEastampAfrica	.022	.017	.045	1.326	.185	.922	1.085

NorthAmerica	-.006	.006	-.038	-.974	.330	.698	1.432
LATAM	.002	.017	.004	.119	.905	.917	1.091
Technology	.012	.010	.042	1.172	.242	.830	1.205
ConsumerCyclical	-.008	.006	-.054	-1.308	.191	.611	1.635
Communications	.002	.009	.007	.198	.843	.767	1.303
BasicMaterials	-.002	.006	-.014	-.347	.728	.680	1.470
Energy	.012	.008	.060	1.551	.121	.717	1.395
ConsumerNoncyclical	-.003	.007	-.017	-.436	.663	.688	1.453
Diversified	-.037	.022	-.055	-1.647	.100	.940	1.064

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	LowAD	.[b]	.	.	.	.000	.	.000
	AsiaPacific	.[b]	.	.	.	.000	.	.000
	Industrial	.[b]	.	.	.	.000	.	.000

a. Dependent Variable: CARValue

b. Predictors in the Model: (Constant), Diversified, LowPD, KDvsAC, Technology, LATAM, LowCD, MiddleEastampAfrica, Communications, NorthAmerica, BasicMaterials, MedAD, LogRampD, Energy, ConsumerNoncyclical, MedPD, KnowDist, HighCD, ConsumerCyclical, LogRevenue, HighAD, Europe, MedCD, HighPD

Appendix 5: Multiple regression output – Standard Model

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Energy, MiddleEastampAfrica, Europe, LogRevenue[b]		Enter

a. Dependent Variable: CARValue

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.228[a]	,052	,048	,0597354

a. Predictors: (Constant), Energy, MiddleEastampAfrica, Europe, LogRevenue

b. Dependent Variable: CARValue

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,188	4	,047	13,156	.000[b]
	Residual	3,436	963	,004		
	Total	3,624	967			

a. Dependent Variable: CARValue

b. Predictors: (Constant), Energy, MiddleEastampAfrica, Europe, LogRevenue

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,050	,007		7,509	,000		
	LogRevenue	-,013	,002	-,224	-6,962	,000	,949	1,054
	Europe	,010	,005	,067	2,070	,039	,952	1,050
	MiddleEastampAfrica	,013	,017	,024	,770	,441	,989	1,011
	Energy	,013	,007	,061	1,932	,054	,975	1,026

Collinearity Diagnostics[a]

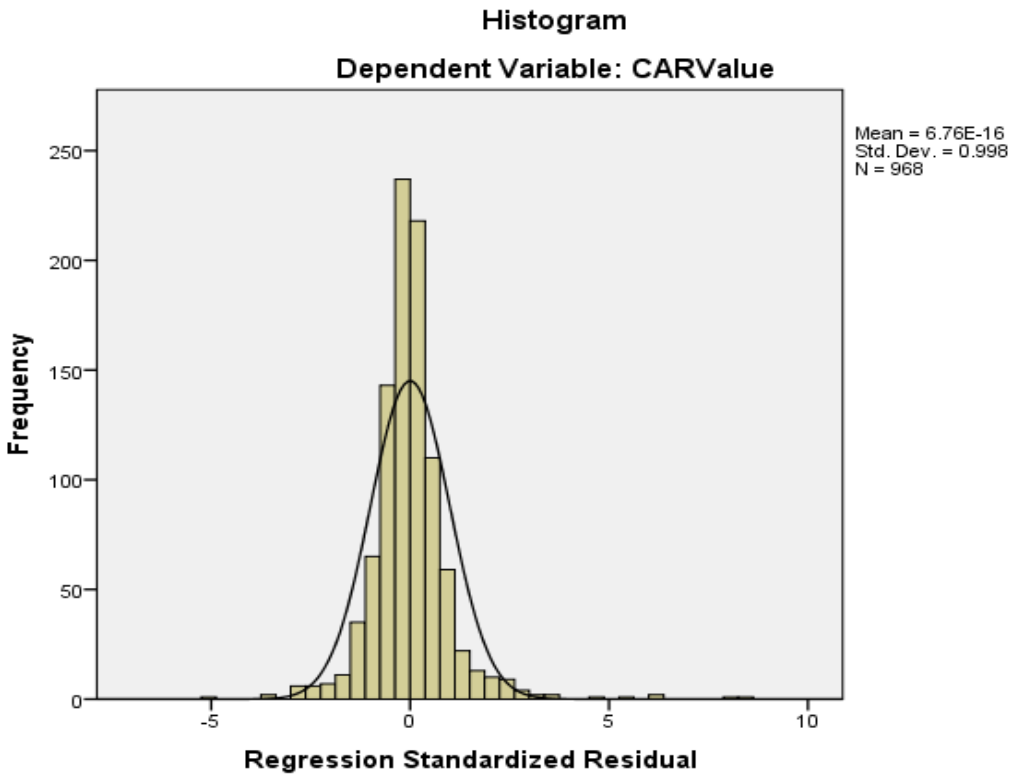
Model		Eigenvalue	Condition Index	Variance Proportions				
				(Constant)	LogRevenue	Europe	MiddleEastampAfrica	Energy
1	1	2,490	1,000	,01	,01	,06	,00	,04
	2	1,013	1,568	,00	,00	,02	,88	,05
	3	,821	1,742	,00	,00	,02	,06	,91
	4	,635	1,981	,01	,01	,89	,05	,00
	5	,041	7,756	,97	,97	,01	,01	,00

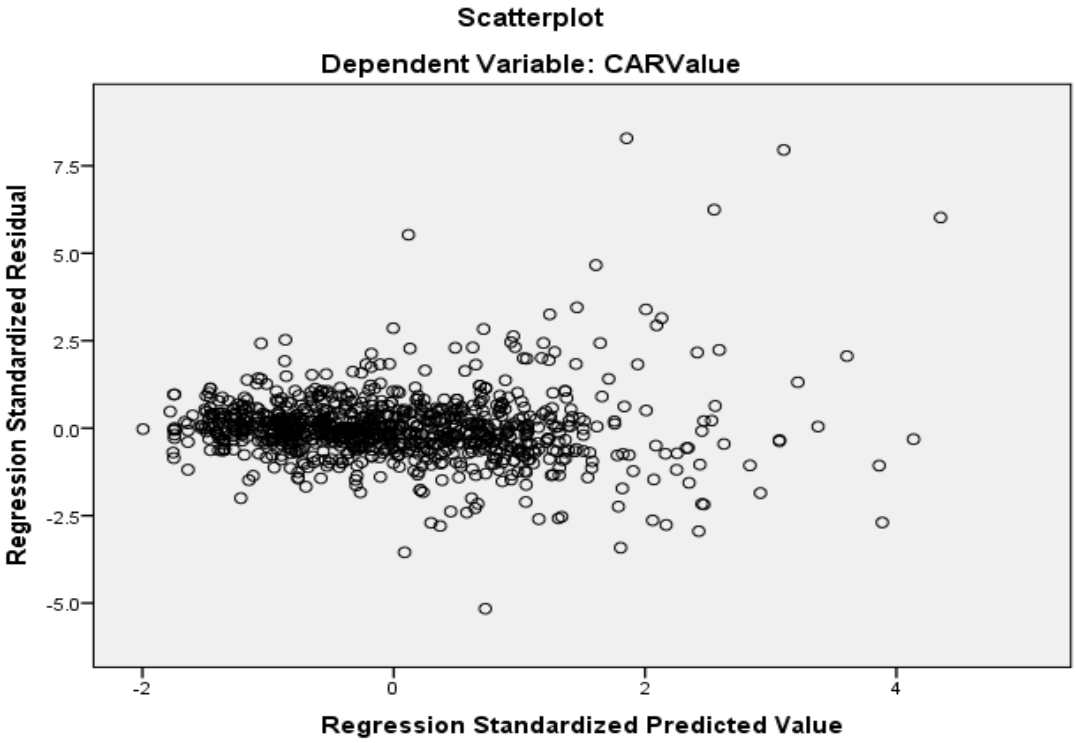
a. Dependent Variable: CARValue

Residuals Statistics[a]

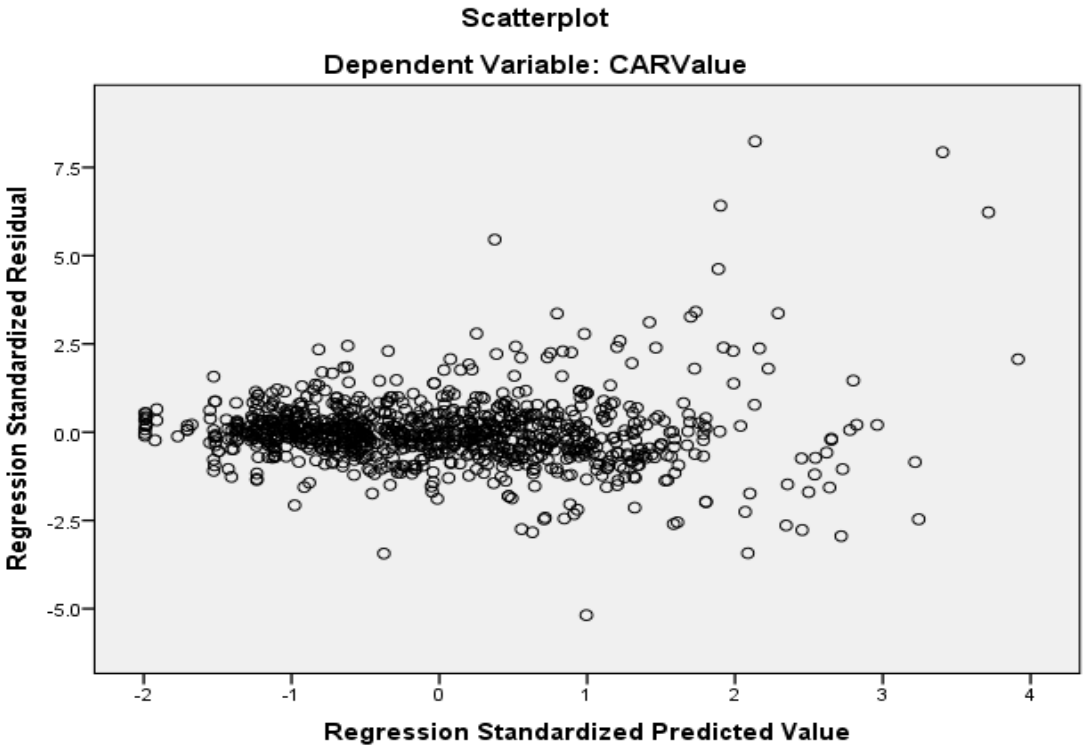
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,019487	,068960	,008319	,0139353	968
Residual	-,3082511	,4949430	,0000000	,0596117	968
Std. Predicted Value	-1,995	4,352	,000	1,000	968
Std. Residual	-5,160	8,286	,000	,998	968

a. Dependent Variable: CARValue





Scatter Plot for CAR Value against Size:



Appendix 6: Multiple regression output – Extended Model 1

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	MedAD, KDvsAC, Energy, MiddleEastampAfrica, KnowDist, LogRevenue, MedPD, Europe, Absorptivecapacity[b]		Enter

a. Dependent Variable: CARValue

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.359[a]	,129	,119	,0572971

a. Predictors: (Constant), MedAD, KDvsAC, Energy, MiddleEastampAfrica, KnowDist, LogRevenue, MedPD, Europe, Absorptivecapacity

b. Dependent Variable: CARValue

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,402	9	,045	13,599	.000[b]
	Residual	2,718	828	,003		
	Total	3,120	837			

a. Dependent Variable: CARValue

b. Predictors: (Constant), MedAD, KDvsAC, Energy, MiddleEastampAfrica, KnowDist, LogRevenue, MedPD, Europe, Absorptivecapacity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,040	,008		5,143	,000		
	LogRevenue	-,011	,002	-,193	-5,611	,000	,891	1,122
	Europe	,011	,005	,079	2,221	,027	,833	1,200
	MiddleEastampAfrica	,016	,016	,032	,970	,333	,975	1,026
	Energy	,013	,007	,064	1,936	,053	,971	1,030
	KnowDist	,000	,000	,032	,907	,365	,841	1,189
	Absorptive capacity	-,007	,004	-,075	-1,871	,062	,647	1,545
	KDvsAC	,002	,000	,271	6,778	,000	,657	1,522
	MedPD	,008	,005	,059	1,759	,079	,920	1,088
	MedAD	-,012	,004	-,093	-2,784	,005	,947	1,056

Collinearity Diagnostics[a]

Model	Eigen value	Condition Index	Variance Proportions									
			(Constant)	LogRevenue	Europe	MiddleEas	Energy	KnowDist	Absorptive capacity	KDvsAC	MedPD	MedAD
1	3,908	1,000	,00	,00	,01	,00	,01	,01	,00	,00	,02	,02
2	1,551	1,588	,00	,00	,00	,00	,00	,00	,20	,20	,00	,00
3	1,030	1,948	,00	,00	,06	,65	,12	,01	,00	,00	,01	,01
4	,934	2,046	,00	,00	,09	,28	,28	,02	,00	,00	,14	,01
5	,801	2,209	,00	,00	,06	,00	,49	,00	,00	,00	,17	,19
6	,718	2,333	,00	,00	,45	,01	,08	,02	,00	,02	,13	,18
7	,443	2,970	,01	,01	,00	,03	,00	,05	,09	,09	,40	,50
8	,402	3,118	,00	,00	,05	,00	,01	,00	,66	,66	,10	,09
9	,175	4,719	,05	,09	,27	,01	,01	,86	,00	,01	,02	,00
10	,037	10,284	,94	,89	,00	,02	,00	,03	,02	,00	,02	,00

Residuals Statistics[a]

	Minimum	Maximum	Mean	Deviation	N
Predicted Value	-,027991	,447845	,008079	,0219104	838
Residual	-,3043512	,4881842	,0000000	,0569882	838
Std. Predicted Value	-1,646	20,071	,000	1,000	838
Std. Residual	-5,312	8,520	,000	,995	838

a. Dependent Variable: CARValue

Appendix 7: Multiple regression output – Extended Model 2

Using Stepwise regression to find the most parsimonius set of varibles.

Before running the stepwise regression, we put all our predictor variables into the model. The difference from this model and the others is that full measures of Political distance, Cultural distance and Administrative distance is included. This make the model only applicable for deals were distance can be measured using Hofsted distance measure. Dispite neither of these distances are significant on there own, we note how they increase the Model ability to predict IJV CAAR.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Absorptivecapacity		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	LogRevenue		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	MedAD		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
4	Energy		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
5	MiddleEastampAfrica		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: CARValue

Model Summary[f]

Model	R	R Square	Adjusted R Square	Error of the
1	.363[a]	,132	,130	,0634134
2	.439[b]	,193	,189	,0612163
3	.456[c]	,208	,202	,0607202
4	.467[d]	,218	,211	,0603928
5	.475[e]	,226	,217	,0601748

a. Predictors: (Constant), Absorptivecapacity

b. Predictors: (Constant), Absorptivecapacity, LogRevenue

c. Predictors: (Constant), Absorptivecapacity, LogRevenue, MedAD

d. Predictors: (Constant), Absorptivecapacity, LogRevenue, MedAD, Energy

e. Predictors: (Constant), Absorptivecapacity, LogRevenue, MedAD, Energy, MiddleEastampAfrica

f. Dependent Variable: CARValue

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,265	1	,265	65,801	.000[b]
	Residual	1,741	433	,004		
	Total	2,006	434			
2	Regression	,387	2	,193	51,624	.000[c]
	Residual	1,619	432	,004		
	Total	2,006	434			
3	Regression	,417	3	,139	37,677	.000[d]
	Residual	1,589	431	,004		
	Total	2,006	434			
4	Regression	,437	4	,109	29,986	.000[e]
	Residual	1,568	430	,004		
	Total	2,006	434			
5	Regression	,452	5	,090	24,987	.000[f]
	Residual	1,553	429	,004		
	Total	2,006	434			

a. Dependent Variable: CARValue

b. Predictors: (Constant), Absorptivecapacity

c. Predictors: (Constant), Absorptivecapacity, LogRevenue

d. Predictors: (Constant), Absorptivecapacity, LogRevenue, MedAD

e. Predictors: (Constant), Absorptivecapacity, LogRevenue, MedAD, Energy

f. Predictors: (Constant), Absorptivecapacity, LogRevenue, MedAD, Energy, MiddleEastampAfrica

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			nce	VIF
1	(Constant)	,006	,003		1,964	,050		
	Absorptivecapacity	,082	,010	,363	8,112	,000	1,000	1,000
2	(Constant)	,063	,010		6,055	,000		
	Absorptivecapacity	,072	,010	,322	7,337	,000	,972	1,028
	LogRevenue	-,016	,003	-,250	-5,713	,000	,972	1,028
3	(Constant)	,068	,011		6,454	,000		
	Absorptivecapacity	,072	,010	,319	7,336	,000	,972	1,029
	LogRevenue	-,015	,003	-,239	-5,472	,000	,964	1,037
	MedAD	-,017	,006	-,123	-2,844	,005	,990	1,010
4	(Constant)	,068	,010		6,524	,000		
	Absorptivecapacity	,072	,010	,321	7,413	,000	,972	1,029
	LogRevenue	-,016	,003	-,249	-5,699	,000	,956	1,046
	MedAD	-,018	,006	-,128	-2,983	,003	,987	1,013
	Energy	,025	,010	,102	2,384	,018	,986	1,014
5	(Constant)	,065	,011		6,232	,000		
	Absorptivecapacity	,073	,010	,323	7,490	,000	,971	1,030
	LogRevenue	-,015	,003	-,241	-5,519	,000	,948	1,054
	MedAD	-,017	,006	-,122	-2,840	,005	,982	1,018
	Energy	,025	,010	,104	2,426	,016	,986	1,014
	MiddleEastampAfrica	,062	,030	,087	2,030	,043	,985	1,015

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	m Toleran
1	LogRevenue	-.250[b]	-5,713	,000	-,265	,972	1,028	,972
	LogRampD	-.143[b]	-3,231	,001	-,154	,998	1,002	,998
	PolDist	-.073[b]	-1,642	,101	-,079	1,000	1,000	1,000
	KnowDist	.021[b]	,476	,634	,023	,999	1,001	,999
	AdmDist	.011[b]	,236	,813	,011	1,000	1,000	1,000
	CulDist	.000[b]	,002	,998	,000	,989	1,012	,989
	KDvsAC	.169[b]	,282	,778	,014	,006	179,643	,006
	LowPD	.011[b]	,238	,812	,011	,999	1,001	,999
	MedPD	.109[b]	2,447	,015	,117	,996	1,004	,996
	HighPD	-.113[b]	-2,530	,012	-,121	,998	1,002	,998
	LowKD	-.003[b]	-,075	,940	-,004	1,000	1,000	1,000
	MedKD	-.007[b]	-,152	,880	-,007	,998	1,002	,998
	HighKD	.009[b]	,198	,843	,010	,997	1,003	,997
	LowAD	.101[b]	2,253	,025	,108	,993	1,007	,993
	MedAD	-.144[b]	-3,257	,001	-,155	,999	1,001	,999
	HighAD	.055[b]	1,222	,222	,059	,998	1,002	,998
	LowCD	.048[b]	1,067	,286	,051	,999	1,001	,999
	MedCD	-.084[b]	-1,888	,060	-,090	,998	1,002	,998
	HighCD	.047[b]	1,045	,297	,050	,994	1,006	,994
	AsiaPacific	-.035[b]	-,781	,435	-,038	,994	1,006	,994
	Europe	-.005[b]	-,120	,905	-,006	,999	1,001	,999
	MiddleEastampAfrica	.117[b]	2,623	,009	,125	1,000	1,000	1,000
	NorthAmerica	.016[b]	,351	,726	,017	,986	1,014	,986
	LATAM	.010[b]	,216	,829	,010	1,000	1,000	1,000
	Technology	.045[b]	1,012	,312	,049	,999	1,001	,999
	ConsumerCyclical	-.094[b]	-2,109	,036	-,101	,998	1,002	,998
	Communications	.007[b]	,154	,878	,007	1,000	1,000	1,000
	BasicMaterials	-.012[b]	-,264	,792	-,013	,999	1,001	,999
	Energy	.070[b]	1,575	,116	,076	,999	1,001	,999
	Industrial	.006[b]	,128	,898	,006	,999	1,001	,999
	ConsumerNoncyclical	.027[b]	,587	,558	,028	,984	1,016	,984

2	LogRampD	.014[c]	,263	,793	,013	,619	1,614	,604
	PolDist	-.076[c]	-1,770	,078	-,085	1,000	1,000	,972
	KnowDist	.027[c]	,634	,526	,031	,998	1,002	,971
	AdmDist	.020[c]	,473	,636	,023	,998	1,002	,971
	CulDist	.011[c]	,255	,799	,012	,987	1,014	,960
	KDvsAC	.065[c]	,111	,911	,005	,006	179,823	,006
	LowPD	.035[c]	,801	,423	,039	,990	1,010	,963
	MedPD	.091[c]	2,096	,037	,100	,990	1,010	,967
	HighPD	-.112[c]	-2,608	,009	-,125	,998	1,002	,971
	LowKD	.010[c]	,235	,814	,011	,997	1,003	,969
	MedKD	-.025[c]	-,569	,570	-,027	,993	1,007	,967
	HighKD	.015[c]	,342	,733	,016	,996	1,004	,969
	LowAD	.071[c]	1,632	,104	,078	,978	1,022	,958
	MedAD	-.123[c]	-2,844	,005	-,136	,990	1,010	,964
	HighAD	.062[c]	1,427	,154	,069	,997	1,003	,971
	LowCD	.056[c]	1,292	,197	,062	,998	1,002	,971
	MedCD	-.109[c]	-2,523	,012	-,121	,989	1,011	,964
	HighCD	.065[c]	1,507	,133	,072	,988	1,012	,964
	AsiaPacific	-.075[c]	-1,713	,087	-,082	,970	1,031	,949
	Europe	.027[c]	,622	,534	,030	,983	1,018	,956
	MiddleEastampAfrica	.094[c]	2,165	,031	,104	,991	1,010	,963
	NorthAmerica	.045[c]	1,025	,306	,049	,973	1,027	,955
	LATAM	-.006[c]	-,132	,895	-,006	,996	1,004	,969
	Technology	.036[c]	,830	,407	,040	,998	1,002	,971
	ConsumerCyclical	-.065[c]	-1,483	,139	-,071	,983	1,017	,958
	Communications	.005[c]	,108	,914	,005	1,000	1,000	,972
	BasicMaterials	-.013[c]	-,308	,758	-,015	,999	1,001	,971
	Energy	.096[c]	2,208	,028	,106	,989	1,011	,963
	Industrial	-.021[c]	-,488	,626	-,024	,988	1,013	,961
	ConsumerNoncyclical	.014[c]	,311	,756	,015	,982	1,019	,960

3	LogRampD	.015[d]	,275	,784	,013	,619	1,614	,601
	PolDist	-.067[d]	-1,565	,118	-,075	,994	1,006	,964
	KnowDist	.008[d]	,192	,848	,009	,973	1,027	,963
	AdmDist	-.004[d]	-,101	,920	-,005	,957	1,045	,949
	CulDist	.002[d]	,038	,970	,002	,981	1,020	,960
	KDvsAC	-.037[d]	-,063	,949	-,003	,006	180,513	,006
	LowPD	.036[d]	,844	,399	,041	,990	1,010	,955
	MedPD	.054[d]	1,159	,247	,056	,862	1,160	,862
	HighPD	-.080[d]	-1,764	,078	-,085	,886	1,129	,879
	LowKD	.026[d]	,607	,544	,029	,980	1,020	,962
	MedKD	-.069[d]	-1,531	,127	-,074	,898	1,113	,896
	HighKD	.039[d]	,885	,377	,043	,962	1,039	,956
	LowAD	.001[d]	,012	,990	,001	,656	1,524	,656
	HighAD	-.001[d]	-,012	,990	-,001	,739	1,353	,734
	LowCD	.036[d]	,826	,409	,040	,968	1,033	,961
	MedCD	-.079[d]	-1,735	,083	-,083	,894	1,119	,894
	HighCD	.045[d]	1,035	,301	,050	,958	1,044	,956
	AsiaPacific	-.065[d]	-1,489	,137	-,072	,963	1,038	,939
	Europe	.031[d]	,709	,479	,034	,982	1,019	,949
	MiddleEastampAfrica	.085[d]	1,979	,048	,095	,985	1,015	,956
	NorthAmerica	.035[d]	,795	,427	,038	,967	1,035	,950
	LATAM	-.016[d]	-,377	,706	-,018	,989	1,011	,961
	Technology	.036[d]	,833	,405	,040	,998	1,002	,963
	ConsumerCyclical	-.064[d]	-1,484	,139	-,071	,983	1,018	,950
	Communications	.005[d]	,109	,913	,005	1,000	1,000	,964
	BasicMaterials	-.008[d]	-,187	,851	-,009	,997	1,003	,964
	Energy	.102[d]	2,384	,018	,114	,986	1,014	,956
	Industrial	-.028[d]	-,655	,513	-,032	,984	1,016	,954
	ConsumerNoncyclical	.011[d]	,245	,807	,012	,981	1,019	,959

4	LogRampD	.029[e]	,524	,601	,025	,613	1,632	,589
	PolDist	-.042[e]	-,935	,350	-,045	,914	1,094	,908
	KnowDist	.016[e]	,362	,718	,017	,969	1,033	,954
	AdmDist	-.003[e]	-,072	,943	-,003	,957	1,045	,947
	CulDist	.009[e]	,217	,829	,010	,975	1,025	,953
	KDvsAC	-.158[e]	-,274	,785	-,013	,005	181,911	,005
	LowPD	.011[e]	,240	,810	,012	,924	1,083	,920
	MedPD	.049[e]	1,063	,288	,051	,860	1,163	,858
	HighPD	-.057[e]	-1,227	,221	-,059	,833	1,200	,833
	LowKD	.021[e]	,478	,633	,023	,977	1,024	,954
	MedKD	-.071[e]	-1,581	,115	-,076	,898	1,114	,893
	HighKD	.045[e]	1,033	,302	,050	,959	1,043	,952
	LowAD	-.004[e]	-,069	,945	-,003	,655	1,526	,655
	HighAD	.003[e]	,069	,945	,003	,738	1,355	,733
	LowCD	.020[e]	,446	,656	,022	,942	1,061	,942
	MedCD	-.067[e]	-1,488	,138	-,072	,883	1,133	,883
	HighCD	.049[e]	1,131	,259	,055	,957	1,045	,947
	AsiaPacific	-.046[e]	-1,034	,302	-,050	,924	1,082	,924
	Europe	.017[e]	,381	,703	,018	,962	1,039	,943
	MiddleEastampAfrica	.087[e]	2,030	,043	,098	,985	1,015	,948
	NorthAmerica	.021[e]	,490	,625	,024	,950	1,053	,944
	LATAM	-.014[e]	-,325	,746	-,016	,988	1,012	,953
	Technology	.043[e]	1,010	,313	,049	,993	1,007	,955
	ConsumerCyclical	-.047[e]	-1,081	,280	-,052	,951	1,051	,937
	Communications	.012[e]	,277	,782	,013	,995	1,005	,956
	BasicMaterials	.007[e]	,171	,864	,008	,974	1,026	,956
	Industrial	-.012[e]	-,272	,786	-,013	,958	1,044	,948
	ConsumerNoncyclical	.023[e]	,540	,590	,026	,967	1,035	,954

5	LogRampD	.028[f]	,510	,610	,025	,613	1,632	,586
	PolDist	-.030[f]	-,667	,505	-,032	,897	1,114	,897
	KnowDist	.024[f]	,563	,574	,027	,959	1,042	,947
	AdmDist	.005[f]	,108	,914	,005	,949	1,053	,940
	CulDist	.016[f]	,374	,709	,018	,969	1,031	,946
	KDvsAC	-.141[f]	-,246	,806	-,012	,005	181,948	,005
	LowPD	-.005[f]	-,116	,907	-,006	,895	1,117	,895
	MedPD	.055[f]	1,190	,235	,057	,857	1,167	,852
	HighPD	-.050[f]	-1,074	,283	-,052	,828	1,207	,828
	LowKD	.018[f]	,414	,679	,020	,976	1,025	,947
	MedKD	-.072[f]	-1,612	,108	-,078	,898	1,114	,889
	HighKD	.048[f]	1,111	,267	,054	,958	1,044	,948
	LowAD	-.015[f]	-,292	,771	-,014	,648	1,544	,648
	HighAD	.015[f]	,292	,771	,014	,729	1,371	,723
	LowCD	.015[f]	,340	,734	,016	,940	1,064	,940
	MedCD	-.069[f]	-1,538	,125	-,074	,882	1,133	,882
	HighCD	.056[f]	1,284	,200	,062	,952	1,051	,941
	AsiaPacific	-.033[f]	-,742	,459	-,036	,903	1,107	,903
	Europe	.018[f]	,425	,671	,021	,962	1,040	,936
	NorthAmerica	.025[f]	,578	,564	,028	,948	1,055	,938
	LATAM	-.012[f]	-,278	,781	-,013	,988	1,013	,946
	Technology	.046[f]	1,073	,284	,052	,992	1,008	,947
	ConsumerCyclical	-.043[f]	-,997	,319	-,048	,950	1,053	,931
	Communications	.014[f]	,327	,744	,016	,994	1,006	,948
	BasicMaterials	-.005[f]	-,118	,906	-,006	,955	1,048	,948
	Industrial	-.010[f]	-,239	,812	-,012	,958	1,044	,941
	ConsumerNoncyclical	.028[f]	,644	,520	,031	,964	1,037	,947

a. Dependent Variable: CARValue

b. Predictors in the Model: (Constant), Absorptivecapacity

c. Predictors in the Model: (Constant), Absorptivecapacity, LogRevenue

d. Predictors in the Model: (Constant), Absorptivecapacity, LogRevenue, MedAD

e. Predictors in the Model: (Constant), Absorptivecapacity, LogRevenue, MedAD, Energy

f. Predictors in the Model: (Constant), Absorptivecapacity, LogRevenue, MedAD, Energy, MiddleEastampAfrica

Collinearity Diagnostics[a]

Model		Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	tivecapacity	LogRevenue	MedAD	Energy	MiddleEastampAfrica
1	1	1,121	1,000	,44	,44				
	2	,879	1,129	,56	,56				
2	1	1,977	1,000	,02	,01	,02			
	2	,983	1,418	,00	,96	,00			
	3	,040	7,017	,98	,04	,98			
3	1	2,515	1,000	,01	,00	,01	,06		
	2	,990	1,594	,00	,96	,00	,00		
	3	,455	2,350	,02	,00	,02	,93		
	4	,040	7,918	,97	,04	,96	,00		
4	1	2,655	1,000	,01	,00	,01	,05	,03	
	2	1,001	1,629	,00	,89	,00	,00	,06	
	3	,850	1,767	,00	,07	,00	,03	,91	
	4	,454	2,417	,02	,01	,02	,92	,00	
	5	,040	8,148	,97	,04	,96	,00	,00	
5	1	2,660	1,000	,01	,00	,01	,05	,03	,00
	2	1,009	1,624	,00	,24	,00	,00	,07	,64
	3	,997	1,634	,00	,65	,00	,00	,01	,30
	4	,846	1,773	,00	,06	,00	,03	,89	,03
	5	,448	2,437	,02	,01	,03	,91	,01	,03
	6	,039	8,209	,97	,04	,96	,00	,00	,01

a. Dependent Variable: CARValue

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,032687	,945056	,013038	,0515244	968
Residual	-,9162962	,4831104	-,0047194	,0722015	968
Std. Predicted Value	-1,292	28,992	,125	1,596	968
Std. Residual	-15,227	8,028	-,078	1,200	968

a. Dependent Variable: CARValue

Table 19 continiued: Pilot study for medium political distance and medium administrative distance

Parent name	Parent name	Total ownership	Announcement	Completed	Survived T=1	Survived T=2	Survived T=3	Terminated
Medium political distance								
Toyota Tsusho Corp (25%)	Orocobre Ltd (75%)	100%	1/20/2010	✓	✓	✓	✓	⊗
New Millennium Iron Corp (20%)	Tata Steel Ltd (80%)	100%	10/26/2010	✓	✓	✓	✓	⊗
Nichi-iko Pharmaceutical (51%)	Sanofi (49%)	100%	5/28/2010	✓	✓	✓	✓	⊗
BP PLC (50%)	Reliance Industries Ltd (50%)	100%	2/21/2011	✓	✓	✓	✓	⊗
Cie de St-Gobain (30%)	Trakya Cam Sanayii AS (70%)	100%	10/12/2010	✓	✓	✓	✓	⊗
Orkla ASA (50%)	Aluminum Corp of China Ltd (50%)	100%	4/8/2011	✓	✓	✓	✓	⊗
Wing Tai Malaysia BHD (55%)	Fast Retailing Co Ltd (45%)	100%	6/29/2010	✓	✓	✓	✓	⊗
Imperial Sugar Co (50%)	PureCircle Ltd (50%)	100%	2/22/2010	✓	✓	✓	✓	⊗
Himachal Futuristic Communications Ltd (49.9%)	DragonWave Inc (50.1%)	100%	10/20/2010	✓	✓	✓	✓	⊗
TKH Group NV (12,5%)	Shin-Etsu Chemical Co Ltd (75%)	87.5%	10/27/2010	✓	✓	✓	✓	⊗
Ternium SA (51%)	Nippon Steel & Sumitomo Metal Corp (49%)	100%	3/31/2011	✓	✓	✓	✓	⊗
Parent name	**Parent name**	**Total ownership**	**Announcement**	**Completed**	**Survived T=1**	**Survived T=2**	**Survived T=3**	**Terminated**
Medium Administrative distance (negative)								
Peugeot SA (50%)	Bayerische Motoren Werke AG (50%)	100%	2/2/2011	✓	✓	⊗	⊗	✓
General Electric Co (50.01%)	Fuji Electric Co Ltd (49.99%)	100%	2/25/2010	✓	✓	✓	✓	⊗
Silvermet Inc (49%)	Befesa Medio Ambiente SA (51%)	100%	10/29/2010	✓	✓	✓	✓	⊗
Dow Chemical Co/The (50%)	Mitsui & Co Ltd (50%)	100%	7/1/2010	✓	✓	✓	✓	⊗

Koninklijke Philips NV (30%)	TPV Technology Ltd (70%)	100%	4/18/2011	✓	✓	✓	⊗	✓
Medco Health Solutions Inc (50%)	Celesio AG (50%)	100%	6/21/2010	✓	✓	⊗	⊗	✓
Metro Holdings Ltd/Singapore (50%)	Tesco PLC (50%)	100%	2/28/2011	✓	✓	✓	✓	⊗
Orascom Development Holding AG (75%)	Imerys SA (25%)	100%	5/20/2010	✓	✓	✓	✓	⊗
Oil & Natural Gas Corp Ltd (25%)	Sistema JSFC (75%)	100%	12/22/2010	✓	✓	✓	✓	⊗
Wuhan Iron & Steel Co Ltd (50%)	Nippon Steel & Sumitomo Metal Corp (50%)	100%	4/22/2011	✓	✓	✓	✓	⊗
Toyota Tsusho Corp (49%)	Malayan Flour Mills Bhd (51%)	100%	1/29/2010	✓				
Lafarge SA (50%)	Anglo American PLC (50%)	100%	2/18/2011	✓	✓	✓	⊗	✓
SanDisk Corp (49%)	Toshiba Corp (50%)	100%	7/14/2010	✓	✓	✓	✓	⊗
Medical Care Service Co Inc (49%)	Shanghai Sanmao Enterprise Group Co Ltd (51%)	100%	3/31/2011	✓	✓	✓	⊗	✓