

**INTERNATIONAL JOINT VENTURES AND FIRM VALUE: AN
EMPIRICAL STUDY OF SOUTH AFRICAN PARTNER FIRMS**

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DECLARATION

Except where explicitly stated otherwise and acknowledged, this thesis is wholly my own work and has not been submitted to any other University, Technikon or College for degree purposes.

ABSTRACT

This study investigates international equity joint ventures (IJVs) and South African partner firm value creation at formation. In addition, it tests whether four contentious formation characteristics, namely, the geographical location of the IJV partner, the level of economic development in the IJV partner's home country, the level of equity held by the South African firm and the industry of the South African firm, can explain when South African IJVs are value enhancing and when they are value diminishing.

IJVs are a popular business mode and an important channel for infrastructure and skills investment in developing countries. However, despite their popularity and potential social benefits, these IJVs are predominantly created by the decisions of private firms to collaborate with foreign firms and governments. Consequently the preservation and development of the IJV investment channel is dependent on the encouragement of private firm IJV participation. It is at uncovering potential tools to encourage IJV participation by South African firms that IJV firm value creation becomes important because it stands as a motivator for South African firms' involvement in IJVs.

Existing literature on IJVs and partner firm value has presented conflicting evidence with support for the views that they are value enhancing, value diminishing or of no immediate consequence to their partners' firm value. Consequently, previous research offers limited firm value support for IJVs. For South African firms considering joint ventures and national policy makers determined to promote IJVs there is a need for an investigation of South African partner IJV firm value effects. Moreover, it is also necessary to test potential explanatory variables that may help to explain when the IJVs are value enhancing and when they are not as this will inform IJV contract negotiations and how limited national government resources are used to promote IJVs.

In order to assess firm value creation for South African firms this study performed event studies on IJV formation announcements from 1998 to 2011 using daily share returns from the Johannesburg Securities Exchange taking care to incorporate recent developments in the event study methodology.

The study found that while the market responds to IJV announcements, its responses do not, on average, reflect that IJVs are firm value enhancing for their South African partners at formation. This stands in contrast to considerable empirical literature and IJV firm value creation theory. In addition, factoring in formation characteristics, argued to potentially help explain cases of value creation and destruction from IJVs, provided limited explanation for positive and negative wealth effects for South African firms entering IJVs. This result has important value for IJV participants, national economic policy makers and IJV researchers. For IJV participants and national policy makers, the results caution unfettered entry/support for IJVs and challenge the role of equity distribution in determining the value of the IJV to its partner firms. For IJV researchers, the results present new evidence questioning IJV firm value creation at formation and provide a potential explanation for the conflict in previous IJV research.

The study makes four key contributions to the existing knowledge of IJV firm value creation. Firstly, it assesses IJV wealth effects for the hitherto untested South African IJVs. Secondly, in doing so it adds a new data set (South African IJVs) to the current IJV literature. Thirdly, in reviewing the literature on IJV firm value creation the study presents a disaggregated model of IJV firm value creation from which to develop IJV research and potentially solve the persistent conflict in empirical results on IJV partner wealth effects. Finally, it informs future South African IJV agreements by uncovering factors that influence and do not influence partner wealth effects for South African firms.

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DEDICATION

To my parents

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LIST OF ACRONYMS

AC		Alliance Characteristics
ALSI		All Share index
AR		Abnormal Return
Average CAR	(\overline{CAR})	Average Cumulative Abnormal Return
Average SCAR	(\overline{SCAR})	Average Standardised Cumulative Abnormal Return
BBEE		Broad Based Economic Empowerment
CAR		Cumulative Abnormal Return
CIPC		Companies and Intellectual Property Company
CLT		Central Limit Theory
CMRM		Constant Mean Return Model
CRT		Corrado Rank Test
CSF		Country Specific Factors
DCF		Discounted Cash Flows
DTI		Department of Trade and Industry
EMH		Efficient Market Hypothesis
ES		Event Study
FC		Formation Characteristic

FDI	Foreign Direct Investment
GST	Generalised Sign Test
ICT	Incomplete Contract Theory
IF	Institutional Factors
IJV	International Equity Joint Venture
IMF	International Monetary Fund
JSE	Johannesburg Securities Exchange
MNE	Multinational Enterprise
NPVI	Net Present Value
OLS	Ordinary Least Squares
PRF	Partner Related Factors
RBT	Resource Based Theory
ROT	Real Options Theory
SCAR	Standardised Cumulative Abnormal Return
SIC (code)	Standard Industrial Classification
TCE	Transaction Cost Economics
TR	Task Relatedness
UN	United Nations
WOS	Wholly Owned Subsidiary

CHAPTER 1

INTRODUCTION

This chapter sets out the foundation for the investigation of international equity joint ventures (IJVs) and firm value creation in South Africa. It presents the background and context of the study and the principal aims of its empirical investigation taking particular note of the importance of the issue in the South African context.

1.1 BACKGROUND AND CONTEXT OF THE RESEARCH

In 1994 as South Africa transitioned towards a fully democratic state one of the key issues that faced economic planners related to how an economy that had been designed to serve a small section of the population could be reformed to equitably cater for all its citizens. Invariably, as previously disenfranchised citizens were more fairly considered in the distribution of national resources, the burden on the economy increased to reflect the added demands of this “new” population. South Africa’s post 1994 economy now had to grow significantly to accommodate its new responsibilities (Mlambo and Nell, 1998 in Elbadawi and Hartzenberg, 2000: 104-106).

Critical to the growth of the economy was the need for the private sector to “take the lead in the creation of productive investment and employment” (Elbadawi and Hartzenberg, 2000: 10). This recognition of the crucial role played by private sector investment in the South African economy is the reason why national economic policy actively sought to encourage it, firstly through the Reconstruction and Development Program of 1994, then the Growth, Employment and Redistribution Program of 1996 (DTI, 2010).

However, despite the desire to grow the economy sufficiently to meet the needs of the entire population, the requisite growth and employment creation have not been realised (Hoogeveen and Ozler, 2005). This failure has renewed efforts to stimulate private sector investment and include the explicit support for “economic growth and employment intensive” private sector investment in the New Growth Path document of 2010 (Chabane, 2010: 9).

Faced with a desire for economic growth to address the peculiar needs of the country and the knowledge that private sector investment is the critical driver of that growth, national economic

planning has been geared towards supporting and encouraging private sector investment. Economic research has complemented the national economic growth aims by looking to identify individual firm benefits of private investment and highlight them for potential investors to see because as Lall (1991 in Balasubramanyam and Lall, 1991:124) identifies in his study of developing countries' impediments to economic development; "firms tend to be unaware of the need for, and returns to, [their] investments, and so under-invest". This may explain the persistence of high unemployment and less than desired economic growth in the country. It is with a view to encouraging this important private sector investment that the international equity joint venture (IJV) becomes an important business mode in developing countries.

The IJV is a collaborative business mode that encourages firms to make investments in partnership with another firm. It allows firms to commit resources and share the risks of the venture's business activity without compromising their separate business identities. As such it not only promotes private sector investment but, as a shared investment, it allows firms to learn from each other which enhances their individual capabilities (Gutterman, 2002: 2). Put differently, the IJV is not just an investment into its underlying business activity but an investment into the improvement of its partner firms' skills and capabilities. If employment inducing investment is the desired goal of national economic planners in South Africa then the IJV would appear to actively encourage it.

However, while the IJV appears to offer individual partners strong incentives to invest, it is important to ascertain whether that investment is vindicated by the benefits the firms actually enjoy from their participation. If IJVs lead to meaningful benefits for South African firms and encourage them to increase their investments, then these benefits need to be identified, publicised and used to encourage further participation by other South African firms.

Crucially, these "benefits" need not be narrowly defined as profit or revenue but, rather, as the reward for the firm's participation regardless of how the firm measures such reward. This means that beneficial IJV participation means anything from skills/resource acquisition, profit, sales, growth etc. In this way two firms forming a charitable IJV may not look to enjoy individual firm profit from their endeavours but must see value, however they define it, in order to justify their commitment of resources, their acceptance of risk and the shared ownership of a new entity with another firm.

It is at the assessment of individual firm benefits that firm value assessments became an important focus of IJV research. In this way researchers have sought to distinguish successful IJVs from unsuccessful ones, not by the performance of the jointly owned entity but by the ultimate goal of individual firm benefit. This is because while the motivations and goals of IJVs may vary, the terminal goal is the provision of some benefit/reward to the partnering firms for their participation.

Different IJVs are likely to have different goals related to the specific demands of their investing partners. Consequently, a collective assessment of IJV investment benefits is almost impossible should the ventures be assessed purely on their subjective goals, for example, how would a venture designed to engage in mining prospecting compare to one created to market a new product. If IJVs were to be comparable they needed to provide a standard measure of benefit from which assessments of different ventures could be made.

The immediate question arises as to why it is necessary to have a general assessment of an IJV's benefit in the first place? Without a standard measure of IJV performance/success it is impossible to design objective benchmarks of venture performance. In the case of the example given above, if the government, with its limited resources, wanted to support one of the ventures how would it determine which venture generated the best benefits for its investors and so justified its support? Moreover, if the goal of uncovering firm benefits is to use them to promote greater IJV participation, said benefits must be applicable to most firms. According to Julian and O'Cass (2004) firm value changes provide such an objective standardised assessment of IJV performance allowing the comparison of different IJVs. Essentially, to assess the merits and demerits of IJVs researchers can, and have, assessed changes in firm value as they reflect the ultimate benefit created by IJVs for their participating firms (cf. Woolridge and Snow, 1990; Chan *et al.*, 1997; Cheng and Macdonald, 2001; Meschi and Cheng, 2002; Janakiramanan and Lamba, 2004).

With firm value being a basis for assessing IJVs, IJV studies have focused on determining the impact of an IJV on the changing value of a firm; where a positive change suggests a good IJV while a negative change in firm value points to a bad IJV (Tjemekes, 2008).

It is at the assessment of the IJV that the focal question of this study arises. Do International Equity Joint Ventures create firm value for their South African partners? While the issue is applied to the specific context of South Africa as a developing country in this study, the issue of whether IJVs are firm value enhancing is not a new one with the relationship between firm value creation and the IJV having already formed the focus of sizeable research over the last 30 years (Williamson, 1985 and Talay, 2010). However, despite being the target of considerable research a definitive answer has not been reached. Meschi (2004: 595) identifies how the “ answer to the question seems to be affirmative and especially obvious in the light of the many growth opportunities offered to partners in a joint venture: scope and scale economies, access to technology and skill, sharing risk, market entry facilitation and organisational learning”. However, despite their value enhancing potential, empirical evidence has not always supported the idea of IJVs as firm value enhancing business modes with evidence showing both significant firm value diminishing effects and evidence that they have no significant effect at all (cf. Lee and Wyatt, 1990 and Finnerty *et al.*, 1986, respectively).

However, despite the voices of dissent, the majority of the literature provides evidence that IJVs are on average beneficial/value enhancing for their partner firms reinforcing the belief that IJVs create firm value for their partners (cf. McConnell and Nantell, 1985; Koh and Venkatraman, 1991; Cheng *et al.*, 1998; Min and Prather, 2001). With IJVs providing considerable potential for firm value creation and empirical evidence supporting the fulfilment of that potential it seems a moot point to ask the question for South African partners save for five important points described in the section below.

1.2 RATIONALE FOR RESEARCH ON IJVs AND FIRM VALUE CREATION

Five reasons are identifiable from the existing literature as to why the link between IJV formation and firm value creation is important. The first is that IJV empirical research reveals that while IJVs grew in popularity since the end of the second world war their level of successful performance, defined in a variety of ways, traditionally remained very low (Geringer and Herbert, 1991)² fostering the need to keep debating their impact on firm value. Secondly, the empirical data not only shows a low level of successful performance but it is also not in agreement about the value created by IJVs (Meschi, 2004: 596). This is illustrated in the

² Geringer and Herbert (1991) note success rates as low as 37% of the total number of IJVs created.

conflicting results of Lee and Wyatt (1990) and Min and Prather(2001) on the nature of the impact of IJVs on firm value where the former has evidence that IJVs are not value enhancing while the later has evidence to the contrary suggesting that IJVs are value enhancing. The third reason is that the empirical evidence has largely focused on developed country firms, predominantly, in the US and EU. This has left little evidence of the situation for developing country firms for whom, it can be argued that different elements in their country's level of economic development affect their IJVs' value creation potential. The situation could be drastically different for firms in developing countries.³

The fourth reason is that IJVs form a crucial vehicle for Foreign Direct Investment (De Caldes Lima, 2008: 93). This role is performed through the skills and technology “spill overs” that IJVs have as partners share knowledge and resources. This is a point highlighted in Chung's (2011: 189) investigation of the motives for developing country joint venture participation. Put differently, IJVs are an important tool for foreign investment making them particularly important to developing countries, however, such investment is a product of IJVs which are decided between individual firms. If firms determine that IJVs are not value enhancing the desirability of the business mode may suffer and its attendant benefits lost. Understanding whether IJVs are firm value enhancing helps to uncover firm level motivations that may help to explain IJV popularity which itself has consequences beyond the narrow interests of its partner firms. IJVs are important FDI channels that are based on individual firm decisions to create IJVs. Understanding their potential value creation helps explain the motivations that may sustain the investment channel. Over and above the benefit of domestic firms investing in IJVs is the benefit to the economy of the investment of foreign firms and governments into the national economy.

Reich and Mankin (1986) provide the fifth motivation in their identification of an exploitative aspect of the IJV. In the authors' study of Japanese partner IJVs they noted what they termed the “Trojan horse” phenomenon in which Japanese firms used the IJV to improve their competitive position in an industry at the expense of their partner firms. In this way IJVs, despite their

³ The domination of developed country firm interests in IJV firm value creation literature is such that in many studies focused on “developing country joint ventures” the analysis still exclusively focuses on a developed country firm or the IJV's perspective in a venture with a partner from a developing country (cf. Miller *et al.*, 1996 and Ahiaga- Dagbui *et al.*, 2011)

potential for value creation, could be used to the detriment of a firm by its partner firms⁴. One way to identify potentially exploitative IJVs is to determine whether the IJVs are value enhancing or diminishing.

1.3 INVESTIGATING THE ROLE OF IJV FORMATION CHARACTERISTICS

As noted above, IJV firm value creation formed a new body of IJV research; however, the conflicting results on the link between IJV formation and firm value creation necessitated a need for “revised” IJV research. The revised research focused on not only trying to identify the link between firm value and IJV formation but sought to explain it through the characteristics of the firm and elements in their IJV agreement (Borde *et al.* 1998). Popular amongst the investigated elements are formation characteristics which are elements of the venture present at formation. These factors include the equity distribution, the industry in which the venture is undertaken, and its purpose, the choice of partner and the size and previous IJV experience of venture partners (Merchant, 2000b)⁵. Their popularity can be traced to the fact that they are easily identified and comprise some of the most contentious elements in an IJV agreement.

Four particularly contentious characteristics emerge from the empirical literature, firstly, the geographical origins of a firm’s IJV partners; secondly, the level of economic development in a firm’s IJV partner’s home country; thirdly, the level of equity a firm holds and finally, the industry in which the firm operates⁶.

According to Hamel (1991) the geographical location of the IJV partner is expected to influence the ability of a joint venture’s partners to effectively communicate and collaborate, ultimately influencing how beneficial the IJV is to its partner firms. In this way a firm’s IJV value creation could be observed to vary by “where its partner was form”. If this is the case the promotion of IJVs through national government incentives should be adjusted to specifically encourage these value enhancing IJVs. Moreover, firms reluctant to enter IJVs after poor results might have the

⁴ The “Trojan horse” phenomenon is a controversial view that is debated in the literature that is discussed in Chapter 2.

⁵Merchant (2000b) identifies five groupings for several factors theoretically affecting the IJV’s performance (see Chapter 3). This study identifies and investigates four factors identifiable at formation.

⁶ These characteristics are discussed in greater detail in subsequent chapters but are briefly mentioned in this introduction.

poor impact of the IJV explained by a “bad” partner choice rather than the failings of the IJV business mode, encouraging future participation.

In relation to the level of economic development in the venture partner’s home country, as with geographical location, Rugman (1985) argues that IJV benefits will vary according to “where a partner was from”. However, rather than vary by geographical location the variation was according to the level of economic development. This was because the strength of the institutions in a partner’s home country determined the stability of the firm and the likelihood that it would honour its future IJV obligations. For this reason Rugman (1985) cautioned involvement with firms from developing countries where political risk and economic risk was higher than in developed countries.

The role of equity holdings in IJV firm value creation is highly contentious with support for unequal (majority and minority holdings) and equal equity holdings as the superior form of venture ownership (Beamish, 1994; Bleeke and Ernst, 1991). On the other hand, other evidence challenges the link between performance and equity holdings (Chung, 2011). A firm’s equity holding represents how much of the joint property a firm owns (and potentially controls as discussed in Chapter 3). As such it potentially influences how well a firm can steer the joint business to suit its own needs, for example, voting to use itself as one of its venture’s raw material suppliers. The more equity a firm holds the greater its influence over the IJVs actions and the greater the potential to manipulate them to suit itself.

In relation to the industry of the local partner Ali (1995) suggests that some industries may be better suited to the IJV business mode than others allowing them to form superior IJVs. This may be the case in industries with high initial capital costs for successful business formation. Such an industry would encourage IJV formation on the strength of a desire to share high initial capital costs. An IJV in such an industry immediately offers the benefit of shared costs. In a low cost industry such clear benefits for collaboration may not exist limiting the value created by forming IJVs. Das *et al.* (1998) illustrate the point in observing a distinction between the wealth effects for firm in technological versus marketing alliances.

While the brief introduction to the conflicts relating to the formation characteristics has been provided above, the specific relevance of the research in the South African context and the selection of these specific formation characteristics have not been discussed.

1.4 RELEVANCE OF IJV RESEARCH IN THE SOUTH AFRICAN CONTEXT

One of the chief drivers between the disconnect between the popularity of the IJV and the success of the IJV, as identified in the evidence of their poor performance in Geringer and Herbert (1991), stems from the idea of the “virtue of collaboration” where benefits of cooperation overshadow their failings (Hudson *et al.*, 1999). Hudson *et al.* (1999: 329-340) identify how collaboration can be seen as a virtuous and beneficial business tool in-of-itself allowing its own promotion even when such support is not warranted. In IJVs, Rajan (2004) and Rahman (2008) identify how developing country partners are particularly susceptible to the overestimation of the value of collaboration. In Rajan’s (2004) investigation of British-Indian IJVs the author noted that surveys suggested that Indian managers overestimated the value of the IJV and the impact it would have on their individual company. In China, Rahman (2008) identified how the faith in collaboration was such that IJVs were decided by *guanxi*⁷ rather than competency. In South Africa, as a country actively promoting IJVs⁸ with no publically available evidence to prove their merits, the current support requires validation. It is important to know if IJVs perform successfully as demonstrated by greater firm value for their South African participants or if there is an exploitative element to the IJVs South African firms enter (as would be demonstrated by negative firm value following IJV formation).

Moreover, in relation to the specific formation characteristics selected, the geographical location/origin of the venture partner is an important consideration because of the “Look East Policies” that have become popular on the African continent and in South Africa (Naidu, 2009). Assessing whether or not collaboration benefits differ by the region in which a partner resides may help support the often politically motivated shift in economic allegiance from Western to Eastern countries. In addition, the Pan-Africanist movement and the African Renaissance which

⁷ Guanxi refers to the importance of relationships in Chinese business (Rahman, 2008). In this context IJV decisions are based on the relationship between partners rather than decisions on the suitability of the venture partner, location, equity holding or management.

⁸ This support is provided through the Department of Trade and Industry’s financial concessions to firm’s entering South Africa through joint ventures with local firms (DTI, 2011).

have become popular themes in South African culture can be supported by evidence that collaboration between African firms yields stronger and more beneficial returns than collaboration with partners elsewhere.

In relation to the level of economic development the United Nations (UN) (2012) promotes “South-South Collaboration”⁹ which could be supported by evidence showing that such partnerships are decidedly better than or equally as beneficial as those between South African firms and developed country partners (North-South Collaborations).

Relating to industry, understanding whether or not the industry in which a firm operates has an impact on IJV firm value creation has implications on IJV promotion in the future. If IJVs are decidedly beneficial in one industry and markedly value diminishing in another, the knowledge of this will assist in focusing limited national resources to the more successful industries and encourage further investigation into the ways in which other industries can be made more conducive to the IJV business format or whether their firms must be encouraged to explore alternative business modes.

1.5 OBJECTIVES OF THE STUDY

The general aim of the study is thus to determine if IJVs have a positive impact on the value of their South African partners at formation and whether four contentious formation characteristics explain the positive and negative value changes for those firms. Specifically, the study aims:

1. To find out if IJVs leads to positive value creation for South African firms;
2. To examine whether positive and negative firm value creation can be explained by the differences in the geographical origins of the non-South African IJV partner;
3. To examine whether IJVs with partners from developed countries are superior to those with firms from developing countries, in terms of value creation;
4. To identify whether higher equity holdings result in positive IJV firm value creation for South African firms;
5. To analyse whether positive IJV firm value effects vary by the industry of their South African participant.

⁹ This is collaboration between developing countries as opposed to between developed and developing countries which would be designated as North-South collaboration (UN, 2012).

1.5.1 Hypotheses of the study

In order to achieve the research objectives above, the following five hypotheses are tested based on the foregoing background information and rationale for IJV firm value creation:

Hypothesis 1

H1: IJVs result in positive firm value creation for South African firms

With the strong theoretical and empirical support for IJV firm value creation it would be expected that South African IJVs should reflect that, on average, IJVs are firm value enhancing. This would provide evidence to support the promotion of IJVs amongst South African firms which would preserve an important source of domestic private investment and FDI.

Hypothesis 2

H2: Positive and negative firm value creation can be explained by the differences in the geographical origins of the non-South African IJV partner.

As communication and culture vary by geographical origin, geographical origins should be expected to influence the presence of positive firm value effects for South African partners in IJVs. African firms should be culturally closer to South African firms than Asian firms influencing the success of their joint ventures and the value they contribute to each partner firm.

Hypothesis 3

H3: IJVs with partners from developed countries will be superior¹⁰ to those with firms from developing countries.

Developed country firms will benefit from stable and reliable institutions that support their ability to meet their IJV obligations while political and economic vulnerability associated with developing countries will stifle their IJVs and be reflected in inferior IJV firm value effects for their South African partners.

¹⁰ As measured by firm value creation.

Hypothesis 4

H4: Higher equity holdings result in positive IJV firm value creation for South African firms

Equity holdings represent ownership of IJV assets and provide a platform for firms to steer IJV activities towards enhancing their rewards for participating in the IJV. In this way the greater the equity held by a firm the greater the chance of positive firm value creation.

Hypothesis 5

H5: Positive IJV firm value effects will vary by the industry of their South African participant.

Some industries are argued to be more suited to the IJV business mode than others. Such a difference should be reflected by differences in the firm value created by the IJV.

1.6 DATA AND METHODS

To determine changes in firm value the study conducts event studies on IJV announcements in South Africa following the leading studies of Brown and Warner (1985) and Lee and Wyatt (1990) with adjustments to accommodate the criticisms of Coutts *et al.* (1994) and the more recent revisions of the method as documented by De Jong (2007)¹¹.

To perform the event studies the investigation collected information on 63 South African IJV announcements from 1994 to 2011 from press releases and company websites ensuring that the announcements were not only the first announcement of the IJV but that the South African firm involved had sufficient share price data to conduct the analysis. This share price data was obtained from Thomson DatastreamTM. Additional information on industry classes (SIC codes) and the levels of economic development in a partner's home country were obtained from the Companies and Intellectual Property Commission (CIPC, 2011) and the International Trade Centre's Trade Map (2012), respectively.

The formation characteristic hypotheses are tested in two ways. The first is to reorganize the sample to isolate the influence of the targeted formation characteristic, for example, splitting IJVs with developing country partners from those with developed country partners to determine

¹¹ Full details of methods used are given in Chapter 4

if they have different firm value effects¹². The second is to run a multivariate regression of the formation characteristics on the abnormal returns observed at the announcement of the IJV as shown in Meschi and Cheng (2002) to confirm or refute the findings of the conventional event study.

1.7 THE SIGNIFICANCE OF THE STUDY

This study intends to make four contributions. The first is that it will be the first investigation of IJV wealth effects for South African firms. This will allow it to not only explore the question of IJV firm value creation on a new data set but will help contribute to the limited literature of developing country IJV wealth effects¹³.

The second is that in investigating IJV firm value creation the study disaggregates an IJV firm value creation model to clearly present the complementarity of seemingly disparate IJV theory and explain how formation characteristics influence value creation. This model also promotes a greater comparability and constructive replication of empirical analyses. This helps to address one of the biggest criticisms of IJV research that suggests that it fails to build meaningful consensus because of the multiplicity in approaches and seemingly eclectic selection of variables for empirical study (Buckley and Glaister, 2002 and Robson *et al.*, 2002). The revised model of IJV firm value creation should provide a platform to allow the multidisciplinary approaches to coexist and potentially improve IJV firm value creation understanding.

Thirdly, once the wealth effects of IJVs are known IJVs can be actively promoted on the strength of clear evidence that they are decidedly value enhancing. Such empirical support for IJVs can be used to encourage local firm participation thereby boosting critically important domestic private investment and foreign private firm investments which are critical to the economic goals of the country as explained in section 1.1.

Finally, an investigation of formation characteristics helps potential IJV participants and policy makers to identify value enhancing IJVs and value diminishing IJVs. Where one IJV is superior

¹² Statistical rigour is maintained even in the smallest sub-samples as explained in detail in Chapter 4

¹³ The dearth of research can possibly be attributed to the difficulty in obtaining the requisite data for empirical investigation. Where developed country researchers have often had databases of IJV announcements and large internationally integrated economies providing large samples, developing country researchers do not and must generate their own databases by meticulously searching through press releases and company websites for IJV announcements and then checking whether they meet the strict requirements for use in event studies.

to others, for example, high equity holding IJVs, then that type of IJV informs future IJV equity negotiations for prospective IJV partners. For policy makers with limited resources identifying the IJVs with the greatest firm benefits may allow a more concerted promotion of IJVs. For example, inducements may be offered differently for IJVs in different industries depending on the different value they have for private firms and by extension the likelihood of more IJVs in the future.

Ultimately, understanding IJV wealth effects is critical for both IJV participants and national economic policy makers.

1.8 ORGANISATION OF STUDY

The rest of the study is organised as follows; Chapter 2 presents the theoretical literature and empirical research on IJV formation and firm value creation noting the areas with the strongest contention and the evolution of empirical research from simply determining the value creation effects of IJVs to attempting to explain them through formation characteristics. The chapter notes the current weaknesses of IJV empirical analyses and adjust a model of firm value creation to encourage a better consolidation and revision of future empirical results. Chapter 3 then discusses the role of IJV formation characteristics in firm value creation before concentrating the literature review on the four selected formation characteristics. Chapter 4 presents the methods and data used in the study together with explanations for their use and their appropriateness. Chapter 5 provides the empirical results of the event studies and multivariate analyses noting the statistical significance of the results. Chapter 6 presents an interpretation of the results in the light of the theory, methods and aim of the study before Chapter 7 presents a summary of the study noting its conclusions, limitations and areas for future study.

CHAPTER 2

INTERNATIONAL EQUITY JOINT VENTURES AND FIRM VALUE CREATION

2.1 INTRODUCTION

This chapter deals with the theoretical and empirical literature on the formation of international equity joint ventures (IJVs) and the contribution they make to their partners' firm value. The chapter is divided as follows; in Section 2.2 the definition and scope of the IJV is given to highlight the critical elements of this business mode that are important to this study. Section 2.3 then explores the formation of IJVs through the motives of their partners, before Section 2.4 introduces the concept of the firm value creation. The theoretical premises on which IJVs are considered to influence firm value are reviewed in Section 2.5. The empirical evidence on the IJV firm value creation theory and the results of research on IJVs and firm value is presented in Sections 2.6 and 2.7. Finally, Section 2.8 summarises the link between the IJV and firm value creation and presents the foundation for the investigation of formation characteristics in Chapter 3.

2.2 DEFINITION AND SCOPE OF AN INTERNATIONAL EQUITY JOINT VENTURE

2.2.1 The Definition of an International Equity Joint Venture.

The joint venture (JV) is a business mode that, although existing in various forms, is essentially a strategic alliance between two or more companies. This alliance can be over the long or short term, and can be used for various activities from research and product development right up to distribution and sales (Schneider *et al*, 2002: 2). An international equity joint venture¹⁴ (IJV) is a specific strategic alliance that distinguishes itself from other JVs in two ways, firstly by the fact that at least one of the partners in the JV agreement is not domiciled in the country in which the JV is to operate and secondly, by the fact that the venture involves the creation of a new entity¹⁵. Formally, Gutterman (2002: 4) identifies IJVs as having five key features; 1) they have a specific limited purpose and duration; 2) partners have joint property interest; 3) partners have common

¹⁴ From here on referred to as IJVs or JV.

¹⁵ The creation of a new entity is what distinguishes the equity joint venture from the non-equity joint venture

financial and intangible goals and objectives; 4) all companies share profit, losses, management and control; and 5) the arrangement involves companies that are operating and/or registered in different countries.

The Scope of the International Equity Joint Venture

In order to have a full definition of the IJV it is important to appreciate where it lies in the spectrum of international business modes. This presentation of the scope of the IJV serves two purposes; firstly, it helps display international business modes/options that are in competition with IJVs and consequently affect their formation and the frequency thereof, and secondly, it allows an appreciation of the key features of the IJV that distinguish it from other international business modes.

From the definition of an IJV it can be seen that they are an international cooperative business mode and so it is in the context of cooperative business options that competing business modes are assessed. Harrigan (1985: 4) presents cooperative business modes as existing on a “spectrum” with three broad classifications. On one extreme are business modes that are based on a firm holding complete ownership and control of its foreign operation and its assets, while at the other end are modes where firms exercise only contractual control over a foreign operation. In between these extremes are business modes based on partial ownership and contractual control. Harrigan’s presentation of the range of business modes is illustrated in Table 1 below.

TABLE 2.1: COOPERATIVE BUSINESS ALTERNATIVES

Full Ownership Control (A)	Partial Ownership and Contractual Control (B)	Contractual Control Only (C)
<ul style="list-style-type: none"> • Mergers (or acquisitions) • Internal ventures/ Spin offs to full business units 	<ul style="list-style-type: none"> • Operating joint ventures • Minority investments 	<ul style="list-style-type: none"> • Cooperative agreements • R & D partnerships • Cross licensing/ Cross distribution • Joint activities

Source: Adapted from Harrigan (1985: 4)

Some firms (Category A) can attain their international business objectives through wholly owned business units and so they opt to take full ownership of their foreign operations through mergers, acquisitions and internal venture development. These business units give the firm full equity

ownership of assets and skills and the full responsibility of their risks. Category C presents non-equity arrangements. These arrangements do not create separate business units and partner firm obligations are guaranteed solely through contractual agreements. With no equity ownership they provide the least control over the assets and skills the firm may need to enhance its foreign operations. In the case of licensing agreements for example, a firm may establish the presence of its brand in a foreign country without the firm actually needing to create a new business unit in that country allowing it low cost market entry but with limited control over its managing firm's productive resources. Category B encompasses business modes that involve partial ownership. In the case of equity JVs a separate, shared business unit is created while in minority investments no new entity is created but a firm takes a stake in an already existing foreign operation.

As it can be seen, IJVs fall into Category B, between the extremes of outright ownership of a business unit and no equity ownership. Of particular note in this presentation of business mode options is that each classification has different implications for the amount of *control* a firm can exercise over its foreign operations. On one end, full ownership means the benefit of full control while on the other end, the lack of a new entity limits the control to a contractual form. This has implications for the desirability of the business modes as will be discussed in the section on partner motivation for IJV formation in Section 2.3 below.

2.3 THE THEORY OF IJV FORMATION

The theory of International Joint Venture (IJV) formation, its importance as a business model and its popularity has its roots in the theory of the Multinational Enterprise¹⁶ (MNE) and so a review of IJV formation motivation must review their origin and existence. In addition, since JVs are a collaborative business mode, the motivations for local firms to participate in the ventures must also be assessed. The theoretical reasons for IJV formation could, therefore, be examined based on those factors that motivate both the foreign and the local investors¹⁷.

¹⁶ MNEs are firms whose operations extend beyond their country of registration.

¹⁷ It should be noted from the definition of IJVs that they can exist where two MNEs collaborate without the presence of a local partner. However the division of partners into MNEs and local investors covers the full ambit of partner classifications as they are either a local firm or an MNE.

2.3.1 The Perspective of the MNEs

Williamson's (1985) presentation of the MNE begins by showing that while MNEs had a long history, the improvement of communication and transport technology after the Second World War increased the opportunities for businesses to profitably expand their operations/interests to foreign countries. Moreover, the proliferation of "global products" added to the opportunities for foreign expansion which enhanced the options available to businesses seeking to grow (Zou and Cavusgil, 2002: 40-42). For strategic purposes, for example, businesses could expand to untapped markets where labour was cheaper and local resources created significant competitive advantages (Si and Burton, 1999: 88). According to Dunning (1985) this movement towards internationalisation could be explained by the theory of internationalization.

The Theory of Internationalisation

The Theory of Internationalisation provides an explanation of why a firm might seek to expand its business operations beyond its domestic borders. Dunning (1995: 462-466) identifies three motives for internationalisation, market seeking, resource seeking and efficiency seeking. In market seeking, the motivation is to increase the size and growth of a business by targeting a new market. In resource seeking, firms are driven by the availability of cheaper/abundant resources in foreign markets. In the third motive, firms may choose to expand internationally in search of cheaper labour and production costs (efficiency seeking). While this theory did not in itself prescribe the ideal mode of foreign entry it did show why firms would be compelled to enter foreign markets.

Allied with this motivation for foreign expansion seemed to be a need to engage a local partner who possessed enough knowledge of the "new market" to reduce the risk of the foreign expansion's failure. After all, simply because an MNE had sound motives to expand did not mean that such expansion would be successful. A local partner would know the political and cultural protocols of the market as well as possess relationships that would be beneficial to the MNE. It is at the point of the engagement of a local partner that Buckley and Casson (1976) revisited Coase's Transactions Cost theory of the firm to justify the use of a local partner.

The Transaction Cost Theory (TCT)

Coase (1937) identified transaction costs as the costs a firm incurred in order to complete a particular transaction/ economic exchange, for example, buying and selling a good. According to Williamson (1985: 2) these transaction costs arise because of *ex ante* reasons (for example, the costs relating to drafting and safeguarding sale agreements) and *ex post* reasons (for example, the costs relating to the consolidation of operations and operating costs) for each transaction. Moreover, these transaction costs are driven by bounded rationality and uncertainty in decision making. Decision makers could not anticipate every contingency around a particular transaction (bounded rationality) and this was exacerbated by the uncertainty of future events and circumstances. This effectively set a cost to every transaction over and above its conventional/neoclassical costs, for example, the risk of losing a market for one's good or the regular supply of raw materials to make it meant firms needed to spend resources reducing uncertainty in resource supplies and market demand. Moreover, these costs were increased by the spatial difference between firms and their customers, a likely outcome given foreign expansion, and the dissimilarity between a given transaction and the regular transactions of a firm Williamson (1985: 3).

In this view, transaction costs are a key determinant in business decisions. Buckley and Casson's (1976) presentation of a local partner acting to reduce uncertainty was beneficial because of the partner's potential ability to reduce the transaction costs of entering a new market. To justify engaging a local partner firm, Transaction Cost Theory was applied to the assessment of foreign expansion options.

While the idea that firms faced transaction costs not considered by the neoclassical firm and its production function was presented by Coase in 1937, the importance of those transaction costs in the choice of a transaction's economic governance and the development of Transaction Cost Economics stemmed from Williamson (1975).

Transaction Cost Economics (TCE)

Williamson (1975) noted that transaction costs were of critical importance to the final cost of any economic activity to the extent that they determined the ideal form of economic governance for that activity i.e. should it be performed by the market or an individual firm.

Hennart (1988) goes further than Buckley and Casson (1976) in explaining why the equity IJV could be explained by transaction costs. According to Hennart (1988: 361) engaging a local firm meant anything from a licensing agreement, allowing a franchise to creating an equity joint venture. Whether the IJV was the ideal form of economic governance was dependent on whether it provided the lowest transaction costs. This was the case where an MNE's successful expansion required resources that were not easily transferred. For example, tacit knowledge was more easily transferred if the transferor and the recipient were linked through common ownership (Hennart, 1988: 366). This was a point reiterated by Balakrishnana and Koza (1993) and Reuer and Koza (2000) who identified information asymmetry between two firms formed a strong argument for collaboration between those firms.

Complementary to the transaction cost view, Barney (1986) and Barney and Zajac (1994) identified and focused on Resource-Based Theory as another explanation for the engagement of a local partner in the foreign operations of MNEs.

Resource-Based Theory (RBT)

Resource-Based Theory suggests that the resources a firm holds form the basis for its ability to create and maintain a sustainable competitive advantage within its market. For this reason firms are essentially a collection of resources and the most successful firms are the ones that possess inimitable resources. Upon entering a foreign market an MNE must quickly accumulate the resources required to gain a competitive advantage. This could be achieved by attempting to do so unaided or acquiring the assistance of a local firm incentivised to assist by the promise of shared rewards. Without a local partner the true benefit of the foreign resources may not be fully realised. The merits of this theory are particularly evident in cases where local firm participation is mandated for firms to engage local resources, for example, in the case of mining and oil concessions in Ghana and Nigeria in the 1970s and 1980s where access to critical resources required a local partner (Boateng and Glaister, 2002: 524-525).

While the explanation for forming an IJV in TCE is related to reducing the cost of firm expansion, Resource-Based Theory places more emphasis on what is *gained* from a business mode. In TCE IJVs reduce firm expansion costs, in RBT IJVs offer an opportunity to acquire a partner's resources to help create a sustainable competitive advantage in the new market (Tsang,

2000: 216). In this way the access to local knowledge that an IJV gives an MNE with a local partner would be explained by both theories with one focusing on cost savings and the other on resources gained.

To reinforce the value of engaging a local firm in a foreign expansion Institutional Theory, as presented by Scott (1995), set the proposition that the significant differences in the institutional environments of mature and developing economies created a need for a local partner's input into the development of the new business' strategy if an MNE's foreign operations were to succeed.

Institutional Theory (IT)

Institutional Theory, as described by Scott (1995) asserts that a firm's survival is dependent on its ability to conform to the norms and rules of the environment in which it operates. Moreover, since the rules, norms and routines that govern conduct evolve to suit the particular group of individuals who will conform to them different countries and societies are likely to evolve different, and potentially, conflicting institutional environments. These provide a platform for the entry of an IJV partner to mediate between the MNEs and their host countries in order to reduce this conflict.

Institutional Theory defended local participation by suggesting that the engagement of a local partner reduces the risk of business failure due to institutional differences. Given these theories it seemed that successful MNEs had to engage local firms to help manage their foreign operations.

However, while Transaction Costs, Institutional and Resource Theories help to explain the need for a local partner in a foreign operation, they fail to account for the likelihood that local firm engagement could make foreign business expansion vulnerable to opportunistic behaviour. Karunaratna and Johnson (1999:3) identified opportunistic behaviour as encompassing all activities taken by a firm to selfishly profit from its position at the expense of its partners. This opportunistic behaviour would manifest itself in the abuse of the venture's finances and/or the theft of intellectual property entrusted to one firm by another.

This problem of opportunistic behaviour was essentially an agency problem. The agency problem, identified in Agency Theory, stemmed from a moral hazard that was enhanced by asymmetries in the information held by the local partner and the MNE.

Agency Theory

Agency Theory helps to explain the problem that arises between a principal (the delegating authority) and its agent (the delegated party) by identifying how an agent may not act in the best interests of its principal (an agency problem) (Kim and Mahoney, 2005: 229). In this case, the problem existed when the two parties held different interests in the same assets or when the cost of monitoring the actions of the agents was high. Formally, two aspects were noted; the threat of the Moral Hazard and Adverse Selection. The Moral Hazard existed when an agent failed to put forth the agreed upon effort while Adverse Selection was evident where an agent was selected on the strength of a misrepresentation of itself (Eisenhardt, 1989: 61).

As Agency Theory showed, when a local firm was entrusted to act on behalf of the MNE or in the best interests of the MNE it would only do so only if acting in that manner served its best interests as well. If the partnering firm's interests were in conflict, the temptation (moral hazard) for a single partner to act in its selfish own interest were high, particularly, if information on transactions was not equally available to all partners (information was asymmetric) (Kim and Mahoney, 2005: 224). While this potential agency problem was not in direct conflict with the support for local partner participation provided by Transaction Costs, Institutional and Resource Theories it highlighted a potential pitfall when engaging local firms.

In anticipation of this problem Buckley and Casson (1987) suggested the promotion of "mutual forbearance" in which agents, on a reciprocal basis, would deliberately pass up short term advantages in the interests of maintaining their relationship and the success of the business. However the problem with mutual forbearance was that partners in the business (local and MNE) had strong incentives to act selfishly. Firstly, it was in the best interests of the local partner to prevent itself from becoming obsolete by ensuring that the business could not run independent of it, while the fear of intellectual property theft required MNEs to not fully share their experience, technology or expertise (Contractor, 1985). Moreover, as Kogut and Zander (1993) would later show, mutual forbearance could not be simply negotiated into a venture contract as the nature and quality of the firms' interaction could not be contractually dictated but, rather, developed over time based on the firm's on-going interactions and relationship. The existence of strong incentives to engage in opportunistic behaviour and the fact that the essential mutual forbearance

to counter it could not be easily negotiated into the business relationship meant that MNEs needed to find effective ways to protect themselves from exploitation by the local partner.

The solution to the problem of opportunistic behaviour lay in the Theory of Internalisation that was first proffered by McManus (1972) to protect MNEs engaged in Foreign Direct Investment (FDI) activity.

The Theory of Internalisation

According to this theory, “when a business faces a complex unpredictable business environment with few potential channel partners to utilize, it would be more profitable performing the distribution channel itself (internalising resources, decisions, operations) when there is a strong possibility of opportunistic behaviour” (McManus, 1972 in Kalfadellis and Gray, 2003: 3). Rather than face the threat of the agency problem, the theory suggested that the MNE should internalise the foreign operation to protect itself from the local partner. Internalisation was thus a response to the threat of opportunistic behaviour and its intuitive appeal stemmed from the fact that opportunistic behaviour was a problem of agency which would be resolved by removing the agent.

Following the reasoning for internalisation, the theory suggests that the ideal business model for firms would be the creation of wholly owned subsidiaries (WOS) over which they could exercise full and direct control. After all, if it was the protection of the firm’s interests that was under consideration, there was no better method of protection for the MNE than full and direct control of the foreign expansion¹⁸.

However, WOSs faced a significant threat of failure because while they removed the threat of opportunistic behaviour stemming from information asymmetry, they also removed the local knowledge and expertise that could be very critical to the success of the business as advocated by Resource and Institutional Theory. This challenge of balancing protection and acquiring requisite local knowledge was particularly difficult to overcome through WOSs as information asymmetry, which is at the heart of opportunistic behaviour, was supported by the “impactedness” of the information that the MNE required to successfully operate its business

¹⁸ This would be a “Company A” classification following Harrigan’s (1985) presentation of international business modes shown earlier.

(Williamson, 1985: 51 and 212; and Matheson and Tarjan, 1998). When information was impacted it meant that the underlying circumstances relevant to a transaction were known to one party (the local partner, for example) but could not be “costlessly” discerned or obtained by its partner firms (the MNE, for example) (Beamish and Banks, 1987: 10). In essence, the contribution being made by Williamson (1985); Beamish and Banks (1987) and Matheson (1998) was that the MNE required the use of a local partner to improve the chances of its foreign operation’s success. While WOSs protected the business from opportunism they did so at the expense of a significant risk of failure due to a lack of local information. This need to engage a local partner had an alternate representation which Hennart and Reddy (1997) presented as the Theory of Indigestibility and Asymmetric Information.

Theory of Indigestibility and Asymmetric Information

In this theory MNEs face an *ex ante* problem of accurately assessing the true value of the resources that would be used in a venture’s operation because of the difficulty in evaluating host country resource costs. This problem of asymmetric information, where the information would have been available to local firms but not a new MNE entering the market, motivated the engagement of a local partner. Similarly, indigestibility was an *ex post* problem of integrating an MNE’s established resources (e.g. management, skills, operations) and the new resources it would need to acquire for its WOS (new management, contextually relevant skills etc.). These problems of indigestibility and asymmetric information supported the engagement of a local partner.

This was the foundation for the theoretical justification of the formation and popularity of the IJV. At one end of the spectrum were the licensing agreements with no direct control over the foreign business’ operations which brought the problems of opportunistic behaviour, while on the other end were the WOSs where the MNE had full control of its foreign market interests, but lost the local market knowledge and expertise that a local partner would have been able to provide. IJVs provided a compromise between these two extremes by allowing some control by the MNE to protect its interests while creating room for a local partner to bring its expertise and knowledge to the business.

It is because the IJV balanced the two extremes that Geringer and Hebert (1991: 250) noted that “the IJV was transformed from a tool used to exploit peripheral markets and technologies, with activities typically of marginal importance to the parent company’s competitive advantage, to one of being critical elements in an organisation’s business network”.

The IJV as defined earlier by Gutterman (2002) allowed firms to share ideas and cooperate for a fixed period of time in which they benefited from each other’s assets while maintaining separate independent identities from which they could protect their own interests.

2.3.2 The Local Investors Perspective

The theory on the evolution of the MNE may help to explain the desire for MNEs to participate in IJVs but it does not explicitly consider why the often smaller local partner chooses to participate in the IJV. This is a key consideration as the IJV is a cooperative business model which implies that both parties must see their participation as beneficial.

As indicated above, the incentives for MNE IJV support stem from the problems of opportunistic behaviour, transaction costs, resource allocation, strategic behaviour towards competitive advantage and institutional differences. The incentives for local partner participation stem from often similar motivations (Merchant, 2000a). Local firms are motivated to join IJVs because they want to align themselves with a more successful firm, profitably expand their local business, acquire technology, access superior financing, obtain research assistance and the development of subsequent (and often expensive) initial products (Berrellet *al.*, 2002). Si and Burton (2008) suggest that these incentives condense to three motivations; transaction cost reduction, strategic behaviour and knowledge acquisition. This presentation of IJV motivations is supported by Kogut (1988), Hamel *et al.* (1989), Rugman and Verboke (1992), Kogut and Zander (1993), Inkpen (1998 and 2000). The authors identify how these same classifications that can be used to explain the motivations for IJV formation for the MNE can be used to explain local partner participation as well.

Transaction costs can be reduced by the use of the often superior technology and distributional expertise of an MNE. Where a market was inaccessible to a small local firm, collaboration with a large foreign firm can make serving such a market more profitable/viable. In regard to strategic behaviour, the ability to be associated with the strong reputation of a larger, well established

partner could raise the value of the local firm's brand and products in the eyes of its existing market (Talay, 2010: 5). Thirdly, the benefit of knowledge acquisition related to the improvement of a firm's "content" and "processes" which improved its competitive advantage through the adoption of superior practices, technologies and management following those of the MNE. In this context "content" referred to the conditions facilitating a firm's potential creation of competitive advantage, while "processes" referred to actions that facilitated the extraction of the content (Merchant, 2002: 50). This is similar to Vargo and Lusch (2004: 2) presentation of resources as operand (resources acted upon) and operant (resources extracting value from operand resources).

It is important to note that without explaining the need for the balance between opportunistic behaviour, transaction costs, strategic behaviour and knowledge acquisition these factors could be used to explain the motivation for foreign expansion, in general, without explicitly supporting IJVs, in particular. The fear that a large MNE could exploit the local firm (taking its knowledge and market) means that local firms may seek involvement in the decision making of the operation in order to protect themselves from opportunistic behaviour.

Of these three motivations Si and Burton (2008) go further to suggest that knowledge acquisition must not be viewed as "simply another motivation" among motivations, but that it must be distinguished in the context of local/emerging market partner's considerations because it provides the strongest incentive for their participation in IJVs. This distinction stems from Barney's (1986) Resource-Based Theory, which states that where a firm possesses resources that are unique/rare, valuable and costly for competitors to imitate, then such resources provide a source of competitive advantage. Moreover, there were only two ways to obtain these important resources; firstly, by gradually developing them over time within the firm as suggested by Barney (1991) or alternatively, by obtaining them through acquisitions and joint ventures as presented by Eisenhardt and Schoonhoven (1996). The fact that IJVs are necessarily temporary means that, of the three motivations presented, the factor with the greatest longevity is the knowledge acquisition which continues to create benefit for the emerging partner and its country long after the transaction cost reductions and the strategic benefit of an association with the MNE have dissipated.

According to Glazer (1991: 3) and Day (1994: 38-42) knowledge learning is a key driver of success that distinguishes itself from the neo-classical theory of the firm's focus on tangible assets. Moreover, Hunt and Morgan (1995: 8) suggest that intangible assets (e.g. knowledge) are valuable because they are often inimitable and "undiminishable" and their value can be appreciated by observing the economic success of Japan, Singapore and Hong Kong which have "virtually no natural resources". These benefits of knowledge acquisition may also help to explain why some emerging market governments insist on the creation of an IJV to allow foreign market entry in infant industries where local knowledge is low (Beamish, 1985).

With a thorough exploration of the IJV completed, Section 2.4 now looks at the concept of firm value and its relevance to the study of the IJV.

2.4 FIRM VALUE

2.4.1 The importance of firm value in the context of IJV

Before analysing firm value in the context of the IJV it is important to begin by explaining why the change in individual firm value is a critical consideration in IJV research, particularly, in the light of Merchant (2000b) who notes that in the study of IJVs "successful" joint ventures have been defined in different ways¹⁹. These definitions range from the successful completion of specific tasks to the profitability of the IJV as a separate business concern to the ultimate contribution the IJV makes to the individual partner firms.

The importance of firm value as a standard of IJV performance, while not explicitly explained in most literature, is tied to the fundamental reason for the formation of IJVs. As Gutterman (2002: 4) notes in the definition of the IJV (discussed earlier) they are collaborative businesses designed to yield individual firm benefits hence the shared cost/burden of collaboration is coupled with shared property and profits. For this reason the ultimate goal of the IJV is individual firm benefit. An IJV must ultimately benefit the individual partners who formed it in order to justify their investment. The benefit may not necessarily be financial but the individual firm must see some return for its investment whether it is in the form of goodwill, profit, capital resources etc.).

¹⁹For example, Merchant (2000b) notes differences in research focus on venture partner earnings, venture stability/termination and venture goal attainment.

It is because the IJV must yield individual benefits for the individual partners that the ultimate measure of the success/performance of the IJV can be viewed in terms of the value it contributes to those individual firms. While IJVs are collaborative in nature the ultimate goal of the IJV is individual firm benefit which is reflected in the changing worth/value of the firm participating in the IJV. Successful/performing IJVs are ones that ultimately create individual firm value. Consequently, research has sought to understand the link between the IJV formation and firm value creation (cf. Borde *et al.*, 1998; Ma *et al.*, 2003; Meschi, 2004; Avny and Anderson, 2008).

With firm value creation standing as the terminal goal of the IJV it is necessary to determine a definition of firm value on which the empirical analysis of this study will be based.

2.4.2 Defining firm value

It is important to note from the outset that there is no standard definition of firm value. However, while the definition of firm value is not universal, the *concept* of firm value itself relates to the worth of a company. This lack of consensus stems from the fact that the concept falls under the purview of a variety of research disciplines which each provide their own versions of what firm value/worth is and how it is best assessed, for example, is the value of the firm the sum of its assets as seen from the perspective of a bookkeeper or is it a function of its discounted future cash flows as viewed by a potential investor. These differences are particularly evident in the variation of the measures of firm value as shown by Kraft and Czarnitzki (2002) who identify that competing measures of firm value may yield different conclusions on the nature and size of firm value changes. Consequently, while the definition of firm value always relates to the worth of a company, its various assessments are differentiated by the *measure* used to determine that worth. Amadi (2004) and Mamun and Mansor (2012) note seven such measures of firm value:

Market capitalisation,

This is the market value of all of a company's outstanding shares. It is calculated by multiplying a company's outstanding shares by the current market price of one share.

Shareholder value,

This is the worth of the company to the owners of the company (its shareholders). It is the value delivered to shareholders because of management's ability to grow earnings, dividends and the

share price. Moreover, it reflects all strategic decisions made that affect the firm's ability to efficiently increase the amount of its free cash flow over time.

Growth potential,

While difficult to quantify, the growth potential of a firm shows the likelihood and magnitude of a firm's future growth. When the growth potential of a firm rises, the value of the firm rises as well.

Takeover/Enterprise value,

This reflects the entire cost of a company to a potential purchaser and reflects a more accurate assessment of the company's value than market capitalisation, because it includes the value of preferred stock, debts and cash reserves. An increase in takeover value represents an increase in firm value.

Profitability,

A profit driven assessment of value identifies value as the financial returns of a firm in excess of its own financial costs. Where profits increase, firm value has also increased.

Cash flow,

The cash flow of a company reflects its liquid stream of income which is valuable in ensuring the vitality of the firm. The stronger a firm's cash flow the greater its firm value as it is better insulated from liquidity shocks. Where cash flows increase, firm value has also increased.

Replacement costs

This is the cost of replacing all the assets of a firm. If a firm has many assets the cost of replacing those assets will be commensurately high while a firm with few assets will have correspondingly low replacement costs. By following the changes in a firm's replacement costs the changing

value of the firm can be determined, with increasing replacement costs demonstrating an increase in value while decreasing costs reflect a reduction in value.²⁰²¹

These seemingly arbitrary measures of value can be organised into two broad classifications for measures of firm value. There are the subjective measures with their emphasis on questionnaires targeting individuals closely associated with the IJV on one hand and objective measures with their focus on hard data.

Subjective measures allow value assessment through the observations of people closely involved with the operation, success and failures of the firm. In this way a questionnaire to managers of an IJV asking for an assessment of its future profits would reflect an assessment of shareholder value for partner firms as determined by individuals privy to the IJV's strengths and weaknesses. However, they are often criticised for the distortion human sentiment can bring to firm value assessments as highlighted in Chen *et al.*'s (1993) study on the reliability and accuracy of the rating systems on which questionnaires are based. Being closely associated with the IJV could hinder a fair assessment of its success and likely impact on its partner firms' profitability.

In contrast, objective measures like profit and revenue allow sentiment free value assessment. However, they may also be problematic because they may not directly capture the effect of a particular business action. For example, determining the value of a marketing IJV by the profit it generates avoids managerial bias but assessing profit changes may not show the true performance of a research and development IJV because the benefit of the venture is buried amongst other costs and revenues the company has. Moreover, they can be limiting in that they are often only useful after the full effect of an action is felt. For example, assessing an IJV's contribution to firm value through profits may be difficult before those profits are actually realised.

²⁰ As can be seen from the definition the different values will have different levels of difficulty in computation, for example, those based on publicly available stock prices will be easier to determine than others where information may not be publically available (replacement costs for example)

²¹Notably, some valuation measures are composites of these basic measures; for example, Tobin's q , which is used in investment analysis, is a measure of the value of a firm based on an assessment of the ratio of the replacement costs of its assets to the market value of those assets meaning firm value is determined by the value of a firm's shares relative to the replacement cost of its assets; a combination of measures 1 and 7 (Tobin and Brainard, 1977).

With weaknesses and strengths for both objective and subjective measures and no universal measure of value, researchers have been left to select their own measures presenting the first of a few critical problems in IJV research; the lack of a standard measure of firm value against which to measure the value of an IJV (cf. Merchant, 2002).

The eclectic selection of IJV firm value measures in IJV research has negatively impacted the comparability of research results and the ability to consolidate their findings. For example, Gupta *at al.* (1991) measures IJV value through shareholder value while Rajan (2004) measures IJV value through their assessment by their managers. Their results may both indicate the positive impact of IJVs on their partners but are not directly comparable limiting the extent to which the newer research reinforces the older research.

To promote a greater acceptance of measures of firm value, Bechtold (2011) offers a systematic method for selecting the measure of firm value. While the word value indicates an assessment of worth, what constitutes the value of a firm varies greatly depending on the *assets being appraised*, the *purpose* of the valuation and the *standard of value* used in the appraisal (Bechtold, 2011: 1). By carefully justifying the selection of the measure of firm value future research can move towards a standard of firm value that allows researchers to build on previous findings.

Adopting Bechtold's (2011) approach; the purpose of the measure is to ascertain the impact of the creation of an IJV on a firm's worth, therefore the intended measure of firm value must be able to reflect the impact of IJVs on the worth of a company. In respect to what is being appraised, the study is assessing IJVs which have fixed terms, by definition, and so the measure of value must be able to capture the IJV's individual/specific impact despite the IJV potentially existing for a short period of time. Finally, the measure of value must provide a standard of appraisal by providing a benchmark on which to assess whether the worth of a firm has improved or deteriorated.

Of the seven common measures, five of them, namely, growth potential, takeover value, profitability, cash flow and replacement costs cannot accurately isolate the impact of an IJV on the worth of a firm which is the purpose of the study. In addition, a short-term IJV would be

difficult to individually assess in value measures of profit and cash flow where all business decisions are collectively exerting their influence.

The two remaining measures, shareholder value and market capitalisation consider a firm's worth to be reflected in the changes in its share price. These measures of value suit the purpose of this study and provide standards of appraisal. This is because they measure changing value through share prices which, according to Fama's Efficient Market Hypothesis (1965), adjust according to the merits and demerits of business decisions, for example, the decision to enter an IJV²². Moreover, the measures present a benchmark for assessment by noting changes from one price level to another. However, the problem with market capitalisation is that it is better suited to measuring the size of a firm rather than the value of a specific action, for example, the decision to enter an IJV. To illustrate, two firms of equal share price may enjoy the same improvement in share price following an IJV but would have different percentage changes in market capitalisation depending on the number of outstanding shares they had. Ventures of equal impact on share price would not be equally reflected in market capitalisation of different sized firms.

In the various assessments available, shareholder value, determined by capital markets, distinguishes itself as a measure of firm value in the context of joint ventures. This is because it not only meets the three criteria for value assessment as suggested by Bechtold (2011) but it also allows the assessment of a venture even before it has reached its termination date (Talay, 2010). This is important because other measures require the completion of the venture to reflect the full value of the venture and in some cases this is only reflected long after the venture has ended, for example, research and development ventures whose rewards may only appear several years after the research has been completed. Furthermore, balance sheet assessments, like profit, are often not available to IJVs because, due to accounting convention, the results of subsidiaries are incorporated in the result of the parent firm (Robson *et al.*, 2002).

Shareholder value finds more support as a valid measure of value in financial theory which explains how capital market reactions to venture announcements may accurately reflect venture

²² It is noted that the Efficient Market Hypothesis is not without its critics. While the scale of the research into its continued validity prevents its thorough review here, Malkiel (2003) provides a poignant critique of the theory's criticism and notes how it more accurately challenges the *predictability* of share returns rather than the efficiency of the market thus protecting the assumption of efficient markets in this context.

success or failure. This is because capital markets reflect the full value of the venture taking account of all information available (see Fama, 1965). In so doing it makes an assessment, not just of current value, but anticipated value as well allowing venture valuation before venture completion based on traditional valuation theory.

Traditional valuation theory

Traditional valuation theory states that the market value of a firm is based on the discounted value of its future cash flows. Moreover, these cash flows can be split into 2 parts: 1) the discounted value of cash flows from existing assets and 2) the net present value (NPV) of the prospective cash flow from investment opportunities that will be available to the firm (Brealey and Myers, 1988: 31). This is shown in the equation below.

$$Value\ of\ Firm = DCF + NPVI \dots\dots\dots 2.1a$$

This can alternatively represented as follows:

$$Value\ of\ Firm = \left[\sum_{t=0}^N \frac{Cash\ flow\ from\ current\ assets}{(1+i)^t} \right] + \left[\sum_{n=0}^N \frac{Cash\ flow\ from\ investments}{(1+r)^n} \right] - Cost\ of\ Investment$$

\dots\dots\dots 2.1b

Where *DCF* represents the sum of the discounted prospective cash flows from current assets, *NPVI* is the net present value of the prospective cash flows from investments and “*i*” and “*r*” are interest rates.

Thus fluctuations in a firm’s market value reflect changes in the market’s expectations about the firm’s projected cash returns (Woolridge and Snow, 1990: 356). Moreover, as Malkiel (2003:33) notes, the market provides strong incentives to acquire information and use it to exploit pricing irregularities thus ensuring that market reactions keep share price changes sensitive to changes in the actual value of the firm.

In the context of the IJV, Morck and Yeung (1992: 42-43) describe an “imperfect markets view” in which investors are often impeded in their attempts to diversify their international portfolios

optimally. In such a case the investors opt to invest in firms engaged in foreign operations. Such impediments may arise from capital flow restrictions and information asymmetries. Given that these investors are profit seekers, they would only invest in firms in which they expect the foreign operation to be successful. This means that the movement of their money to firms engaged in IJVs is an endorsement of those ventures and a strong indication of their potential success.

Another important contribution made by shareholder valuation in firm value assessment is that it can reflect the influence of the motives for venture creation which often influence its fortunes but cannot be easily assessed with other measures of performance. This is because shareholder value reflects the competitive efficiency of the IJV through market sentiment that reflects whether the move is seen as being defensive, as a bold step forward or if it protects a current competitive position” (Talay, 2010: 2). Changing shareholder value reflects an implicit consideration of firm motivations which may be difficult to independently quantify and analyse but are likely to influence the success/failure of the IJV.

Moreover, shareholder value defined as the discounted value of a firm’s future profit provides a definition of value that encompasses most of the other definitions of firm value. This is because in order to improve the discounted value of future profit it is imperative that the firm satisfy consumer, employee, societal and shareholder needs. As Mauboussin (2011) explains; shareholder value changes as a result of actual changes in the benefits offered to a firm’s *stakeholders*. When a consumer values a firm’s product its expected profits are expected to reflect this and the discounted value of those profits will capture that valuation. Similarly, employee dissatisfaction impacts future firm profitability and is reflected in its current shareholder value. Rather than the poorly defined and discredited definition of shareholder value targeting as short term price maximisation of a firm’s shares, shareholder value reflects a long term assessment of the future of a firm, its profit, its growth, its resale value etc. because they all ultimately impact future profit which determines discounted profit (Mauboussin, 2011).

With the formation of the IJV discussed and the measure of firm value described it is now important to show how IJV formation changes the value/worth of a firm.

2.5 THE THEORETICAL PREMISES ON WHICH IJVS CREATE FIRM VALUE

There are three theories that help to explain IJV value creation, namely, Transaction Cost Economics, Resource-Based Theory and Real Options Theory (ROT). As can be seen, the theoretical motives to form an IJV provide some of the theoretical explanations for how the IJV can be expected to influence the value of its partner firms. However, in this section rather than show how the theory supports equity based collaboration it is used to explain how such collaboration would influence the value of its partner firms.

2.5.1 Transaction Cost Economics and IJV firm value creation

As explained in Section 2.3, TCE explains IJV formation by suggesting that the selection of the ideal form of economic governance is a function of transaction costs and that in international expansion, where spatial distance between a firm and its market can be large, IJVs can minimise transaction costs (Williamson, 1985: 2 and 3). However, while Section 2.3 noted that IJVs can reduce transaction costs it did not explicitly explain how this is achieved and how this translates to higher firm values.

To show how TCE helps to explain firm value creation in IJVs it is important to show, firstly, that transaction costs influence firm value and, secondly, that IJVs, influence transaction costs. Returning to the traditional valuation theory, discussed earlier, the value of a firm is given by Equation 2.1a which is reproduced below:

$$\text{Value of Firm} = DCF + NPVI \dots \dots \dots 2.1a$$

The net present value of investments (*NPVI*) shows that a component of the value of a firm is the discounted value of the difference between what it earns from an investment and the costs of that investment. The higher this net present value of investments, the higher the value of the firm. Given that *NPVI* is a function of costs and earnings, in order to increase the impact of an investment on firm value a firm must either increase its earnings or reduce its costs.

TCE focuses on cost reduction by suggesting that a firm chooses a form of economic governance for its investment that minimises transaction costs which contribute to the investment's total cost. In this way minimising transaction costs improves the value of an investment and, ultimately, the value of the firm. With TCE and traditional valuation theory providing an explanation for how

minimising transaction costs will improve firm value it is important to show how IJVs minimise those transaction costs.

Hennart (1988: 363) explains how the IJV can reduce investment costs by allowing firms to pool knowledge and reduce political risk²³. Where a firm may have had to purchase knowledge in order to enter a new market, for example, knowledge of how to establish a successful distribution network for their goods, it can gain access to such knowledge from a local firm without having to gather it itself. However, in order to “gain” the cost reduction it must concede some of its earnings from the expansion, which means that the earnings component of *NPVI* will fall as revenues are shared and rise as costs fall through the lower transaction costs. Consequently, for the IJV to positively influence firm value it must gain more in cost reductions than it concedes in earnings. Having noted that the IJV *can* reduce investment costs and enhance firm value it is important to show the circumstances under which the IJV reduces transaction costs to create a net gain in investment returns.

According to Shelanski and Klein (1995, 336-338) a collaborative business mode, such as an IJV, reduces transaction costs when the market for intermediate goods, like knowledge, is inefficient. For example, knowledge of how to select and manage the financing options an MNE’s foreign business operations need may be difficult to acquire through a “once-off” purchase or contract. In such a case operating a WOS where the firm would have to buy and own this knowledge would provide poorer access to/use of the knowledge than collaboration with another firm. Where the intermediate markets fail, collaborative businesses reduce transaction costs.

The failure of intermediate markets demands collaboration but does not explain why the IJV and no other collaborative business modes, like licensing or non-equity joint ventures, will reduce transaction costs.

To see the reason for this, Boateng (2004) analyses capital as a source of IJV formation and value creation. In order to share its insight on the best way to access capital, a local firm may insist on a stake in the investment. Without conceding to an IJV the local firm’s contribution is

²³ This is implicitly based on the default investment being a wholly owned subsidiary (WOS) where IJV value is in being superior to the WOS.

forfeited and the transaction costs associated with seeking and maintaining alternative financing of the investment erodes its *NPVI* and the contribution it makes to firm value.

However, despite arguments for the IJV's value creation potential, the ubiquity of the franchise and licensing agreements stands to suggest that in some cases (where markets for intermediate goods are efficient) the IJV is an undesirable business mode as it needlessly tethers an expanding firm to another firm, forcing it to share profits and coordination costs, which are themselves transaction costs.

On the prevalence of alternatives to the IJV for firms seeking collaborative business modes, Macher and Richman (2008: 4) argue that TCE explains that IJVs efficiently reduce transaction costs in specific circumstances. The fact that the IJV is effective in only some cases may help to explain why IJV formation has not been closely related to IJV success (see Geringer and Herbert, 1991). The authors' observation is important because it suggests IJV failings may not be an indictment of the IJV but, rather, an indictment of an uncritical selection of the business mode even when it does not confer advantages over other business modes. If, for example, transaction cost benefits associated with access to capital are valuable only in capital intensive business projects then the IJV's value may be limited to industries where capital intensity necessitates transaction cost savings. IJV value may be limited to cases where transaction cost savings are made.

Despite providing some explanation for IJV value creation, TCE has faced criticism. However, most of the criticism of the TCE relates to its ability to form a comprehensive theory of the firm rather than a challenge to its application to the IJV (cf. Robbins, 1988 and Charter, 2003). Tsang (2000) does suggest that TCE falls short of explaining IJV formation (and value creation) because of its focus purely on costs and cost savings in investment. Rather than simply focusing on cost IJV benefits extended to what the firm *gained* as well. It is in the exploration of the IJV as a source of *gains* rather than cost savings that Resource-Based Theory grew in stature.

2.5.2 Resource-Based Theory and IJV firm value creation

In RBT a firm is a collection of resources bound together in an administrative framework. Moreover, a firm's capabilities were limited to its ability to organise and coordinate the productive services of those resources. Consequently, the neoclassical long run profit

maximisation goal of the firm was to be achieved through the exploitation and development of firm resources (Penrose, 1959 in Tsang, 2000: 216).

RBT provides a distinction from TCE in that the principal focus of the firm is not on transaction cost minimisation but on acquiring and managing productive resources. Zajac and Olsen (1993) suggest that while TCE notes the cost of a transaction it largely ignores the fact that the transaction creates positive outcomes.

In the specific context of the IJV, Tsang (2000: 215) notes that the primary goal of the firm, long run profit maximisation, can be described as “rent maximisation”²⁴. One of the virtues of the IJV is that they “often make use of resources which, hitherto, had been left dormant because they had not been coupled with the necessary handmaiden; in an IJV these dormant resources would provide new rents without increasing the firm’s opportunity costs” (Harrigan and Newman, 1990: 425). The value of the IJV to fully harness the benefits of a firm’s resources can be illustrated by reviewing the creation of Nokia Siemens Networks in 2006 (Bryant, 2011). The company is a joint venture between Nokia, a Swedish communications company, and Siemens, a German electronics and engineering firm, to form a data and network equipment firm to compete with the leading global firms. Prior to 2006 Siemens already had a telecommunications company, Siemens Communications, but by creating an IJV with Nokia the company was able to compete more effectively in the global telecommunications equipment market.

One of the criticisms of TCE is that it over simplifies the choice of economic governance reducing it to a decision to minimise transaction cost and, in the context of the IJV, suggesting that the IJV’s contribution to firm value is in lowering the cost of expansion. RBT argues that the benefit of an IJV cannot be fully explained by TCE. To illustrate the argument of RBT proponents we can use a simplified example of two firms, Firm A and Firm B, contemplating an IJV. As a start, for Firm A to consider an IJV with Firm B it must consider that Firm B holds something of value to the successful expansion of Firm A, for example, contracts with local raw material suppliers that the firm needs. According to TCE, if Firm A can buy those contracts from Firm B the transaction costs of purchasing the contracts may be lower than an equity JV encouraging the firm to avoid the IJV.

²⁴Where (economic) rent is the difference

In RBT the problem is not that these contracts can't be bought or that buying them has lower transaction costs for acquiring raw materials than engaging in an IJV, rather, it asks the question whether Firm A, upon acquiring those contracts, can generate the highest possible returns without the active involvement of Firm B. In other words, even if transaction costs are lowered for the acquisition of raw materials is this sufficient reason to discount a local partner? RBT would suggest that the IJV is still the ideal choice if Firm B helps to gain the highest possible return from the conversion of those raw materials to final products, as is the case when a local firm reduces xenophobic scepticism of its products by final consumers. Essentially, where TCE limits the value of an IJV to situations in which the markets for intermediate goods have failed, for example, for the acquisition of raw materials, RBT argues that the IJV may still be value enhancing because the full value of the resources gained by Firm A can only be seen through their interaction with resources still held by Firm B.

The final point illustrates the principal rallying point for TCE critics, that TCE provides a "seemingly" complete explanation of collaborative businesses when it considers transactions in isolation, for example, the need to acquire raw materials (cf. Borys and Jemison, 1989). However, considering a firm as a complex interaction of different simultaneous transactions means that transaction cost minimisation, as promoted by TCE, is untenable as it would be unduly complex for a firm to consider all its transactions in isolation (Gulati, 1998). In this way a firm can enjoy positive firm value creation because a firm considers its resources as a whole portfolio where a seemingly inefficient choice of economic governance for one transaction is counteracted by its benefits in another. For example, a firm could agree to accept an IJV partner that increases the transaction costs associated with coordinating the decision making of its new business provided the IJV partner offered the benefit of its valuable brand name to the new business.

In the context of the firm value equation above (Equation 2.1a), Rumelt (1987) asserts that investments can generate higher than normal returns, described as Ricardian returns, if they are scarce. Consequently, investments that create scarce resources create more value, through higher *NPVI* than ones that do not. Rumelt (1987:137) goes on to suggest that such resources may be "composite" resources created by uniting the resources of two companies. An IJV may increase transaction costs but it increases the creation of scarce, Ricardian rent earning, resources.

Prahalad and Hamel (1990) consider RBT as an explanation of IJV firm value creation by building on Penrose's (1959 in Tsang, 2000: 217) definition of a firm as a collection of resources. The success of a firm is built, not just on exploiting resources but by acquiring and *disposing* of resources (Prahalad and Hamel, 1990: 79). Where a firm holds "resources" that negatively impact its investment returns, disposing of those resources would enhance firm value in the same way a firm can enhance its profits by selling a struggling business unit.

With this in mind Nanda and Williamson (1995: 119) suggest that firm value can be raised by a firm wanting to get rid of a struggling but linked business unit. Rather than taint the value of the business unit with a "for sale tag" the final sale value of the unit is enhanced by engaging in an IJV which allows the purchaser to appreciate the full value of the business they wish to acquire. The IJV enhances the value of the business unit to the firm by reducing asymmetric information and the fear of adverse selection which would have otherwise encouraged potential buyers to under-value a business unit going on sale.

However, despite these theories allowing an explanation of how IJVs reduce risk, costs and enhance the likelihood that a business expansion/ investment is profitable some theorists argue that they do not give a comprehensive theory of firm value through IJVs because they ignore a critical element of the IJV; that it is temporary, which has implications for a firm's investment returns. To rectify this Tong *et al.* (2008) explored Real Options theory and the Growth Option Value in order to add an explicit consideration of IJV termination/completion to firm value creation through IJVs and in so doing added an further source of firm value creation through IJVs; growth options.

2.5.3 Real Options Theory and the Growth Option

Real Options Theory, which was pioneered by Myers (1977), is an expansion of the conventional net present valuation of a firm's investment. Where an investment's value is taken from its discounted cash flows to determine its net present value, the Real Options Theory suggests that the investment provides an additional benefit beyond its *current* expected future cash flows (Tong *et al.*, 2008). In this way if a firm were to calculate the impact of an investment on its firm value it would have to take into account the stream of future cash flow *and* the benefit of the *option* of enhanced future cash flows through the further exploitation of that investment.

To clarify the concept, Tong *et al.*, 2008 use Miller and Modigliani's (1961) valuation theory that states that the value of a firm (V_F) stems from two areas. The first is the value of the assets a firm holds (V_A) and the second is the value of the growth options available to the firm (V_{GO}) as shown below²⁵.

$$V_F = V_A + V_{GO} \dots \dots \dots 2.2$$

As Equation 2.2 shows, for firm value to change there needs to be a change in either the assets or the growth options a firm holds. When a firm makes an investment, for example, the decision to join an IJV, it enjoys the benefit of a stream of cash flows from that investment. Those cash flows are represented by V_A as they are returns on assets the firm currently holds. However, since an investment in an IJV represents a temporary investment, because of the nature of the IJV, at termination the investment presents an opportunity for firms to open their own operation should the joint investment have proved beneficial. This benefit is represented as the growth option V_{GO} in Equation 2.2. If the firm had not entered the IJV the low risk exposure to the investment and the platform to determine if it is a profitable investment would not have been available to the firm.

Essentially the theory suggests that IJVs are firm value enhancing because they provide future cash flows and a growth option whose contribution to the value of a firm can be ignored by a simple discounting of current expected cash flows from the IJV. However, while the model includes growth options it has potentially greater benefit as illustrated by its use in the development of a composite model of firm value creation that unites the seemingly disparate theories.

2.5.4 A revised model of IJV firm value creation

Tong *et al.*'s (2008) model of IJV firm value creation can be disaggregated as follows;

$$V_F = V_A + V_{GO}$$

²⁵One of the benefits of using this expression of firm value is that it is cumulatively exhaustive as it states that the value of a firm is a function of the assets it holds (V_A) and the assets it will hold in the future (V_{GO}). This means it provides an assessment of firm value that effectively considers all possible sources of firm value.

$$V_F = (V_{NCFA} + V_{Cash Flows}) + V_{GO} \dots\dots\dots 2.3$$

Where V_F is the value of the firm, V_A and V_{GO} are the value of the firm's assets and its growth options as stated in Equation 2.1. However in this case V_A is separated into V_{NCFA} and $V_{Cash Flows}$ to represent the value of assets without direct cash flows and those with cash flows. This distinction allows the impact of the IJV to be explained in three distinct components of firm value, namely, the assets without direct cash flows, cash flows and the growth option

$$V_F = V_{NCFA} + V_{Cash Flows} + V_{GO} \dots\dots\dots 2.3$$

The presentation of firm value in Equation 2.3 provides a subtle distinction from the original Equation 2.2 presented in Tong *et al.* (2008) but it allows the researcher to show the interaction between the traditional IJV theories and the newer Real Options theory. This is because $V_{Cashflows}$ can be explained by the Transaction Cost Economics which explains how collaboration reduces the cost of an investment and increases its net returns²⁶. Resource Based Theory could also explain cash flows through Ricardian rents but would also explain firm value through changing the value of non-cash flow assets (V_{NCFA}) as suggested by Prahalad and Hamel's (1990) and Nanda and Williamson's (1995) identification of IJV benefits in changing the value of existing firm assets. Real Options theory would then explain the value of the opportunities the IJV creates for its partner firms through the growth option (V_{GO}). In this way a comment on the ability of IJVs to create economies of scale by Koh and Venkatraman (1991) alludes to the IJV's impact on $V_{Cashflows}$ through the Transaction Cost theory while Myers' (1977) Real Options theory explains the impact of IJVs on the V_{GO} component of firm value.

Equation 2.3 shows the value of a firm before entering an IJV while Equation 2.4 below shows a model reflecting the role of the IJV on firm value.

$$V_F = V_{NCFA} + V_{NCFA(IJV)} + V_{Cash Flows} + V_{Cash Flows(IJV)} + V_{GO} + V_{GO(IJV)} \dots\dots\dots 2.4$$

²⁶ Notably, while economies of scale and scope are noted separately in Koh and Venkatraman (1991: 872) they could be argued to fall under the ambit of the Transaction cost theory which suggests that IJVs provide cost reducing collaboration which is the essence of the economies of scale and scope. Similarly, Scott's (1995) Institutional Theory can be explained by RBT where RBT supports the IJV's ability to merge complementary assets, for example, the ability to manage different institutional environments.

Where $V_{NCFA(IJV)}$ relates to the increase in assets without direct cash flows following entry into an IJV. This is an important component, particularly in the light of the fact that this is a study of equity IJVs and so entering the IJV gives assets to the partners that may not have direct cash flows, for example, physical assets like chairs and desks in a shared IJV factory. $V_{Cashflows(IJV)}$ relates to the cash flows from the assets of the IJV investment as suggested by Traditional Valuation theory (discussed earlier) and $V_{GO(IJV)}$ relates to the growth options created specifically by the IJV. Alternatively the impact of the IJV on firm value can be seen simply as:

$$\Delta V_F = \Delta V_{NCFA} + \Delta V_{Cash\ Flows} + \Delta V_{GO} \dots \dots \dots 2.5$$

Equation 2.5 shows that for the value of a firm to change (ΔV_F) at least one of its three components must be changed.

The question then arises as to the implications of representing Equation 2.2 as Equation 2.4 and 2.5. By disaggregating Equation 2.2 the impact of the IJV on the value of its partner firms can be isolated to show that it is manifest in three distinct areas of firm value. One of the biggest challenges in IJV study is the multiplicity of disciplines and approaches attempting to explain IJV success, failure and firm value creation (Buckley and Glaister, 2002 and Robson *et al.*, 2002). This multitude of investigations with differing theoretical biases makes it difficult to consolidate or constructively replicate empirical research. These disjointed investigations can be condensed to assessments of the impact of the IJV on at least one of the three components of firm value as shown in Equation 2.5 where the impact on the components is explained by the varying theories. The need for a unifying framework is important in understanding and resolving conflicts in the empirical investigation of conditions that promote or discourage firm value creation. For example, Herbert's (1994) and Meschi and Cheng's (2002) different conclusions on the role of equity holdings in firm value creation does not create an impasse on the role of equity as a contributor to IJV value creation but an opportunity to determine differences in how equity holdings impact different components of firm value in different environments through a clearer framework of how firm value is created.

Moreover, differences in how IJV value creation is explained can be attributed to disciplinary biases rather than legitimate conflicts in theory. For example, from a strictly accounting view of the book value of a firm the impact of an IJV may be isolated to the cash and the assets it

provides a partner firm at a given moment. The impact on firm value would be captured in ΔV_{NCF_A} . Alternatively, from the perspective of strategic management the impact of the IJV in positioning the firm for further growth in the future would be captured in the ΔV_{GO} component of firm value creation through an IJV.

An important aspect of this presentation of the value of a firm is that it provides a platform for the justification of the analysis of formation characteristics as determinants of IJV value creation. Rather than simply stating that there are elements in the formation of the IJV that may explain when they create firm value and when they do not, the formation characteristics can be considered against their potential impact on firm assets, cash flows and the growth options they have. To illustrate, an investigation of the potential impact of the geographical location of an IJV partner can be considered in the light of the fact that some partners may offer superior growth options to other partners. In this way geographical location could be considered a credible source of IJV firm value creation differences²⁷.

The lack of a theoretical framework or comprehensive IJV models has prevented the constructive replication of IJV results with researchers seemingly selecting an eclectic set of variables to investigate in association with the IJV (Robson *et al.* 2002). For example, how do studies of the impact of geographical origins on IJV value creation justify the focus on geographical origins or adjust their assumptions to revise their empirical analyses? With a model to incorporate the theory the variables can be scrutinised against their ability to effect a change in one of the three components of firm value.

In addition to allowing the various theories of IJV value creation to condense to an impact on three elements of firm value and justifying the investigation of formation characteristics in the determination of the impact of the IJV on firm value, the presentation of firm value in Equation 2.5 has implications on the desirable method of the empirical analysis IJVs and changes in individual firm value as discussed in Chapter 4.

²⁷ This is essentially the argument of Beamish's (1994) investigation into the superiority of emerging market ventures over ones between developed country partners. While the author does not explicitly state the growth options theory he alludes to it in its investigation of the impact that the location of the partner has on the IJV and its US partners.

2.6 EMPIRICAL EVIDENCE ON THE UNDERLYING IJV THEORIES

In the section above the study adjusted Tong *et al.*'s (2008) firm value model to explain IJV formation and firm value creation and explained the parameters of this revised model through three theories, namely, Transaction Cost Economics (TCE), Resource-Based Theory (RBT), and the relatively new Real Options Theory (ROT) and its growth options. In this section the empirical evidence supporting the theories is presented.²⁸

2.6.1 Transaction Cost Economics

Section 2.5 drew a model of value creation that explained the impact of IJV formation on firm value through TCE. In this unified model, TCE was used to explain net cash flows from an investment (*NPVI*) and the IJV was predicted to improve firm value in cases where it reduced transaction costs. However, despite the growth and increased support²⁹ for TCE since Williamson's (1975) seminal work, it is necessary to assess whether empirical evidence supports its inclusion in the IJV formation and value creation literature. To do this the empirical evidence must demonstrate that firms considering international expansion decide on the form of economic governance (IJV or otherwise) because of transaction costs.

One of the earliest sources of support for TCE relevance in IJV theory is Gatignon and Anderson's (1988) investigation of US firm international expansions between 1960 and 1975. In this study the authors sought to explain the choice of entry mode (wholly owned subsidiary or otherwise) through the assessment of transaction costs. By drawing a predictive binomial model they determined that as transaction costs rose, firms pursued collaborative business modes for their expansion. Specifically, when "country risk", defined as the level of uncertainty in a country's business environment, was high, transaction costs were commensurately high and firms were expected to engage in IJVs. On comparison of the predictions with the actual choices of sample firms, the choice of entry mode largely followed the predictions showing that entry modes varied according to transaction costs. The authors' result was given credence by the fact that it not only showed that increasing country risk increased IJVs but that increases in US firm

²⁸ It should be noted that this empirical evidence on the underlying theory of the study's firm value model is limited to its relevance to the IJV and is not a comprehensive review of the theories in their varied applications.

²⁹ Williamson's (1985: 130 and 2000: 605) subsequent reviews of TCE investigations provided "corroborative evidence" for TCE.

experience of the new market, which would be expected to lower transaction costs, led to a reluctance to form IJVs.

Gomes-Casseres (1989) also studied US MNE foreign expansion modes to ascertain under which circumstances firms were willing to cede some of the equity in their foreign subsidiaries. The results identified that firms agreed on joint ownership if, upon deciding to collaborate with a firm, the contributions of both firms were costlier to transfer contractually than through ownership channels. When a firm's required marketing and technological capabilities could be transferred to its subsidiary, the US company opted for a WOS, when they had to be acquired from outside the firm and were difficult to obtain through contracts they chose IJVs, as predicted by TCE (Gomes-Casseres, 1989: 23).

Yet more support for the role of TCE in IJV theory came from Hennart (1991) investigating Japanese IJVs by predicting their form of economic governance based on a model of transaction costs. Surveying Japanese subsidiaries in the US, the author found that when diversity was high (i.e. the firm was entering a new product line) and transaction costs resultantly high, the probability of an IJV being formed was higher than when the firm was expanding into a new market with existing products where transaction costs would be lower. In addition, reinforcing the observations of Gatignon and Anderson (1988), he found that international business experience, which lowered transaction costs, reduced the incidence of IJVs.

The TCE IJV empirical evidence showed that transaction costs had an important bearing on IJV formation but the question remained as to what TCE meant for IJV firm value creation. This was a conclusion given further legitimacy by Meyer's (2001: 364) identification of a relationship between poor institutional development, which increased transaction costs, and declining use of WOSs. Not only did this show that transaction costs drove IJV creation but that there was an overlap in Scott's (1995) Institutional theory, as discussed in Section 2.3, and TCE.³⁰

When a firm decides to expand into a foreign country it must necessarily gather information on the nuances of the new market and adapt its technology and management to suit the new setting (Tsang, 2000). TCE explains the choice of IJV because it provides the lowest cost entry into a

³⁰ This is important, as explained later in the chapter, for condensing the different IJV theories into a few crystallised perspectives from which to build an economic but efficacious model of IJV firm value creation.

new market, but this is only the case if the equity conceded through shared ownership is less costly than buying the resources needed for successful expansion (Gomes-Casseres, 1989: 24). In other words, the IJV exists as the most profitable entry mode for an expanding firm provided gains from collaboration exceeded its costs. Entering an IJV is thus a signal of value creation as firms select them only when they are the superior form of economic governance for their investment. Thus if TCE holds, IJVs arise to maximise investment returns, maximising the impact of the expansion on the value of the firm.

One immediate problem arises from the foregoing. While TCE explains how an IJV may be a superior form of economic governance than a WOS its benefits are, crucially, predicated on the expansion being meritorious in the first instance. If the expansion is into an ill-conceived market the IJV may lower the transaction cost and outperform a WOS but the net present value of the expansion/investment (*NPVI*) remains negative, just less so, and firm value falls because $\Delta V_{Cash\ Flows}$ is negative.

Essentially, while TCE explains IJV formation and how firm value may be improved relative to a WOS, if the value of the expansion, regardless of entry mode, is non-existent the IJV will not be value enhancing. This final observation is important as it may reveal the real source for disagreement in IJV literature as poor historical IJV performance may be the result of a flawed decision to expand a firm where the virtues of the IJV cannot salvage the expansion. It may not be the IJV that has failed but the firm expansion that was doomed to failure. Nonetheless empirical evidence supports TCE's explanation of IJV formation and how those IJVs influence firm value.

2.6.2 Resource-Based Theory

The basic principle of RBT in the context of IJVs is that since a firm is a collection of resources and firm value is driven by the acquisition and development of those resources, as discussed in Section 2.3, IJVs will only be formed if the collaboration increases or helps in developing the expanding firms' resources that improve their value.

To this end Collis (1991) analysed 3 case studies of Japanese, European and US firms in the bearings industry to determine the motivation for the choice of the economic governance of their business units. The key finding of the research was that resources evolved within a company and

embedded themselves into the firm, inextricably linking themselves to other assets within the firm. Consequently, if a firm wanted to operate a subsidiary as a WOS but required resources held by another firm, the expanding firm had to acquire the supporting assets of the other firm as well as its targeted assets. For example, acquiring a technology patent was potentially unrewarding if the means to fully use the patent were not also purchased. Collis (1991) provided evidence from joint venture practitioners on the fact that resources meaningful to expanding firms were likely embedded within the holders of those resources necessitating joint ventures to gain meaningful access to them unless the firm was willing to purchase the entire firm which was likely to be more expensive than a partnership and would force the firm to hold “resources” superfluous to its needs.

Yasuda (2005) analysed the semi-conductor industry and determined that RBT was not only a valid explanation of IJV formation but a better explanation in high technology industries than TCE. In the study the considerations made by ten firms before entering a joint venture were classified according to cost, resources and time³¹, resources ranked higher than cost. Moreover, resources were of such importance that time savings ranked higher than cost savings in considerations to engage in collaborative business.

While Collis (1991) and Yasuda (2005) provide support for RBT as an IJV formation theory they did not explicitly tie it with firm value creation. To this end Ainuddin *et al.* (2007) conducted a survey of 96 Malaysian IJVs to determine the roles resources played in the IJV. The investigation found that resources not only explained the motives to engage in an IJV but they also influenced how the venture performed. If the resources shared by the venture were rare the venture generated greater returns than if they were not Ainuddin *et al.* (2007: 47). In this way the legitimacy of RBT in IJV theory was not only supported in the context of IJV formation but in IJV firm value as well.

³¹ Time represented a case where a firm could replicate a desired resource internally but considered the time necessary to do so undesirably long, prompting a joint venture.

2.6.3 Real Options Theory

As with the preceding theories, the validity of ROT in the model of IJV firm value creation would stem from empirical evidence demonstrating two points, firstly, that IJVs create growth options and that these growth options influence the value of the firm.

To the first point, the evidence that joint ventures create growth options is found in Kogut's (1991) and Folta and Miller's (2002) analyses of the termination of strategic alliances. In both studies, upon termination of an alliance the investment of its partner firms evolved, either through a partner firm's acquisition of the entire joint venture, revision of its equity holding or dissolution of its interest in the IJV's business. Specifically, focusing on cases when firms acquire the underlying business of a terminated IJV revealed that at inception the joint venture carries with it the potential for a greater investment.

With Kogut's (1991) and Folta and Miller's (2002) observation of alliance termination supporting the idea that IJVs created real options, subsequent research stood to reinforce the evidence of their existence but did not explicitly compute their value or the value they added to the firm (cf. Adner and Levinthal, 2004 and McGrath *et al.*, 2004). To address this, Tong *et al.* (2008) computed the value of a growth option based on the value of a firm's capital commitment to an investment and the present value of its expected economic value adding activities. In their results, they not only found evidence that the growth option existed and that IJV formation could create them, but that they could also be quantified. Consequently, it can be seen that ROT has support as a legitimate IJV formation and firm value creation theory.

For the purposes of this study, ROT suggests IJVs can and do create firm value and so despite, its empirical infancy, it is an inextricable part of the IJV firm value creation model.

With evidence to support the three IJV theories used to explain the study's IJV value creation model noted, Section 2.7 now reviews the findings of research into the link between IJV formation and firm value creation.

2.7 EMPIRICAL EVIDENCE ON THE IJV AND FIRM VALUE CREATION

The theoretical literature on the formation of the IJV details the reasons why they have been considered a firm value enhancing business mode. However, the validity of a link between firm value creation and the formation of an IJV requires vindication by empirical evidence.

To this end Lummer and McConnell (1990) studied US IJVs, which extended the work of the latter³² on domestic joint ventures, in order to ascertain if they, like domestic joint ventures, were decidedly value enhancing. The authors' analysis of the valuation effects of the IJV on US firms provided evidence that IJVs created positive firm value.

This conclusion was supported by Chen *et al.*'s (1991) Event Studies on 88 US-Chinese IJVs that similarly found that IJVs generated positive firm value for their partner firms. Chen *et al.* (1991) not only provided support for the link between IJV formation and firm value creation, but, crucially, they also identified that the power of the IJV to create positive firm value existed independent of the size of the participating firms. While the study only discredited the role of firm size in value creation it began to provide evidence that challenged the legitimacy of formation characteristics in the theory of firm value creation through IJVs (as presented in Chapter 2). In contrast, Crutchley *et al.* (1991), despite also agreeing with the findings of Lummer and McConnell (1990), contested the idea that firm size did not influence the firm value realised by IJV partners. Rather than an innocuous firm characteristic, firm size mattered. In a study of US-Japanese IJVs they found that smaller firms benefited more from IJVs than larger firms.

The importance of the conflict between Chen *et al.* (1991) and Crutchley *et al.* (1991) is not in the specific investigation of the role of firm size in value creation but that the conflicting evidence on the role of size, as a formation characteristic, did not materially influence the conclusion that IJVs are value enhancing. Essentially, the studies suggested that while the role of formation characteristics could be investigated and found, they need not be considered to challenge the view that IJVs are, themselves, firm value enhancing. The existence of conflict on the influence of formation characteristics on firm value creation is not incompatible with the conclusion that IJVs were value enhancing. This stood to reinforce the idea that IJVs created

³² McConnell and Nantell (1985)

positive firm value and that the debate was limited to the extent of the positive value as influenced by different formation characteristics.

Gupta *et al.* (1991) and Etebari (1993) reinforced this notion that IJVs were value enhancing. In Gupta *et al.*'s (1991) study of US-Chinese IJVs the authors found that IJVs resulted in significant positive value effects for their US partners. This was the case because IJVs provided a means for a firm to diversify its returns. When US firms entered IJVs they benefited from the fact that asset returns are imperfectly correlated between countries allowing firms with cross-country business operations lower risk and potentially higher returns. Shareholders responded positively to IJVs because they represented diversification in a firm's income streams. In Etebari *et al.* (1993) 25 IJVs between US and East and Central European countries were assessed and they revealed statistically significant positive effects on the firm value of US firms.

These studies had two important contributions. The first is that Gupta *et al.* (1991) not only showed positive abnormal returns following the creation of an IJV but also suggested that the returns could be explained outside of the traditional IJV theories by suggesting that firm value was created through the diversification of income streams, an idea grounded in Portfolio Theory as presented by Markowitz (1952)³³. The second is that while the work preceding Etebari (1993) provided evidence of the positive firm value effects of IJVs it did so with a strong bias towards Asian partner IJVs, however, Etebari (1993) confirmed the result despite changing the focus of venture partners from Asia to East and Central Europe. Essentially, Etebari (1993) suggested that the IJVs were not only firm value enhancing but that the geographical location of the partner did not alter this as US firms recorded positive firm value effects when in partnership with Chinese, Japanese and European firms.

Despite the seemingly clear evidence that IJVs are value enhancing, Lee and Wyatt's (1990) investigation of US IJVs found that they had a negative impact on firm value. In explaining their result the authors contended that the Agency Problem could not be mitigated sufficiently to ensure positive returns (Lee and Wyatt, 1990: 646). The importance of their result in a backdrop of positive results questioned conventional wisdom on IJV firm value creation and is often cited

³³ Markowitz's (1952) Portfolio Theory explains how the combination of risky assets in a portfolio may reduce the risk of the entire portfolio if the assets' returns are not strongly, positively correlated. In this context earning money from an IJV over and above a firm's regular income stream offers a reduction in the risk of the firm's income.

as evidence that IJVs have, at the very least, ambiguous results when it comes to firm value creation (cf. Borde *et al.* (1998: 66) and Ueng *et al.* (2000: 68)).

Chung *et al.*'s (1993) investigation of value effects in US-foreign joint ventures provided strong support for Lee and Wyatt's (1990) conclusion by observing that the negative firm value effects of IJVs were not mitigated by the economic status of their host countries or the industry in which they were involved. To explain the result that contradicted what Meschi (2004: 595) noted as the "seemingly obvious" link between IJVs and positive firm value creation, the authors suggested that the market's interpretation of the motives for an IJV determined its impact on firm value in spite of the influence of any other factor. In their view, IJVs were interpreted as signals of poor current performance for which the IJV was being formed to assist the "struggling" firm.

Yet more studies questioned the existence of a positive link between IJVs and firm value creation but rather than provide evidence that the IJV was value diminishing they observed that the IJV had no significant impact on firm value creation. Finnerty *et al.* (1986) studying 208 US joint ventures showed no significant change in firm value following the creation of the joint venture. This was a result confirmed by Chen and Hu (1991), Merchant (1997 in Beamish and Killing, 1997) and Borde *et al.* (1998) whose study of US firms also found no significant evidence of a link between the IJV and firm value creation. Finnerty *et al.* (1986: 24) argued that at formation the venture had "no performance history" and so there was not enough information about the IJV for there to be a significant revaluation of firm value by the shareholders of the venture partners.

Two questions arise from the ambiguous results above. The first is how do studies of the same country with inevitably overlapping IJV samples under investigation arrive at conflicting results and secondly, while the often cited evidence above is tilted towards the idea that IJVs are value enhancing it is biased towards investigations of US-foreign IJVs. Perhaps it was a peculiar trait of US firms that they benefited from positive firm value creation through IJVs and that an analysis of IJVs elsewhere would reveal different results. Both these questions can be understood when non-US IJVs are considered.

To the first question, two papers by Meschi (Meschi and Hubler (2003) and Meschi (2004)) investigate French IJVs over overlapping time periods (1994 to 2000 in the former and 1994 to

2002 in the latter). In Meschi and Hubler (2003) IJVs have a negative significant effect on firm value creation while in Meschi (2004) the evidence shows that IJVs create positive firm value. However, the seeming contradiction can be explained by analysing the conclusions of the studies. In Meschi (2004), unlike Meschi and Hubler (2003), the author explicitly factored in the effect of previous IJV experience in determining whether or not they created value. When previous IJV experience was considered, IJVs were value enhancing provided firms had prior IJV exposure.

In relation to the conflicting US results, a closer investigation of the conclusions of the studies reveals that despite arriving at conflicting conclusions each paper (with the exception of Chung *et al.* (1993) concedes that there are factors that could mitigate the relationship observed if explicitly considered, for example, in Lee and Wyatt (1990: 647), despite often being cited as clear evidence that IJVs are value diminishing, the authors note that when the economic status of a partner country is considered that has an effect on whether the IJV has a negative return. With developing country partners more desirable than developed country partners.

To the second question on the bias towards US studies, the results of investigations into the wealth effect of IJVs in different countries have also not been conclusive. Lyles and Salk's (1996) investigation of Eastern European IJVs identified how perceptions of the value of the IJV were positive from the managers of the Eastern European IJV partners. While not specifically investigating wealth effects their study showed that firms in emerging markets had a positive bias in their estimation of the value creation power of the IJV.

Meschi and Cheng (2002 and 2007) investigating the firm value effects of Chinese IJVs observe positive and significant changes in firm value following the IJV's announcement. This is a result which stands to reinforce the conclusion of Lummer and McConnell (1990) that IJVs are firm value enhancing. While in contrast, the aforementioned Meschi and Hubler (2003) observe negative significant firm value effects from IJVs.

The notion that the IJV is firm value enhancing is given more credence by Chen *et al.* (2000) and Janakiraman and Lamba's (2004) and Morresi and Pezzi (2011). Chen *et al.* (2000) analysed 174 IJVs in Singapore and observed that, on average, firms enjoyed positive abnormal returns which could be explained by the Investment Set Hypothesis as determined by Tobin's q .

Janakiramanan and Lamba's (2004) studied of 92 Australian IJVs which revealed that IJVs resulted in statistically significant positive wealth effects. However, the strength of this wealth effect varied depending on the level of political risk within the IJV's host country with high risk countries providing superior returns to low risk countries. The more recent findings of Morresi and Pezzi (2011), who studied Italian joint venture agreements over a 21 year period, found evidence of positive and statistically significant firm value changes for their Italian partners regardless of whether partners were in developed or developing regions compounding conflicting evidence by contradicting Lee and Wyatt (1990) and Meschi and Hubler (2003)

With the conflicting theoretical and empirical evidence on IJVs and firm value creation Borde *et al.* (1998: 67) questioned the merits of studies which simply focused on "whether IJVs were value enhancing or not" insisting that investigations, instead, focus on examining the relationship in response to a specific observable variable, for example, the type of partner engaged or where they were from.

With empirical investigations of the value effects of IJVs in conflict it is not possible to simply conclude that South African IJVs will be value enhancing or value diminishing. The question requires an empirical assessment of South African data. Greater support for a South African empirical investigation comes from three additional reasons. Firstly, Shyam-Kumar (2007) which identifies asymmetric gains from joint ventures suggests that conclusions on IJVs based on one partner's perspective are limited to that partner as a change in perspective yielded different results and conclusions. Secondly, as Koh and Venkatraman (1991: 873) point out; "scientific inquiry requires constructive replication" in environments where there is a reasonable suspicion that outcomes may vary in order to reinforce or challenge ideas and formulate principles and theory. In this way while the majority of the IJV literature suggests that IJVs in South Africa will be, on average, value enhancing it is important to actually test the validity of that view. Thirdly, Anand and Khanna (2000: 904) observation that simplifying views of IJVs have led to the opinion that "...JVs are bound to be helpful". This is a view that may explain the dearth in empirical investigation of IJVs from the perspective of their African partners. It is important to assess whether this is true for South African firms.

Implied in much of the IJV literature is the idea that IJVs are value enhancing and that the role of the researcher is to identify the reasons why some ventures do not realise that enhanced firm

value. Put differently, most literature does not question the fundamental merits of IJV creation limiting itself to discussing how value creation can be achieved through venture structures (David and Han, 2004) and venture processes (De Rond and Bouchikhi2004). This study, however, will need to test whether IJVs are generally value enhancing. This is because while the majority of empirical evidence identifies that IJVs are, on average, value enhancing the fact that strong dissenting evidence exists and the skewed focus of the literature is on the perspective of developed country firms raises questions about whether the assumption of positive firm value creation through IJVs is justified in the South African context.

With ambiguous empirical results the next question to ask is whether there a factor to discriminate between the IJVs that are value enhancing and those that are not and in so doing help to explain the contrasting conclusions by IJV researchers. IJV researchers had to move beyond simply accepting IJVs as a compromise between two undesirable extremes for MNEs and knowledge acquisition for local partners (as described in Section 2.3). Rather research now focused on determining which circumstances led to value creation and which did not. It is at this point of explaining the failure/ability to create firm value that formation characteristics became a consideration in IJV value creation literature. These formation characteristics form the focus of Chapter 3 to determine if their consideration helps in the understanding of when IJVs are value enhancing and when they are not.

2.8 CHAPTER CONCLUSION

This Chapter presented the theories linking IJV formation and firm value creation and the empirical evidence supporting those theories. Critically, it augmented established firm value models to accommodate seemingly disparate theories on the IJV and firm value creation. It also presented evidence showing that IJVs had positive effects on the firm values of their partners but also noted conclusions on a positive relationship between venture formation and value creation be cautioned by the existence of some strong evidence refuting it. Ultimately, the ambiguity suggested a look at factors that differentiated the “successful” ventures from the “failing” ventures and so Chapter 3 now looks at IJV formation characteristics and firm value creation.

CHAPTER 3

FIRM VALUE CREATION AND IJV FORMATION CHARACTERISTICS:

3.1 INTRODUCTION

As noted in Chapter 2, despite explaining the motivation for IJV creation, IJV theory had to evolve beyond simply accepting IJVs as a compromise between two undesirable extremes for MNEs and knowledge acquisition for local partners. This was because while IJVs grew in importance and popularity, many of them suffered from the performance problems that they had hoped to avoid through the use of IJVs³⁴ (Geringer and Hebert, 1991: 250). Put differently, empirical evidence³⁵, on which the positive IJV firm value creation theory would have been vindicated, did not seem to show a strong relationship between IJV formation and firm value creation/performance³⁶. The problem stemmed from the fact that while the justification for a compromise between the extremes and knowledge acquisition was sound, few IJVs were successful and those that were appeared to possess specific elements that distinguished them from the ones that did not. This chapter now considers the role of formation characteristics in IJV value creation to determine if they can explain inconsistency in the empirical evidence and provide a clearer indication of how IJVs might improve firm value. The chapter is divided as follows; Section 3.2 provides theory on the impact of formation characteristics on IJV firm value creation, Section 3.3 then analyses the literature on the four contentious formation characteristics noted in Chapter 1 before Section 3.4 concludes the chapter.

3.2 THE THEORY OF THE IMPACT OF FORMATION CHARACTERISTICS ON FIRM VALUE CREATION IN IJVS

In seeking an explanation for successful and unsuccessful IJVs several researchers looked at different issues, including analysing venture formation (Colombo, 2003), venture management

³⁴ Opportunistic behavior, for example, still persisted in the IJV business units despite shared ownership of business operations (Geringer and Hebert, 1991:251).

³⁵ Despite their increasing importance, IJVs have often encountered performance problems. Estimates of unsatisfactory IJV performance, defined in a variety of ways have ranged from 37% to over 70% [Killing 1983; Stuckey 1983; Reynolds 1984; Beamish 1985; Kogut 1986; Harrigan 1986 in Geringer and Hebert (1991: 250). This is a result corroborated by the more recent observations of Le (2009: 29).

³⁶ Geringer and Hebert (1991) present statistics to this end that show correlations as low as 31% for IJV formation and success in Canada.

(Ireland *et al.*, 2002), and the possible effects of venture development (Ring and Van de Ven, 1994). Previous studies on the IJVs, therefore, fell into two broad categories: those that investigated the structure of the ventures (cf. David and Han, 2004 and Hennart, 2006) and those that analysed the processes involved in the operation of the venture (cf. De Rond and Bouchikhi, 2004 and Salk, 2005).

The first group suggested that an efficient venture structure could curb exchange hazards and so positively affected performance. On the other hand, the second group argued that the post formation processes driven by “purposeful entities with the ability to learn and adapt” were the real drivers of successful ventures (Zajac and Olsen, 1993 in Tjemekes, 2008: 66). This presented two alternative foci of investigation, venture structures and venture processes.

In this study the focus is on the explanatory power of venture structures, namely, the characteristics of the IJV present at formation i.e. its formation characteristics. This is because returning to the measure of firm value creation in Chapter 2. Shareholder value is measured by capital markets evaluating the contribution that an IJV will make to its assets and growth options. Since firm value is being measured through shareholder sentiment it is important to determine the conditions under which their evaluations are favourable i.e. when does the collective mind of the market consider IJVs as firm value enhancing. It is in noting that there are conditions under which IJV evaluation is favourable and conditions when they are unfavourable that formation characteristics have been studied as the conditions that influence firm value creation. Moreover, formation characteristics allow for a quick determination of potentially good and poor IJVs before they are operational. Firms deciding to enter an IJV know what they should be looking for in potential venture partners and IJV contracts while government incentive plans know which ventures to support and encourage.

According to Borde *et al.* (1998:66) clashes in empirical evidence meant that in addition to the question of whether the IJV created firm value was the need to consider factors such as formation characteristics or otherwise risk compounding conflict by not attempting to provide explanations for instances of value creation. To explain value creation (or the lack thereof) questions were raised; was it the *nationality* of the partners that mattered, or the *size* and *number* of the firms involved, their previous IJV *experience*, the *cultural distance* between the partnering firms, the *equity ownership* of the venture, the *industry* they were in or the market’s *perception* of

the reason for the IJV's formation (Harrigan, 1988; Root, 1988; Bleeke and Ernst, 1991; Blodgett, 1991; Merchant, 2000b; Gong *et al*, 2001). In addition to their individual consideration was it a combination of the factors that truly drove performance?

The theory of IJV performance and value creation looks not only to identify whether or not IJVs create firm value but also to identify elements in the formation IJVs that are most closely related to successful IJVs. Following Merchant (2000b) these theoretical factors can be placed into five broad categories³⁷: *Task relatedness*, *partner related factors*, *alliance characteristics*, *institutional factors* and *country specific factors*. As Merchant (2000a: 109) notes, “although many studies define performance differently, many studies consider the same set of variables indicating the centrality of these variables in IJV performance”. For example, firm value creation, venture goal attainment and profits. The theorists' explanations for the role of each factor are presented before the factors are discussed in the context of the model of firm value creation through IJV which was presented in Equation 2.5.

3.2.1 Task Relatedness

Task relatedness (TR) refers to the extent to which the regular business activities of partner firms are similar to those of the IJV. Where the activities are similar, the expectation is that there is a greater chance of desirable IJV performance (Merchant 2000a: 110). When TR is high the venture benefits from the “dominant logic” of firms which reduces the task uncertainty facing the IJV thereby improving its chances of success (Barney and Hesterly, 2008). Dominant logic refers to the main means a company uses to make a profit which includes its cultural norms, standard practices and the beliefs it holds (Ortiz, 2008: 701). It provides a lens through which management recognises and filters potentially profitable business options (Prahalad, 2004: 172). The value of this dominant logic is best understood in the context of Hunt and Morgan's (1994: 20) observation that uncertainty over the future is a key trigger for opportunistic behaviour because it threatens to destroy the original incentive structure of the IJV agreement. Where TR is high the “dominant logic” reduces task uncertainty and the incentive to engage in opportunistic

³⁷It is important to note that while several authors note different emphases, classifications and numbers of factors in their lists of elements influencing IJV performance, Merchant's (2000b) five categories are used here to order them. The factors are drawn from literature (Fagre and Wells, 1982; Reich and Mankin 1986; Demetz, 1988; Bleeke and Ernst, 1991; Bleeke and Ernst, 1993; Beamish, 1994; Alchian and Demetz, 1972; Park and Russo, 1996; Merchant, 2000a, 2000b; Luo and Park, 2004)

behaviour. Moreover, similarity in tasks allows the creation of a competitive advantage through improvements in economies of scale and scope (Koh and Venkatraman, 1991: 872). It can be expected that this, in turn, creates deterrents to new entrants to the market which helps make venture gains sustainable.

Information asymmetry, which also encourages opportunistic behaviour, is similarly reduced when both partners have a sound understanding of the activities necessary for the venture to succeed. When partnering firms are familiar with the requisite activities for venture success (TR is high) information will not be as impacted as it would otherwise be (Williamson 1975). Alchian and Demetz (1972: 782) also suggest that the superior powers of monitoring inherent when TR is high allow the early detection of problems in the IJV. This also facilitates *a priori* minimisation of IJV agency problems because all partners are aware of the requisite activities and resources for the venture to succeed. The success of Sony-Ericsson, an IJV between Japanese consumer electronics firm, Sony and Swedish telecommunications firm, Ericsson in 2001 can be partly attributed to TR. The two firms abandoned their own independent mobile phone lines and made joint Sony-Ericsson phones (Sweeny, 2011). In this venture both firms would have been intimately aware of the mobile phone manufacturing business.

However, the question arising from TR as a driver of performance is whether it is essential that all partners have high TR or if it is sufficient for only one partner to possess high TR. If, for example, only one partner had high TR it would present the benefit of the dominant logic but it would mean that the problems of information asymmetry and agency are likely to strengthen as other partners entrust key activities to the partner who is expected to possess the dominant logic. In such a scenario having only one partner enjoying a high TR may threaten IJV success. (Johnson and Houston 2000: 67) presents such a scenario by separating IJVs into two groups; those that result in “horizontal³⁸” expansion and those resulting in “vertical” expansion. One IJV contract could mean a horizontal expansion for one party and a vertical expansion for the other. The party experiencing the horizontal expansion would enjoy a high TR while its partner, which engages in a vertical expansion, has low TR. To illustrate, a manufacturing venture between a car

³⁸ This relates to expanding at the same line of products or services. Alternatively it can be seen as expansion at the same tier of the production chain meaning that firms are familiar with business and operational requirements. A vertical expansion relates to business growth beyond its tier in the production chain either through expanding into the operations of one’s regular suppliers or the operations of firms further down the chain.

manufacturer and a steel refiner to manufacture cars would constitute a horizontal expansion for the car manufacturer and a vertical expansion for the steel refiner. While both businesses may be related to the operation of the venture's business the car manufacturer would be more intimately aware of the car manufacturing business than the steel refiner. Consequently, we could expect the car manufacturer to be the possessor of the dominant logic because of its greater TR. This provides it with a position to potentially selfishly influence the venture to its own gain at the expense of the joint venture. In this way the TR differences between the partners create a platform for the agency problem because of the asymmetric information held by the venture partners.

In the context of the firm value model drawn in Section 2.4 TR can be argued to influence the value of the firm in two ways, firstly, through its impact on the ability of firms to exercise the growth options that an IJV provides, hence affecting the value they add to the firm (V_{GO}). If a firm enters an IJV closely related to its regular business activities then it enjoys high TR and can be argued to be better suited to exploit opportunities to grow when they are presented by the IJV. If the firm is part of an IJV in which it has low TR it may not recognise or fully exploit the growth options it provides. Secondly, the influence of TR on firm value can be seen in its impact on cash flows from the IJV. If TR is high the costs of the IJV should be lower than when TR is low. This is because of economies of scope³⁹ which would lower IJV costs boosting the net cash flows from the IJV ($V_{Cash\ Flows}$). In this way the firm value model of Section 2.5 could be used to explain the suggestion that Task Relatedness influences firm value creation through IJVs.

So while TR has theoretical grounding to its merit as a driver of IJV performance it is important to note that it still presents different implications for IJV performance dependent on whether or not the TR exists for all partners or for a few of them.

3.2.2 Partner Related Factors

Partner related factors (PRF) refer to the traits of the participating firms that are responsible for driving IJV performance. These factors include the size of the firms engaging in the IJV, their previous JV experience, their reputation (brand image), access to finance, interparty rivalry, the

³⁹ According to Koh and Venkatraman (1991: 872) economies of scope are reductions in the cost a firm faces as a result of the ability to share fixed costs across products.

number of firms involved and access to technology. The reason PRFs drive performance is because the IJV's management is limited to the abilities and resources of its partnering firms. Roulac (1989), for example, identifies firm size as an important determinant in securing effective performance from all IJV partners. This stems from the view that there is a greater likelihood that a small firm will fail to deliver on its promises than there is that a larger firm would. Similarly, Park and Kim (1997: 98) add support for the avoidance of small partners by suggesting that small firms can be tentative in their IJV dealings to minimise unintended information disclosure thus increasing the uncertainty of intended IJV outcomes for their partners.

Another important PRF relates to the rivalry between firms. When partners are not direct competitors there is a greater chance of full information sharing, when they are rivals such sharing is limited. Buckley and Casson's (1988 in Luo, 2007: 6) assertion that "all partners have a *defacto* right to pursue their own interests at the expense of their partners" serves to support the caution exercised by IJV partners who are direct competitors. Bearing in mind that one of the main motivations for IJV formation is strategic positioning, the collaboration of competitors leaves them vulnerable to strategic threats as each firm seeks to improve its competitive position against its venture partners⁴⁰. For competing firms to manage a successful IJV they require greater safeguards to minimise the loss of their respective competitive advantages. Such safeguards naturally impede efficient information and resource exchanges between partners and reduce the chances of IJV success (Bleeke and Ernst, 1991 and Park and Russo, 1996: 877).

It is interesting to point out that it could be argued that competing firms make certain types of IJVs more likely to succeed than when the partners are not competitors. In the field of research for example, an intimate understanding of the requirements of the research and the challenges faced in making its outcomes profitable will be understood by all parties. In such a case the research would be more efficient and more likely to succeed. This venture would not necessarily improve the firms' competitive positions against each other but it would significantly improve them against firms outside of the IJV. The venture thrives on the strength of the competitors'

⁴⁰ An important question arises here. Why would competing firms insist on engaging in JVs despite the strategic threat they pose. The reasons would still fall under the ambit of IJV formation motivations listed earlier and would include research collaborations that may be too expensive to pursue alone or the access to markets that the firms cannot individually access.

complementary assets and resources. In this case inter-party rivalry becomes a positive driver of venture performance. This suggests that inter-party rivalry as a driver of IJV performance may have varied influences on firm value with some collaboration benefiting individual firms because of the complementary resources driving the success of the IJV while in others, the pursuit of self-interest sabotages the venture and negatively affects individual firm value creation.

Congruence in the motivations for the formation of the venture also influences its performance. When a venture consists of a partnership between profit seeking firms and state-owned enterprises, for example, the venture may face the additional challenge of balancing economic and social objectives. The agency problem would become a factor as firms struggle to entrust activities to a state partner who may not hold similar importance regarding profitability and the state partner may have problems with entrusting a corporate partner with activities that may have undesirable social implications. This agency problem would affect the success of the venture (Luo, 1997).

Another focal point in the analysis of PRFs is the consideration of the influence that the number of participating firms has on the performance of the IJV. Gong *et al.* (2007) identifies how an increasing number of partners to an IJV could negatively affect its performance by increasing the difficulty of achieving partner cooperation and contract completeness⁴¹. This is because greater numbers meant a greater need for sound measures to ensure smooth cooperation. This is generally achieved through the IJV contract that “obviates moral hazards and attenuates the leeway for opportunism” (Gong *et al.*, 2007: 4). As the number of partners increases the requisite safeguards in the contract also increase, making it more complex and more likely to leave some important safeguards out. According to Gong *et al.* (2007: 17), the greater the number of participants, the greater the chance of poor venture cooperation and its negative impact on IJV performance. Alternatively, while Gong *et al.* (2007) concludes that higher numbers mean less chance of desirable performance, the author concedes that from a resource-based perspective greater partner numbers may mean greater resources which result in better venture performance even though his own empirical results do not support such a view. This concession is important

⁴¹ Contract completeness refers to a situation in which parties to an agreement clearly specify their individual rights and obligations in every possible future scenario (Hart and Moore, 1988: 755). As this is extremely difficult to achieve in the real world real world contracts are usually incomplete and it is the degree of incompleteness that varies (Hart and Moore, 1988: 756)

because it still allows room for the expectation that partner numbers may have no effect (or even a positive effect) on venture performance.

In the context of the firm value model of Section 2.5 PRFs, as with TR, could potentially influence the growth options of the firm and in so doing affect its partners' firm value. To illustrate, if a firm had good access to finance their ability to exercise their growth options would be greater than for a similarly placed firm without the finance options. In this way the PRF enhances the value of the growth option (V_{GO}) by providing the support necessary to exercise it. The number of firms can also be analysed through the same model of firm value creation as the number of IJV partners could also influence the value of growth options (V_{GO}) by increasing the competition to exploit them. If a growth option is available to 2 IJV partners there is less challenge in exercising it than when the same option is available to 5 partners.

3.2.3 Alliance Characteristics

These are elements of the IJV agreement that influence its performance, for example, the distribution of equity and the delegation of decision making responsibilities. While the bargaining power of firms often determines the distribution of the ownership of the IJV, such bargaining power may impede the most efficient/effective distribution of equity/control between the partners (Fagre and Wells, 1982: 8). In such a scenario one party may position itself to be able to manipulate its partnering firms – a possibility that can be argued to have two consequences. First, it impedes the ability of the smaller partners to make decisions in the best interest of the IJV that may not be to the liking of the major partner, which affects the overall IJV performance. Secondly, an unequal alliance triggers opportunistic proclivities because the minor partners have less to lose by shirking their obligations.

However, while the theorists acknowledge the importance of equity ownership, it remains one of the most contentious determinants of IJV performance because of the lack of consensus on the ideal ownership configuration. Bleeke and Ernst (1991: 128) suggest that an equal partnership is necessary to ensure a balance between the ability of partners to protect their interests and the reduction of incentives to engage in opportunistic behaviour. This is a position reinforced by Blodgett (1991: 65) who see the popularity of equal partnerships as an indictment of the inherently unstable nature of unequal partnerships that are likely to encourage opportunistic

behaviour. On the other hand, Beamish (1994) suggests that having an agreement with one dominant partner may be ideal as it expedites decisions and allows the larger partner (often with greater resources and expertise) to protect its investment and, consequently, become more willing to commit greater resources to the IJV. Killing (1982), supported by Merchant and Schendel (1995), present the ideal equity ownership as subjective to the characteristics of the partners engaged in the IJV, for example, in developed country partnerships with developing country firms an uneven partnership was best provided it was in favour of the developed market partner. Such an agreement allowed sufficient internalisation to promote greater commitment to the JV by the often larger and better endowed developed country partner. The contentious issue of ideal equity distribution is compounded by Demirbag and Mirza (2000: 6) who suggests that there is, in fact, no relationship between equity distribution and the performance of IJVs. However, it is important to reiterate that the bias in research is towards the developed markets and their firm's interests. So the relationships they suggest between equity distribution and successful performance have in many cases only considered benefit from the perspective of the developed country partner.

In the context of the firm value model of Section 2.5 the cash flows that affect firm value could be influenced by alliance characteristics (AC). For example, the equity distribution of the venture influences how the IJV's returns are shared between partners which has a bearing on the cash flows firms can expect and receive from their participation in the IJV. If a firm holds a high amount of equity it can expect to enjoy a high amount of the venture's return/ cash flow ($V_{Cash\ Flows}$) with its corresponding impact on the value of that firm. Conversely, a low equity holding would mean a low share of the venture's return and a correspondingly lower impact on firm value. It could also be argued that equity relates to the burden of risk as much as it does the share of returns. From the perspective of risk and cost, high equity holders face the greatest cost and the largest negative impact on net cash flows when the venture returns are negative. In this case high equity holders suffer greater reductions in firm value when the IJV performs poorly. Crucially, regardless of perspective taken, the model would suggest that alliance characteristics could help explain the differences in the firm value that IJVs create.

3.2.4 Country Specific Factors

These relate to conditions both in the JV host country and JV partners' home countries that influence venture performance. Nationality plays an important role in understanding the performance of JVs. This is because nationalities, or more accurately, nationality determined differences between IJV partners incorporate several key factors that influence business performance such as cultural distance, political risk and levels of economic development (Llaneza and Garcia-Canal, 1998 and Parkhe, 1993). Nationality, as with most of the other factors, has no unique influence on IJV performance. Hennart and Zeng (2002: 699) indicate that when two firms from the same country maintain an IJV operating in a foreign country, the IJV has a strong chance of success on the strength of the partner firm's understanding of each other's cultural, political and legal environments.

England (1978) suggested that work values would differ by culture and that these work values influenced the quality of the cooperation of any two firms. Where firms had different cultures, as would be the likely case between firms from disparate geographical locations, success in cooperative endeavours was going to suffer. England's idea seemed to suggest that successful international cooperation required congruence in cultural values which would be the case when the collaboration was between firms from countries close to each other, put differently, the view suggested that collaboration between two Asian firms would be better off than a similar collaboration between an Asian firm and a non-Asian firm.

Adding to the concern over national/cultural differences, Reich and Mankin (1986) suggested that cultural differences affected the level of trust within an IJV. Differences in culture affected the ability of firms to meaningfully trust each other with resources and knowledge, to the detriment of the venture. Specifically, they noted the concern over the use of "Trojan horses" which were ventures designed by one partner to absorb as much of its partner's knowledge and resources in order to ultimately open a competing operation and break up the venture. Hamel (1991) goes further to suggest that collaboration with Asian firms that had developed in highly competitive environments were more likely than others to create "Trojan horses".

While Reich and Mankin and England would suggest that differences in where venture partners are from would influence their value creation ability, Hennart *et al.* (1999: 27) pointed out that

such differences were easily mitigated nullifying the influence of the geographical location of venture partners on IJV firm value creation. This was because IJVs were not static learning models where all relevant information was immediately available to all partners but that each partner continued to contribute to the venture as it progressed ensuring that it did not become obsolete and that any possible nationality/cultural difference induced predatory instincts would be neutralised (Hennart *et al.*, 1999: 33).

Church (1982) identified language, a factor closely associated with the country a firm is from, as a key driver of successful collaboration. IJVs are, by definition, collaborative entities and so require efficient and effective communication between partners. Differences in the principal languages of communication would affect the ability of IJVs to succeed and create value for their partners. In this way Church (1982) supported England's (1978) and Reich and Mankin (1986) idea that differences in where the partners in a collaborative entity were from would influence the success of their collaboration. On the surface it would seem that the authors' work leads to the same conclusion, that differences in nationality negatively influence firm value creation in collaborative business but this is not necessarily the case. If the factors were jointly considered, for example, while South Africa would be geographically closer to Mozambique and Angola and so would be likely to share some similar cultural elements the fact that that South Africa is an Anglophone country while the others are Lusophone countries could mean that South African firms could find collaboration with a British partner (Anglophone country) easier than with a much physically closer, and potentially more culturally similar, African partner.

More recently, the economic status of the partner country also came into focus as the Investment Opportunity Set hypothesis was put forward by Frohl's *et al.* (1998).

Investment Opportunity Set hypothesis

In the Investment Opportunity Set hypothesis IJVs with developing country partners were more beneficial than those with developed country partners because countries differed in respect to efficiency in product and factor markets. Developing countries offered greater growth opportunities because they were more likely to have areas for more efficient firms to successfully exploit. According to Frohl's *et al.* (1998) developing countries provided the most beneficial venture partners.

Essentially Frohl's (1998) theory considers country specific factors (CSF) as determinants of the value of the growth options (V_{GO}) a firm has. This theory is built on the value of the promise that less efficient partner countries may provide. Consequently, it is decidedly optimistic in its assessment of value creation as the developing countries often carry considerably more political and social risk than developed countries as identified by Singh and Jun (1995). The Investment Opportunity Set hypothesis can be seen to work within the context of the firm value model of Section 2.5. If growth options are taken to be important drivers of firm value creation through IJVs then the suggestion the developing countries offer superior investment opportunities suggests that they have greater growth options which would explain Frohl's *et al.*'s (1998) conclusion that they provide superior IJV partners.

However, the model could also be used to explain why developing country ventures would be inferior to those with developed country partners. The developing countries are likely to suffer greater political and social risk which would negatively affect IJV operation and success and counteract any growth prospects the developing country partner may have offered. Governments could change the political, cultural and social factors which determine the viability of the growth options available to IJV partners. Where the threat of such change is high, the uncertainty of IJV growth options is high and firm value creation suffers.

3.2.5 Institutional Factors

These are factors that control and guide individual and collective action within a group (Hanninen and Ollonqvist, 2002: 2). In the context of IJVs these would relate to the partners' standard practices and the industry specific conditions that would influence the success of the venture. They include political, social and legal norms and practices in the parent firm home countries and the country where the venture is to operate. Root (1988) and Simonin (1999) indicate that the importance of cultural distance⁴² in venture performance comes from the uncertainty it creates about a partner's future work related conduct and the impediments for knowledge transfer between partners. Large cultural distances, often an element of IJVs between developed and developing countries, suffer from a lack of trust given that partners hold great scepticism regarding each other's intention to act in a mutually beneficial manner. In cases

⁴² As can be seen, cultural distance falls under the ambit of both Country Specific Factors and Institutional Factors.

where partners are culturally similar, trust is higher, information exchanges are greater and the chances of opportunistic behaviour are reduced which results in a greater likelihood of desirable IJV performance (Harrigan 1988). In addition, Hanvanich (2005: 4) contend that closer cultural similarities allow better communication between partners which serves to similarly enhance the chance of successful IJV performance. Moreover, Harrigan (1988: 222) goes further to suggest that “symmetry in national origins is not as important as cultural homogeneity”. This distinction is not to say that nationality does not play a part in venture performance, but that cultural distance may be the key variable that is sometimes encapsulated in the consideration of nationality. It may be an important variable in its own right that may possess greater explanatory power in IJV performance than nationality.

In the context of the firm value model of Section 2.5 institutional factors (IF) such as the differences in the cultures of the venture partners would affect the efficiency of the IJV and its ability to generate the returns that provide the cash flows that influence the value of the firm ($V_{Cash\ Flows}$). In relation to growth options, political restrictions limit the extent to which they can be exercised, for example, the restrictions on the ownership of mining operations in West African countries (Boateng and Glaister, 2002). An IJV that faces significant institutional challenges may have its returns negatively affected and the cash flows to its partners similarly impacted. It could be argued that closer social and political norms could improve IJV operation, its success and returns, the cash flows its partners enjoy and ultimately the firm value they enjoy as a result of participating in the IJV.

As can be seen from the preceding, there are several possible formation characteristics to investigate, particularly, in South Africa where there is no previous published IJV research. It would be impossible to test all characteristics so the study must select a few for further investigation. The study now focuses on four contentious formation characteristics that not only feature prominently in IJV literature but are particularly relevant in the South African context as explained in Chapter 1. These formation characteristics are the geographical location/ origin of partner, the economic status of the IJV partner’s country, the equity held in the IJV and the industry in which the South African partner operates.

3.3 THE FOUR SELECTED IJV FORMATION CHARACTERISTICS

3.3.1. Origins/Geographical location of an IJV partner

International equity joint ventures are by definition collaborative businesses involving participants from at least two separate countries⁴³. The fact that IJVs necessarily involve different countries creates the threat that significant differences in the legal, political, social and cultural values of the countries may impact the performance of the IJV and its ability to create value for its firms. As such they carry the additional burden over domestic ventures of trying to manage the interaction of stakeholders from disparate locations with their different cultures, business practices and views of the nature and purpose of collaborative business. It is because the origins of a partner encompass all these factors that they can be considered to play a role in the efficiency and effectiveness of the collaboration of venture partners, ultimately, influencing firm value creation.

The influence of the origins of a partner are considered manifest in three factors considered to influence IJV success, the first is, cultural distance, where the degree of differences in culture plays a role in venture success, the second is political risk where differences in the legal and political systems impedes or promotes efficient collaboration and, thirdly, the level of economic development that influences the contributions venture partners can make to the joint operation (Llaneza and Garcia-Canal, 1998 and Parkhe, 1993).⁴⁴

The idea that countries had distinct national cultures that are capable of influencing the nature of their business operations stems from Hofstede's (1980 and 1983) analyses of the "values" of individuals in different countries. Based on an analysis of MNE employees in 40 countries, Hofstede suggested that individuals in different countries had different views on important matters affecting how they conducted business⁴⁵.

Hofstede's (1980) work is ubiquitous in the international business literature (Kapp *et al.*, 2011: 3). This can be attributed to the intuitive appeal of the notion that people in different countries

⁴³ This is true even where the venture is between two MNEs from the same country as they must still operate in a foreign country for it to be an IJV.

⁴⁴ As the level of economic development is considered as a separate factor in the study the analysis of origins focuses on the cultural distance and political risk.

⁴⁵ See Hofstede (1980) for a description of the factors.

with different programming due to societal norms and laws would share views with those with similar national conditioning and different views with those whose programming was in a different country. As Hickson and Pugh (1995: 90) suggest national culture “shapes everything” including individual business conduct. Moreover, Root (1988) suggests that cultural differences create uncertainty about a partner’s future work related conduct encouraging opportunistic behaviour which affects the success of the IJV. This opportunistic behaviour could be explained by the Agency Theory in which the success of the joint venture was dependent on ensuring principals and agents fulfilled their venture obligations under conditions of conflicting cultures. The implication of Hofstede’s work for IJVs was that the closer the similarity in nations’ programming the greater the ability of their firms to successfully collaborate.

Despite the popularity in the literature, McSweeney (2002: 89) challenged the idea of a “national culture”. Diverging from the popular acceptance of Hofstede’s analysis the author questioned the theorising of culture as national. Rather, he suggests that the origins of a firm cannot sufficiently differentiate the individual firm’s behaviour, for example, simply because a firm was from a high uncertainty avoidance⁴⁶ classified country did not mean that the firm actually had high uncertainty avoidance. While Hofstede’s idea of national programming influencing business conduct has intuitive appeal, the challenge by McSweeney appears to also share intuitive appeal by challenging the idea that geographical locations are powerful enough to colour firms behaviour and standardise them to a particular area.

Avny and Anderson (2008) provide support for McSweeney’s (2002) challenge of national characteristics by drawing a distinction between national and organisational culture and ask whether the organisation’s culture mitigates the effect that differences in national origins would have on business views. In this way organisational culture would prevent the ability of researchers to identify origin specific cultural distance influences on the success of IJVs.

Schein (1981) identified organisational culture as the norms, systems and views of the firm developed within the firm. This firm specific culture meant that a firm could be a highly risk averse company in a country with a high propensity for risk taking. Avny and Anderson (2008) presented it as a mitigating factor nullifying partner origins in IJV performance and firm value

⁴⁶ Uncertainty Avoidance refers to the tendency to accept risk with high Uncertainty Avoidance denoting risk aversion and low Uncertainty Avoidance denoting a greater tolerance for risk.

creation. If organisational culture was stronger than national culture, partner firm origins would not be able to explain venture success and failure.

The debate on national and cultural origins is best exemplified in the debate on the “Trojan horse” phenomenon. Reich and Mankin (1986) suggested that IJVs with Japanese partners were vulnerable to Trojan horses. These Trojan horse IJVs were ventures in which Japanese firms used the collaboration of the venture to acquire as much information as possible from their partner before dissolving the venture and opening a competing operation as an individual firm. These Trojan horses allowed firms to reduce their initial investment risk by entering an IJV then allowed them to increase the profitability of their operation by removing the need to share benefits with a partner. In this way Reich and Mankin were cautioning IJVs with Japanese partners on the strength of a national propensity towards co-opting venture benefits for themselves. In challenging the Trojan horse phenomenon Hennart *et al.* (1999) suggested that the seeming national culture of co-opting venture value for the individual firm was simply a greater comparative advantage in internalising skill by the individual firms analysed to identify the Trojan horse phenomenon. In this way not all IJVs with Japanese firms would be Trojan horses because the firms did not all share the same comparative advantage in internalising skill. Moreover, as the key factor was internalising skill, the Trojan horse was not limited to Japanese partners and would be observable in IJVs with different partner nationalities. The question of whether or not origins of partners influence venture performance for individual partners therefore remains a part of the debate with the role of national and organisational culture at the centre.

The second element relating to nationality is the difference political risk has for venture success. It encompasses the differences in the political and legal environments of venture partners that potentially affect the ability of the firm to successfully achieve its objectives and ultimately create value for its individual partners. To illustrate, countries may hold different views on the sanctity of property rights with one country’s government holding them with unequivocal support with another not holding them in such regard. This temporary nature of the IJV reduces the negative impact of political risk.

The problem with political risk is that it exaggerates the normal risk of investing in a foreign country (Yulong *et al.* 2003: 49) The greater the political risk, the greater the threat to profitability and value creation. In the case of IJVs, Phillips-Patrick (1991) suggests that the

political risk has helped promote the IJV because of their temporary nature. Where political risk is high the IJV ensures that firm's commitments are transitory and renegotiated to continue or dissolve them depending on the prevailing political situation.

The question for researchers has been whether or not countries with high political risk and potentially greater IJV instability provide less desirable venture partners than more stable countries. If this is the case venture benefit will differ depending on the origins of the venture partner as a reflection of differences in political risk. Ventures with partners from one region will be more beneficial than ventures with partners in another region.

Yulong *et al.* 2003 suggest that differences in the political risk of a partner's country would influence the benefits the venture's partners enjoyed, allowing value creation to differ by origin of partner because of differences in underlying political risk. However, Janakiramanan and Lamba (2004) suggest that political risk can be mitigated which could prevent a link between partner origins and venture success based on political risk in the partner firms' countries. Janakiramanan and Lamba (2004) suggest that the venture contract can be structured to protect a firm from the risk of expropriation of assets and resources, for example, by keeping the term of ventures short and renegotiating them regularly the firms anticipate potential problems and respond pre-emptively a phenomenon the author suggests will be evident in empirical studies that identify venture benefits for individual partners in both high risk and low political risk countries. In so doing such findings would prevent the emergence of a pattern between value creation and the origins of a partner according to their political risk. However, it is important to note that the creation of an equity joint venture invariably commits equity to political risk regardless of the length of that exposure.

In the empirical literature⁴⁷ the Trojan horse phenomenon of Reich and Mankin (1986) was identified through questionnaires to the management of firms in partnership with Japanese companies. These managerial sentiments cautioning the US-Japanese IJVs were reinforced by Pucik's (1988) study of Japanese-EU joint ventures which reiterated Reich and Mankin's (1986)

⁴⁷The focus of this empirical literature is on whether or not the origins of a partner can help to explain firm value creation through IJVs. As such it does not delve into the empirical literature on cultural distance and political risk but focuses on whether partner origins should matter to IJV partners and if so how cultural distance and political risk may help to explain the relationships observed.

perspective on the role culture could play. In concluding their analysis of 23 joint ventures they suggested that joint venture agreements involving Japanese firms were geared towards making the western partner obsolete. More evidence of the Trojan horse phenomenon came from Hamel's (1989) interviews of the management of the actual IJVs. Hamel (1989) concluded that all JVs allowed partners to create value and/or appropriate it from their partners. According to the findings, national culture played a role as to which of the methods of value accumulation was followed – some cultures had a propensity towards value appropriation and so made poorer venture partners than those that did not.

However, despite the temptation to conclude that partner origins would influence IJV success and consequently IJV value creation, Hennart *et al.* (1999) observed evidence contradicting the previous findings. Tracking IJVs with Japanese partners to assess whether they exhibited the opportunistic behaviour they had been associated with, the data showed that Japanese firms were no more likely than other firms to engage in opportunistic behaviour. The change in method of investigation from subjective interviews to objective data tracking challenged an idea that had been identified in three separate studies that had suggested that the origins of a partner mattered in IJV success.

Meschi and Hubler (2003) who studied the impact of 47 Franco-Chinese joint ventures on the French partners' shareholder value observed that on average French partners had reduced value when partnering with Chinese firms. However, the immediate question the result raised was whether or not the reduced value could be attributed to the Chinese partner or was the observation a reflection of poor value creation for French IJVs in general. If French IJVs are value diminishing, then analysing them in relation to a partner from one specific country gives the impression that it is that country's partnerships that are value diminishing when the problem is not with the venture partner.

Combating the potential bias in analysing a single partner origin, Park and Ungson (1997) studied US-Japanese IJVs and compared them to US-US joint ventures to ascertain whether or not the origins of a partner truly influenced venture performance. The authors found that the origin of a partner, contrary to Hofstede and the literature supporting his view, did not manifest itself in the performance of the international business operations. Moreover, when Park and Ungson specifically considered the potential effect of cultural distance in the origins of the

partner they observed no significant difference between having a domestic partner and a foreign partner. The idea that the origin of your venture partner influenced its success or failure was being challenged by the empirical evidence.

Makino and Beamish (1998) extended the analysis of Park and Ungson in a study of 737 Japanese IJVs and considered the effect that partner nationality had on venture performance by investigating the differences between ventures with two MNEs from the same country working together, an MNE and a local firm and two MNEs from different countries where neither is a local firm. In contrast with Park and Ungson (1997) and Ma *et al.* (2003) the authors observed that the origins of a partner influenced venture performance and the likelihood of survival.

Ma *et al.* (2003) studied the impact of partner origins through the stock returns of US companies in IJVs with Chinese firms. The authors concluded that the origins of a partner influenced the value created by collaborative business operations. In particular they observed how the perception of political risk in a country affected the firm value it created for its partner firms. However, despite noting a relationship between firm origins and value creation the authors noted how the impact of firm origins on firm value was temporary. Analysing the effects of the Tiananmen Square Incident on US-Chinese ventures the authors observed that responses to political risk did not affect individual firm value in the long run. Put simply, the origins of a partner had a transitory impact on firm value and so did not alter value creation in the long run.

With conflicting evidence on whether cultural distance influence the interaction of venture partners and help determine their success or failure, Avny and Anderson (2008), studying 66 Israeli IJVs, observed how cultural differences, a key component in the argument supporting the influence of partner origins, did not influence venture success. Rather, it was the level of trust between firms that determined success or failure in the context of venture partner selection. Where origins coincided with trust the evidence would seemingly show a relationship between venture partner origins and value creation in IJVs. For example, analysing US-Japanese IJVs in a sample with a bias towards high technology firms with sensitive and imitable intellectual property in a global business environment with swift information replication and dissemination may suggest that Japanese partners negatively influence IJV value creation when it is the nature of the industry and the composition of the sample that have actually influenced the level of trust in the IJVs negatively changing value creation potential.

Avny and Anderson's (2008) study also distinguished national culture from organisational cultures and found no evidence to support either of them as a determinant of value creation in IJVs. This followed the findings of Hanvanich *et al.* (2005) that found that cultural differences could be mitigated except in high technology industries with high levels of information sharing. Hanvanich *et al.*'s (2005) analysis while beginning with an investigation of culture concluded that different industries had different value creation effects as investigated under the impact of the industry of the South African partner.

As can be seen from the foregoing, the question of whether the origins of a venture partner affect its ability to create value for a company is a contentious matter in the empirical literature. The theoretical literature is divided on the significance and nature of the impact of national cultural differences while it was argued that the issue of political risk could be mitigated through the clauses agreed upon at the inception of the IJV. It would be important to ascertain on which side of the debate the South African IJVs will fall as it will inform whether or not there should be a bias in the promotion of some venture partners over others on the basis of where the partner is from.

3.3.2 The Economic Status of a partner and IJV firm value creation

One of the leading questions for researchers in an economic environment of increasing globalisation and proliferation of IJVs is whether or not the level of economic development in an IJV partner's home country influences the performance of joint ventures and their ability to enhance partner firm value (Beamish, 1994). The first question that needs to be answered in determining whether economic development affects venture performance is to define what a developed country and a developing country are and what distinguishes them from each other in order to understand what influence they may have on venture performance and value creation.

The IMF's (2011) World Economic Outlook distinguishes developing countries/advanced economies from developing countries/emerging economies according to three criteria; 1) per capita GDP 2) export diversification and 3) the degree of financial integration into the global financial system. The first criterion refers to the depth of a country's wealth in relation to its population. The second refers to the reliance of export revenue on a small number of exports. The third, considers the extent to which domestic financial markets are integrated into global

financial markets. While the classification criteria do not have strict thresholds differentiating one group from the other the classifications have evolved over time to provide reasonably meaningful methods for organising data (IMF, 2011: 169). As such the classifications reflect changes in the economies of the world to determine whether they have sufficiently changed in regard to the three criteria in order to warrant a reclassification or maintenance of their current grouping.

Following on from the definitions, an IJV with a developed country partner meant a partnership with a firm from a country with a strong GDP per capita, export diversification and financial integration in the global financial market to a developing country. As these are the distinguishing features of the two classifications it stands to follow that the impact on value creation will be based on these differences. These criteria are discussed below.

Financial Integration

Global financial integration relates to the extent to which traders can transact financial assets across national borders (Kim and Lee, 2012: 2). This freedom to transact allows greater freedom for capital flows. The greater financial integration in developed countries means that their firms have greater exposure to these global capital flows. To illustrate, a German partner may be able to finance an important part of its venture obligation through a Eurobond issued to an Asian firm which would be a facility that is not available to a firm in a less developed country wanting to issue bonds denominated in its local currency. Financial integration increases as firm's access to larger investment and debt markets (Agenor, 2003: 1089-1091). This superior access would help firms honour their IJV obligations and insulate them from potential cash flow shocks.

In the context of the IJV, it is not entirely clear whether this influences the value created by the IJV for its partners. The question is whether a developing country partner without similar access to global markets can also provide the same guarantee to honour obligations and have the insulation to cushion themselves from temporary financial setbacks allowing them to match the benefits of having a developed country partner.

Export Diversification

Export diversification refers to the diversity of the exports a country has. The greater export diversification the lower the exposure of the developed country partners to systemic shocks within their economy created by the failure of the country's chief export, for example, Mujumdar (1968) notes how the dependence of Zambia on copper exports in the 1960s exposed the economy to cycles in copper demand leaving the entire economy vulnerable to fluctuations in the global demand for Zambian copper.⁴⁸

Essentially, the economic stability of the country where a firm was from influenced the stability of the firm itself. Exposure to one's national economy meant that it could be an important consideration in determining a venture partner's ability to honour financial and resource commitments which would ultimately affect the firm value a firm enjoyed. On the subject of exposure to macroeconomic shocks, it could be argued that an unstable GDP per capita could cause the same vulnerabilities that poor export diversification causes because of its potential impact on a firm's domestic sales and revenue.

Given the definitions above and the role economic development could play in the value creation capabilities of IJVs, different researchers have sought to defend its consideration in the decision to enter collaborative businesses.

Despite the argument supporting the superiority of developed country partners on the strength of the potential value of financial integration, the fact that a firm's access to capital was not necessarily related to where it was from meant developed country partners did not necessarily enjoy the benefits of the liberal capital flows their countries engendered. Similarly, a firm in a developing country was not automatically incapable of accessing foreign capital or temporary cash flows. If, for example, a French firm with a poor credit rating worked with a large Egyptian company with a strong credit rating the financial insulation provided by the availability of debt facilities would be available to the Egyptian partner and not the French partner, making the Egyptian firm the more suitable venture partner. Moreover, access to debt facilities should only be a concern when there is a strong possibility that they may become necessary. Some IJVs in

⁴⁸ This was the case because falling export receipts lowered national income which lowered firm output and employee demand which in turn negatively affected aggregate demand affecting all economic participants in the country (Mujumdar, 1968: 293).

which firms make their contributions at inception and have minimal financial contributions thereafter may not value the capital and debt access of developed country firms. In this case developed country partners could not be viewed as decidedly more beneficial than developing country partners because of their access to superior financial markets.

So far the argument has centred on the merits of the developed country partner and what they mean for value creation but has not considered the developing country partner as a superior IJV partner.

Lee and Beamish (1995) suggested that IJV stability (defined as the likelihood to remain unchanged and survive) was greatest when firms had realistic expectations of each other. In an IJV between developing country firms, venture partners are unlikely to overestimate the contribution their partner will make to the venture and, consequently, what impact the venture will make to their individual firm value creation. These realistic expectations meant that South-South IJVs would be more stable than South-North IJVs. In the context of the study, the IJVs between South African and developing country firms would be more stable and allow for superior IJV performance and value creation.

The questions raised require empirical evaluation to ascertain if developed countries offer better venture partners than developing countries or if the opposite might be true for a developing country partner selecting an IJV partner.

While the matter has received some empirical attention, the literature is, as with most IJV literature, considerably skewed towards the perspective of firms in developed countries. This, however, does not in itself provide sufficient cause to investigate the matter for developing country partners. It is important to find sufficient reason to believe that the developing country perspective may differ from the developed country perspective. To this end the empirical evidence on economic development and partner selection in IJVs is discussed.

To this study's knowledge the question has received little explicit attention from the perspective of the developing country partner focusing rather on value effects for developed country partners entering into partnerships with developing country partners (cf. Lecraw, 1983; Beamish, 1994;

Lee and Beamish 1995⁴⁹; Hyder and Ghauri, 1999; Ahiaga Dagbui, 2011), or the perspective of Foreign Direct Investment (FDI) and economic development of the venture's host country (cf. Wang, 2009 and Tuan and Quang, 2003), or the studies that have evaluated the value effects for developing country partners with developed country partners (cf. Lyles and Salk, 1996) but the investigations have not compared developed country and developing country partners from the perspective of a developing country firm. The one notable exception is Ali (1995) who investigates Vietnamese IJVs with developed and developing country partners. As a result of the limited attention given to the subject, the literature is discussed to reveal implications for developing country partners of partners from countries with different levels of economic development.

According to Acquah's (2009) investigation of 76 IJVs the origin of a partner determines the business strategy of an IJV and has implications for the success of that venture. When a firm had a partner from a developed country value creation and venture performance required a focus on product/service differentiation while alliances with developing country partners required a focus on efficiency (Acquah, 2009: 46). The value of the finding was in that the author found evidence that IJVs could be differentiated by the economic development of the partner's country lending credence to the idea that the source of the partner may need to be critically compared rather than viewed as similar.

Aggarwal and Agmon (1990) reinforce the distinctions between developed and developing country firms. Studying the success of Asian firm internationalisation, the authors discovered that government-induced comparative advantages allowed the firms to successfully operate outside of their national boundaries. Specifically, the result meant that a developing country firm in partnership with another firm generally required the support of its government, mainly through financial concessions, to be able to successfully operate internationally. In relation to IJVs the fact that developing country firm's success could be attributed to active efforts by their governments to facilitate that success meant that a developing country partner may need to be vetted to ascertain whether the firm's country assists the internationalisation of its firms otherwise the partner would struggle to succeed in the international environment thereby

⁴⁹ Although Lee and Beamish's (1995) study focuses on Korea which was technically not a Developed Country, the authors note that it was a peculiar developing country and that the perspective of their work still focused on the implications of results for venture partners in Developed Countries (Lee and Beamish 1995: 638).

threatening its contribution to collaborative businesses and the value creation it might have for those partners.

Lee and Beamish (1995) studying 31 IJVs involving Korean firms tested whether existing models of IJVs and their understanding was applicable outside of the developed-developed country context. They concluded that the characteristics of the IJV differed depending on the economic development of the IJV partner. In North-North IJVs⁵⁰ equity holdings were strongly related to IJV control while in North-South IJVs the relationship did not hold. To explain the difference the authors noted that developing countries held “aspirations of local domination” ensuring that matters such as equity holdings which may have been decided by contributions to the IJV (as suggested by Mjoen and Tallman, 1997) would be determined by political influence. In combination with the position of Barden *et al.* (2005) that suggested that where equity holdings did not reflect contributions to the IJV, venture performance was threatened when a firm had a developing country partner. Developing country partners were more likely, according to Lee and Beamish’s (1995) results, to force such a venture performance threatening disconnect between ownership and contribution.

The study by Ali (1995) explicitly investigating the developing country partner’s perspective studied 59 Bangladeshi IJVs through questionnaires designed to determine the success and failure of the IJVs and the characteristics that distinguished the developed country and developing country IJVs. The study found that the IJVs differed in terms of the level of previous IJV experience the partner had, the size of the partner firms and the level of technology used in the venture. However, based on the assessments of Bangladeshi IJV managers the study found that, crucially, despite the significant differences the ventures did not perform differently. IJVs that partnered one group were not decidedly better than those that partnered the other.

While Ali (1995) provides an answer to the question, there are some limitations that warrant further investigation of the subject. Firstly, the study is based on questionnaires given to Bangladeshi managers which according to the work of Lyles and Salk (1996) and Rajan (2004)⁵¹ are often skewed towards overestimating the value of developed country partner IJVs. Secondly,

⁵⁰ Here “North” describes Developed Country firms and “South” describes Developing Country firms.

⁵¹ As previously noted Lyles and Salk (1996) noticed the positive skew in Hungarian managers’ expectations of IJV benefits when the partner is from a developed country and Rajan (2004) noted the same skew in British-Indian IJVs as assessed by the Indian partner.

with the test limited to Bangladeshi managers its applicability in South Africa may be limited. There is a need to ascertain if the similarity in performance is confirmed in objective assessments on a different data set.

In summary the question here is whether a South African firm is better suited to partnerships with fellow developing country firms or if the level of economic development in a partner firm's country is inconsequential. While the research has advanced in developed countries sufficiently to justify prescriptions on the management of the venture based on the type of partner selected, there is need for more evidence from the perspective of the developing country to ascertain whether the value effects are different for the two types of partners and if so where the differences may lie and what the implications of those differences would be.

3.3.3 Equity Distribution

The theory around the potential role of equity in IJV performance and firm value creation has focused on answering two questions, the first is whether equity is a factor in venture performance and value creation and the second is, if so, how does equity influence the performance and value creation of IJVs. The proponents of equity as a factor in venture performance, despite holding conflicting views on its role, suggest that different levels of equity distribution in an IJV influence the conduct and interaction of venture partners.

In Franko's (1971) pioneering work on the role of equity in multinational collaborative businesses the author noted how equity represented a firm's bargaining power within the IJV. As a representation of the influence in the venture, equity holdings determined the ability of partners to steer business operations in their favour. Holders of higher levels of equity were able to manage the IJV in their favour while holders of lower levels of equity had less power to do so. In this way, viewing the venture from the perspective of the partners would yield different results in terms of success and failure based on differences in the equity held by each firm. Put simply, ownership in the form of equity represented control of the venture, this was a position supported by Grossman and Hart (1986) and Anderson and Gatignon (1986). Moreover, accepting this link between equity and control allowed the acceptance of equity as an influence of venture success based on Geringer and Herbert's (1989) and Lee and Beamish's (1995) identification of a relationship between a firm's control of a venture and the performance of the venture for that

firm. It was this critical ability to skew the focus of the benefits of the cooperative efforts of the venture on one partner over another that made equity an important factor in collaborative businesses and a keenly contested matter in IJV agreements.

To reinforce the role of equity in the outcomes of international joint ventures, Killing (1983) pointed equity holdings as a tool to combat barriers to collaboration caused by cultural differences. When an IJV had a dominant partner to dictate the final decisions of an operation that operation was more likely to succeed than an operation in which equity was shared and cultural conflicts created decision stalemates.

In addition, one of the consequences of Franko's (1971) identification of equity as a factor in the power held by partner firms was that partners who were aware of the ability of firms to abuse their equity holdings were more inclined to change their behaviour to the potential detriment of the venture. In this way minority equity holders had less incentive to fully commit their resources and skills to the venture. This was a point supported by Lyles and Salk (1996: 7) who noted that equal equity holdings were increasingly popular in order to ensure partners remained fully committed to mobilizing the promised skills and assets the venture needed to succeed.

The authors above each noted the influence that equity could have on the success of an IJV and its ability to create value for its partner firms. The authors, however, were not in agreement as to the nature of the relationship between the two, for example, did higher equity mean greater value creation for firms. According to Franko (1971), yes, but according to Lyles and Salk (1996) such an unequal distribution of equity could threaten the ability of the venture to function let alone create firm value for its partners.

It is at the conflict over the nature of equity's role in a venture's success that opponents to the link between equity and venture performance begin to find credence for their argument. Yan and Gray (1994) challenged the link between ownership, as represented by equity, and control over business decisions. For the authors, ownership was not directly correlated to the control a firm had over a venture and its ability to steer the venture in its favour. This was because such control was simply mitigated through formal contracts restricting what each partner was permitted to do. In this way a majority equity holding would not provide an opportunity for the holder to take advantage of the minority holder/s because of contractual restrictions on what it could do. Since

the effects of equity were often mitigated by contractual restrictions, attempting to use them to explain venture performance would yield conflicting results because in cases where formal contracts existed to mitigate abuse of equity holdings no relationship would be found while in any evidence of links between equity and performance would be simply coincidental.

The argument around the ease of mitigating the effect of equity and so nullifying its perceived impact was supported by Herbert (1984) who noted that the view of proponents of equity as a determinant often represented control as a single concern with a firm either having control or not having control. Rather, the author presented control as specific to different areas of the business allowing a firm to have control in one area and none in another, for example, a venture in which one firm is providing the transport for a mining operation while another is doing the extraction of minerals. In such a venture an equity split heavily in favour of the firm extracting minerals would not provide scope for abuse of its equity as its minority partner had control over a critical component of the operation.

Mjoen and Tallman (1997) and Pan (1997) proceeded to identify that a firm's equity holding was often the function of bargaining power and not necessarily a representation of actual control of the IJV. This was particularly the case where an IJV's host country's government insisted on a politically motivated equal equity split between an MNE and a local firm while conceding effective control to the MNE through its management's control over critical decision making.

The question of whether or not equity holdings influence IJV firm value creation condensed to the following; opponents of equity as a determinant of value creation identified how it was often mistakenly used as a proxy for control which was not necessarily determined by equity. Proponents of equity, who initially argued that equity was a good proxy for control through Franko (1971), Grossman and Hart (1986) and Anderson and Gatignon (1986), could argue that even where the link between equity and control was challenged the fact that the equity distribution influenced the motivation to mobilise resources, as suggested by Lyles and Salk (1996), still meant equity influenced the performance of IJVs and the value they created for their partners.

Contractor (1990) provides an explanation for the influence of equity on the profitability of collaborative business modes geared for international business. The author suggests that the return for all partners in collaborative business is as follows;

$$\pi = R + \alpha S + \alpha C - T - I \dots\dots\dots 3.1$$

Where π is profit, R is the income accruing to the firm through items such as royalties, S is the sales revenue for the venture, C are the costs for the venture, T are the transactions costs borne by the firm and I is the internal cost of managing the operation and α is the equity holding of the firm.

From this representation, maximising profit (π) requires the firm to maximise the revenue it earns while minimising its costs. To do this the firm can increase its equity holding and raise its claim on S but this brings an increased burden of contributing to C while factoring in in that higher equity lowers the cost of T and I as these costs centre on managing the venture.⁵² Reducing equity reduces C but also reduces S and raises T and I .

Contractor (1990) shows equity as a substantial contributor to the profit enjoyed by each firm participating in a joint venture. In this way equity might not influence control nor be a good proxy for it, but it does influence what each partner takes away from the venture. In this way equity might not explain how the venture performs in terms of its specific goals but it certainly determines what each partner gets out of the venture with different levels of equity entitling their holders to different shares of costs and revenues.

As noted in the literature above proponents of equity as a concern in IJV performance and value creation still differed on the effect it would have. Bleeke and Ernst (1991) studied 49 cross border alliances between leading US, European and Japanese companies and found that ventures with an equal split in ownership were more likely to succeed than those where firms had unequal ownership. This was because the equity split represented claims on financial returns of the venture which needed to be equal to encourage venture partners to fully commit to the venture. Additionally, the authors noted that when it came to the issue of control that was often conflated

⁵² If a firm holds more equity it reduces the costs burden of sharing information with its partners, T (technology transfer, for example) and it lowers the additional costs the venture creates in terms of internal management and controls, C . It should be noted that in a wholly owned subsidiary these two (T and I) would fall to zero.

with equity, unequal control was preferable to equal control in order to effectively manage the venture. Crucially, Bleeke and Ernst presented equity as determinant of venture success independent of a link to control. Put differently, equity need not represent control for it to be a determinant of venture success.

Blodgett (1991) reinforces the value of equity in determining venture success even when not related to control. This was because the manner in which venture rewards determined venture success and the manner in which the rewards were split was determined the firms' equity holding. The evidence for this came from the observation that venture partners, upon observing that their contributions were not commensurate with their original division of benefits, forced a revision in the distribution of benefits making the ventures unstable. This instability had a greater occurrence when partners had an unequal distribution of equity at commencement. Moreover, Blodgett (1991: 67) noted that even when a firm had a dominant position relative to its partners it still sought an equal distribution of equity showing more proof that equal equity distributions were superior to unequal ones.

Essentially, the argument for an equal split suggests that equal equity holdings encourage venture partners to honour their obligations by dissuading them from engaging in opportunistic behaviour. However, Killing (1983: 24) had previously observed that ventures with equal equity created a vacuum where venture workers did not know where authority was truly vested. This, the author suggested was compounded by the inevitable cultural conflicts of international business operations. If all partners agreed in all matters relating to matters such as work practices, rules and ethics the lack of clearly identifiable dominance could be tolerated. However, this was unlikely to be the case necessitating uneven equity splits in order to ensure that the shared management of a venture did not impede its efficiency and effectiveness in decision making and implementing those decisions.

In a study of 66 US IJVs through a survey of partner satisfaction, Beamish (1994), observed that equity was related to costs in the efficiency of decision making. When a firm conceded equity to a partner in an IJV, it was sharing not only resources and rewards, but influence on the activities and decisions of the venture as well. This made the venture's decision making less efficient. Where one partner still had the majority of the equity that partner could mitigate the loss in efficiency by exercising its position as the majority equity holder to expedite decisions (Beamish,

1994: 7). Moreover, when the ventures were between firms in developed and developing countries allowing the partner making the largest contribution to the venture the majority equity holder made the partner more likely to commit those resources to the venture.

The final observation of Beamish (1994) appears to follow the intuition of Blodgett (1991) but arrives at a different conclusion. Where Blodgett concludes that equal shares encourage full participation and contributions from partners, Beamish suggests that a skew actually encourages the partner offering greater resources to share those resources. Independent of the effect of equity on the efficiency of decision making the role of equity in encouraging full participation was also being challenged. In this way firms with unequal resources that were compelled or insisted on equal equity splits did not have full participation from venture partners and so the ventures and value creation for its partners suffered. Providing more evidence against equal splits in the equity of IJVs, Yan and Gray's (1994) study of the satisfaction of partners in 4 US-China IJVs identified that shared equity resulted in shared management which negatively affected IJV performance.

One immediate question arising on the idea of unequal equity as an ideal equity holding is the perspective being taken in concluding on its merits. The studies suggesting that unequal equity holdings are superior to equal holdings are predominantly based on the perspective of one partner. If the studies were determining the satisfaction of the majority equity holder, with the power over the ventures decisions and resources, the studies could conclude that such unequal equity is ideal while ignoring the dissatisfaction of the venture's minority equity holder. Most IJV literature focuses on one partner, for example, Sino-French venture analyses generally focus on the Chinese partners' perspective while US-Japan ventures focus almost exclusively on one partner's view as demonstrated by the analyses of the studies described in this literature review. By studying one partner, unequal ventures may have erroneously been seen as superior to equal ventures.

Meschi and Cheng (2002) performed an event study of 68 European and Chinese joint ventures and observed that the European firms benefited more from the venture when they held a majority stake rather than when they held a minority stake in the venture. The conclusion suggests that the superiority of the unequal IJV is contingent on being the majority equity holder.

However, Lecraw (1984) challenges the idea that the support for unequal equity may be a result of the perspective taken. In a study of 153 ventures in different countries concludes that when classified by equity, equal equity holding IJVs were the worst performing ventures and that both high and low levels of equity the ventures out-performed equal equity ventures. For the author equity holdings represented contributions to the joint operation and their skew distribution merely reflected a skew in contribution and did not jeopardise commitment. This meant that regardless of perspective unequal ventures were better than equal ventures since unequal ventures had both minority and majority equity holders and both viewed such equity better than an equal split.

With Lecraw (1984) extolling the virtues of unequal equity ventures, Dhanaraj and Beamish (2004) studied the effects of unequal equity IJVs on the mortality of 12 984 international ventures and observed that equity holdings at the extreme ends of the scale⁵³ lead to a high risk of venture mortality. Moreover, while the failure of low equity holdings might have been supported by concerns over their ability to sustain the commitment of minority equity partners (as suggested by Lyles and Salk (1996)) the high equity holdings were surprisingly equally as undesirable. The authors suggested that a possible reason was that at such high levels of equity holding the venture was close enough to a wholly owned subsidiary to suffer from the same investment risk concerns they had. In the high equity case the authors questioned the classification of such operations as “equity ventures” because of their vulnerability to wholly owned subsidiary problems (Dhanaraj and Beamish, 2004: 295).

While the preceding empirical analysis has focused on a debate on *how* equity influences the IJV there are other researchers who suggest that the question is incorrect because there is no relationship between equity and venture performance. Merchant and Schendel (1995), Mjoen and Tallman (1997), Pan (1997) and Demirbag and Mirza (2000) challenge the theoretical basis for the assertion that equity influences joint ventures. According to Mjoen and Tallman (1997) and Pan (1997) equity holding was a function of bargaining power and so rather than being an influence on venture performance, it was simply a manifestation of the desires and bargaining power the firms had when they came to agree on the venture. It was subjective to each individual

⁵³Either very low (less than 20% equity) or very high(greater than 80% equity)

venture and was not an independent driver of performance. Moreover as long as equity matched the individual firm's contributions, it did not affect the venture (Barden *et al.*, 2005).

Rajan (2004) studying 56 British–Indian IJVs provided support for challenging equity as a driver of value creation. Through questionnaires gauging the satisfaction of their parent firms' managers the author observed that benefit for individual partners was related to the amount of control they had, but the control was not necessarily related to the amount of equity the firm held. Conflating equity and control appeared to explain the evidence of equity as an influence on venture performance and value creation.

With a lack of consensus in the literature on whether equity influences firm value, and if so in what manner, this empirical study will analyse South African IJVs to assess whether or not they reveal a pattern between value creation and the equity holding of the South African firm. This provides a new data set to contribute to the literature and provides the infrequently researched perspective of a developing nation's firms.

3.3.4 The Industry of venture partners

The potential role played by the industry of IJV participants is best analysed in the view of Incomplete Contract Theory.

Incomplete Contract Theory (ICT)

ICT as presented by Grossman and Hart (1983) is an extension of the theory of the Agency Problem discussed earlier. ICT suggests that firms agreeing to work together agree on individual obligations and rewards for all parties to the agreement. However, as not all eventualities can be anticipated such contracts are incomplete because they cannot detail every possible obligation and reward factoring in every possible scenario. As such, collaborators must be able to ensure that their cooperation persists despite the incomplete contract that provides scope for opportunistic behaviour and a breakdown of the agreement to work together.

This theory is relevant to the industry consideration of firm value creation in IJVs because the problems of ICT can be argued to not exist to similar degrees in all industries with some, consequently, more susceptible to IJV failure than others. Spore (2007: 27) illustrates this

difference by comparing service provider joint ventures to other joint ventures. In non-service industry joint ventures partner obligations are easier to declare and monitor, for example, a responsibility to contribute a set amount of capital can be included in the IJV agreement preempting challenge after venture commencement. However, in the service industry specific obligations may not be as easily described, for example, an agreement to offer assistance in the marketing of IJV products may speak to the expertise of the venture partner but does not explicitly state their obligation thereby threatening the quality and timing of compliance and the future of the agreement. ICT provides a very important explanation for the potential role that the industry of a partner may play in the success of an IJV by explaining the different susceptibility of different industries to opportunistic behaviour.

Madhavan and Prescott (1995) provide a second possible reason for the role that industry might play in value creation. The authors note that changes in the value of a company are dependent on the purchasing and selling decisions of several market participants evaluating the merits and demerits of a business' particular decisions. In these evaluations the market participants (share traders, brokers and their clients) use all the information available to them to make the decision to reward or punish a business decision by buying or selling its shares. It is at the use of information that Madhavan and Prescott (1995: 902) suggest that "multiplexity"—the presence of simultaneous signals competing for attention, creating difficulty in analysing the value of isolated business decisions on future firm value. Essentially, the authors were pointing out that for a firm's value to be acknowledged and reflected in share prices, the market participants had to understand how that firm's decisions impacted its future earnings. If market participants could not identify the value of a particular decision then the decision would not register its impact on future earnings through a change in current share price. The problem was the ability of investors to perceive benefit in order for them to act on it (Madhavan and Prescott, 1995: 904). The complexity in identifying the lack or presence of benefit in business decisions was described as the "Information Processing Load". Where a low load corresponded to a situation where the contributions of the business decision on future earnings was easily determined and so swiftly reflected in share price. High load situations related to decisions where the benefit or lack thereof was difficult for the market participants to determine.

Importantly, in Madhavan and Prescott (1995) the analysis speaks to the perception of value and not necessarily the value created. A business decision to start an IJV may be sound but it could be difficult to understand the specific benefits resulting from it. For example, an IJV to develop sophisticated computer hardware component may be difficult to assess while an IJV to introduce a popular product in a new market may be easier to evaluate. It could be argued that different industries have different information loads and so the value changes reflected in their IJV decisions will be different. Put simply, the merits of the decision may be difficult to perceive in some industries as opposed to others allowing researchers to identify value creating benefit differences between industries where no such differences actually exist.

Ali (1995) adds more validity to the idea that industry may help explain IJV performance by noting how industry-related factors can engender an industry to the IJV business mode. In a review of Stuckley's (1979 in Ali (1995: 11) analysis of the aluminium industry, Ali notes that the high cost of the Minimum Efficient Scale⁵⁴ creates sizeable investment risk for which firms can look to IJVs to share the risk. In such industries WOSs are not credible options and so the potential benefits of an IJV are more easily discerned. In industries where firms *need* each other there is less likelihood that an IJV will suffer from destructive opportunistic behaviour as each partner seeks to ensure that their investment is protected by acting in its best interest. Moreover, the Trojan horse Phenomenon of Reich and Mankin (1986) is neutralised in such industries as IJV firms cannot easily absorb their partner's knowledge and open their own competing operation. The question remaining is one of whether such an industry actually produces more value creating IJVs than industries where firms do not need each other to continue operation in the industry.

Anand and Khanna (2000) agree with the idea that some ventures are intrinsically better suited to the IJV and should see greater performance. However, the authors do not suggest that the ventures are distinguished by industry but rather by the nature of the IJV. In a study of 870 ventures in the US using event studies, the authors concluded that research and development IJVs showed evidence that they were decidedly more value enhancing than marketing IJVs. Important in this study was the observation of IJV purpose as a driver of value creation rather than the industry of the IJV partners.

⁵⁴ This is explained as the lowest volume of production for which the businesses is profitable/viable.

It is possible to reconcile Ali (1995) and Anand and Khanna (2000) by considering the possibility that some industries may be more inclined to participate in certain types of ventures. Where Ali observes strong venture performance in a particular industry the reality may be that the industry is more likely to engage in research and development IJVs or marketing IJVs. In so doing, Anand and Khanna's identification of IJV purpose as a driver of performance is mistakenly observed as relating industry to venture performance and value creation.

Merchant and Schendel (2000) found evidence confirming the influence of industry on IJV firm value creation. In a study using 101 IJVs in the US the authors concluded that only IJVs in which the venture was in the same industry as the parent company and ventures focused on research and development increased shareholder value.

McConnell and Nantell (1985) investigating 136 US IJVs through observation of abnormal returns for US partners observed that these abnormal returns (representing firm value creation) did not vary systematically across industries. A lack of systematic variation suggests that while value creation in IJVs may appear to differ by industry this differentiation is not consistent according to the industry of the US IJV partner.

The question of whether or not the industry in which the South African partner operates influences the firm value created by IJVs is a relevant question to ask in the light of the literature on the type of industry and IJV performance and value creation. Apart from the lack of consensus on the role industry plays the identification of an industry driven influence on firm value creation in IJVs would inform a more focused and potentially successful IJV developmental policy in which incentives are provided for IJVs in some industries while no active inducements are offered in others.

3.4 CHAPTER CONCLUSION

Chapter 2 provided the backdrop for IJV empirical research by presenting the theory around the formation of IJVs and firm value creation. In the process it arrived at a model of IJV value creation that combined leading theories to highlight their complementarity and present a platform to interpret the empirical results of Chapter 5. In this chapter the theory progressed to an evaluation of IJV formation characteristics to explain conflicts in IJV firm value creation research discussed in Chapter 2.

Four contentious characteristics were then identified for closer scrutiny to determine their potential explanatory power in South African IJV firm value creation. The evaluation of the literature on the characteristics did not resolve the strong conflict existing on their relevance and impact because it revealed evidence to support and refute the roles of the selected formation characteristics. As a result, the empirical evidence on the link between IJV formation and firm value creation did not provide definitive answers that could be extrapolated to South Africa necessitating an analysis of South African data to determine how those formation characteristics affect South African IJV firm value creation.

With conflict in IJV firm value creation research and the role of formation characteristics, the study must now conduct an empirical investigation of the firm value effects of South African IJVs. This is because this conflict prevents the simple extrapolation of results from research in other countries to the South African context. Chapter 4 now presents the methods used to determine firm value changes following IJV formation and how the impact of formation characteristics is assessed.

CHAPTER 4

EMPIRICAL METHODS AND VARIABLE DESCRIPTION

4.1 INTRODUCTION

In the preceding chapters the theory and research on IJV firm value creation was discussed. However, this analysis of existing literature revealed conflicts in both the theory and the empirical evidence. With no consensus to accurately extrapolate previous findings to South African firms, there is a need for an empirical study of South African data in order to address the issue in South Africa.

This chapter now describes the methods used to address the aims of the study as set out in Chapter 1 and discussed in Chapter 2 and 3; namely, to determine whether South African firms enjoy improved firm value as a result of entering into IJVs and, secondly, when they did so, could formation characteristics explain this value creation. It is organised as follows; Section 4.1 explains how the first aim is to be tested by detailing how changes in firm value as a result of IJVs will be assessed. Section 4.2 then shows how the impact of formation characteristics on firm value is to be investigated. Finally, Section 4.3 describes the data used and the manner in which it was collected.

4.2. OBJECTIVE 1: TO DETERMINE WHETHER SOUTH AFRICAN FIRMS ENJOY POSITIVE VALUE CREATION FROM INTERNATIONAL JOINT VENTURES.

To address the first aim the study needs to establish how it will measure shareholder value to determine changes in firm value and how it will assess the specific impact of IJVs on that firm value given the myriad of other factors potentially simultaneously influencing the value of the firm.

4.2.1 Measuring changes in firm value

As discussed in Section 2.4 of Chapter 2, there are two broad classifications for measures of firm value. There are the subjective measures that focus on the assessments of individuals closely associated with the IJV on one hand and objective measures with their focus on hard data. Following the presentation of popular firm value measures in Section 2.4.2, the study, following

Bechtold (2011), argued in favour of the measurement of changing share value to reflect changes in firm value⁵⁵.

The assessment of abnormal returns (AR) (returns in excess of a firm's expected returns) through an event study (ES)⁵⁶ based on security/share market prices for firms over the period of venture announcement provides a measure of shareholder value that can be tailored to assess the specific impact of an IJV. In the AR analysis the impact of a business decision on firm value is determined by its shares' return in excess of its normal return as. Such benefits are reflected in its current share price where abnormally high or low changes in the price reflect the market's assessment of firm value. By charting changes in the share price the impact of business decisions on future cash flows can be assessed.

As a measurement tool it eliminates the subjective nature of questionnaires with their particularly positive assessment bias among developing country firms as indicated in Lyles and Salk (1996) and unlike traditional objective measures such as profit, turnover and sales, ESs on ARs allow the assessment of the impact of the IJV before its completion/termination. It could be argued that the ES on AR method actually holds the same sentiment biases of questionnaires as it is based on market perceptions of discounted future profit (firm value). However, unlike the bias of a few closely involved managers, the ES on AR method considers independent collective assessments of value based on the entire market's opinion of the impact of the IJV on future cash flows. Moreover, as Merchant (2001: 10) notes, such *ex ante* valuations are what allow managers of ventures to avoid under-investing in profitable ventures and over-investing in unprofitable ones.

According to Warren-Boulton and Dalkir (2001: 469) “.....investors in financial markets bet their dollars” on the effect of a business' particular action. By assessing the potential impact of a business decision on the business' profitability the investors can pre-emptively invest in firms whose actions are expected to raise profitability before such profitability is realised. Put very simply, following collective investor sentiment gives a sound indication of the merits of a particular business decision because several investors actively trying to protect and grow their investments will make the effort to assess the immediate and long term impact of business

⁵⁵ An approach well established in IJV firm value creation research (cf. Talay 2010)

⁵⁶A methodology in which the impact of one event is isolated in the security returns of a company.

decisions. By following the trend of investor assessments of a firm's value the firm's true changing value may be uncovered.

It should be noted that the strength of the ES analysis is predicated on three elements, the first is the legitimacy of Fama's (1965) Efficient Market Hypothesis (EMH) where new information is expected to be quickly reflected in market valuations of security prices allowing an IJV announcement to precipitate a revaluation of firm value in the light of the new venture. The second is that the event under investigation is unanticipated since ARs are a reaction to new information (Geyskens *et al.*, 2002). The third is that there are no confounding effects that are simultaneously influencing the abnormal returns while the event is under investigation (Konchitchki and O'Leary, 2011: 107).

To the first element, while most ES studies do not explicitly note the dependence on the EMH or why it may be a valid assumption for analyses of IJV announcements, this study's assumption of the validity of the EMH in this context is based on two reasons; 1) the share market can be expected to efficiently reflect IJV announcement information because the information is a public announcement and so the market has not needed to divine the event and, 2) information technology advancements since 1965 allow it to be reasonably assumed that this publicly available information on the announcement can be quickly shared throughout the market where investors, represented by full time investment professionals, can quickly decide on a position in favour or against the IJV's formation.

To the second element that the event is unanticipated, the study uses the first public announcement of the IJV and not the commencement of the IJV as the dates are unlikely to coincide with commencement potentially following long after the announcement has been made. By using the first public announcement as a data point the study investigates the first reaction to the IJV. Moreover, by analysing more than one announcement anomalies where information has leaked before public announcement can be mitigated. It is anticipated that such cases would be a small minority as they would constitute insider trading which is closely monitored in the study's sample by the South African Financial Intelligence Centre (2012).

The third element concerning conflating influences on firm value hiding the impact of the IJVs is also mitigated by using more than one event. In aggregating several events at different times, for

different companies, the study effectively isolates the influence of the only common element, the IJV.

Consequently, this study uses an event study of shareholder value which is in keeping with previous IJV research (cf. Finnerty *et al.*, 1986; Lee and Wyatt, 1990; Chen *et al.*, 1991; Gupta *et al.*, 1991; Etebari, 1993; Meschi, 2004 and Janakiramanan and Lamba, 2004). The specific measurement of abnormal returns in an event study is described below.

4.2.2 Measuring Abnormal Returns Following an IJV Announcement through an Event Study

Pioneered by Fama *et al.* (1969), the Event Study is a method of analysis that uses financial market data to measure the impact of a specific event on the value of a firm (Binder, 1998: 111-113). The merits of the Event Study are grounded in the rationality of the market where any event affecting a firm's value is expected to be quickly reflected in its share price. In this way an event's economic impact can be constructed using security prices observed over a relatively short period of time rather than through direct measures of productivity that may take months or years to observe (MacKinlay, 1997: 13).

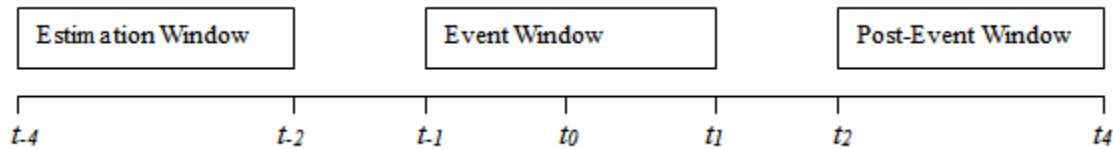
In its simplest form the ES requires the creation of a timeline for a security's returns for which an event window detailing the event (in this case the creation of the IJV) is marked as occurring at time t_0 and returns after t_0 are assessed to establish whether the event raised them to abnormal levels.

If the return immediately after the event is above normal then the event can be deemed a beneficial/good move for the firm as such abnormal returns are unlikely to exist where investors feel that a particular event will negatively impact the future cash-flows/value of the firm.

The intuitive appeal of the Event Study as described above has made it a popular method of analysis in a variety of disciplines ranging from Management and Economics to Information Systems and Law (Henderson, 1990: 282).

Determining Normal Returns

To assess whether returns subsequent to the announcement of an IJV (an event) are abnormal it is imperative to first establish what normal is. There are three models for determining normal returns. The first is a Constant Mean Return Model (CMRM), the second, a Market Model and the third, a Factor Model⁵⁷ (MacKinlay, 1997). All three models are built on the premise that all events occur on a discernible timeline for which an estimation window can be drawn to ascertain what normal returns are, an event window can be established to identify the occurrence of the event and in some cases a post-event window which can be used as an alternative benchmark for normal returns. This time line, here adapted from Meschi and Cheng (2007: 334-337), is illustrated below with the IJV announcement at t_0 :



The Constant Mean Return Model

The CMRM or Mean Adjusted Returns Model (as it is otherwise known) suggests that normal returns can be identified from the average returns on a security in a time period before the event (the estimation window). These returns are represented as follows:

$$E(R_{it}) = \mu_i + \varepsilon_{it} \dots \dots \dots 4.1$$

$$E(\varepsilon_{it}) = 0$$

$$\text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_{it}}^2$$

Where $E(R_{it})$ is the return in period “ t ” on a security “ i ”, μ_i is the mean return for security “ i ” and ε_{it} is the disturbance term with an expected value of zero and a variance $\sigma_{\varepsilon_{it}}^2$. This is the simplest of the models and while its determination of normal returns has been criticised as too

⁵⁷Research prior to the 1990s used to include a fourth model based on economic models of security returns, namely the Arbitrage Pricing Theory and the Capital Asset Pricing Theory. However, empirical deviations from these theoretical representations of security returns and the relatively small benefit they offer have ensured that the other three models dominated the literature (Brown and Weinstein, 1985).

simplistic, Brown and Warner (1985) found that it yielded results similar to those of more sophisticated models because the variance in abnormal returns was not significantly changed by using a more complex model.

From this normal return abnormal returns are the difference between $E(R_{it})$ and the actual returns (R_{it}) in the event period. Thus abnormal returns (AR) are computed as follows:

$$AR_{it} = R_{it} - E(R_{it}) \dots \dots \dots 4.2$$

Once the abnormal returns have been obtained a test statistic, conventionally a t-statistic in parametric tests⁵⁸ is computed to test the null hypothesis that these abnormal returns do not significantly differ from zero. This null hypothesis is presented as follows:

$$H_0 : E(\overline{AR}_t) = 0 \dots \dots \dots 4.3$$

Where \overline{AR}_t is the average abnormal return for all events in the sample.

The biggest disadvantage of the CMRM is its omission of market wide security price movements from the normal/benchmark return which limits the accuracy of its normal returns estimations (De Jong, 2007: 5). The market model corrects this.

The Market Model

In the market model as with the CMRM above, normal returns are computed in the estimation window but unlike the CMRM the normal returns are determined based on the returns of the entire stock market or an appropriate index of the market. This is represented below:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \dots \dots \dots 4.4a$$

$$E(\varepsilon_{it}) = 0 \qquad \qquad \qquad \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_{it}}^2$$

Which can be alternatively represented by:

$$\varepsilon_{it} = E(R_{it}) - \alpha_i - \beta_i R_{mt} \dots \dots \dots 4.4b$$

$$E(\varepsilon_{it}) = 0 \qquad \qquad \qquad \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_{it}}^2$$

⁵⁸The choice of test statistic is contentious and so is explicitly discussed in Section 4.3

Where $E(R_{it})$ is the return in period “ t ” on a security “ i ”, α_i is a constant, β_i is the beta of security “ i ” returns relative to the market R_{mt} at time “ t ” and ε_{it} is the disturbance term with an expected value of zero and a variance $\sigma_{\varepsilon_{it}}^2$ determined over the estimation period.

The abnormal returns are then found by subtracting normal returns from actual returns as represented in Equation 4.5 below:

$$AR_{it} = \varepsilon_{it} = E(R_{it}) - \alpha_i - \beta_i R_{mt} \dots\dots\dots 4.5$$

Once an AR has been computed, a hypothesis test can be done under the null that the AR is not significantly different from zero using the null hypothesis of Equation 3. Rejecting this null hypothesis would mean that the event did in fact influence the value of the firm and that where the AR is positive the event/IJV announcement (and by extension the IJV itself) was a beneficial move and where the AR was negative the event/IJV announcement was considered a bad move by the market. The benefit and popularity of the test stems from the fact that it offers an improvement on the CMRM by removing the portion of the return that is related to variation in the market’s return. This reduces the variance of the abnormal return (MacKinlay, 1997: 18).

Factor Models

Factor models are motivated by a desire to reduce the variance of the abnormal return by explaining more of its variation in the normal return. Essentially in an effort to more accurately isolate abnormal returns, factor models attempt to find the closest approximation of real normal returns to ensure that abnormal returns capture only the abnormal returns and not some unaccounted normal return. Quite notably, according to MacKinlay (1997: 18) the market model above is in fact a factor model as it seeks to arrive at an accurate normal return assessment through the inclusion of the market return as a factor of normal return

Usually a single factor/ index is used to determine normal returns (Coutts *et al.*, 1994: 149). Beyond these models are the multifactor models with more than one variable added to improve normal return measurement. However, MacKinlay (1997:19 & 20) argues that there are limited gains in normal return determination as additional factors are added as they often provide marginal explanatory power and by extension little reduction in the variance of abnormal return. Moreover, that data availability often makes multifactor models impractical.

The choice of model in this study is the Market Model as motivated by its ubiquitous use in empirical literature, its intuitive appeal and the limited benefits of more sophisticated models (cf. Koh and Venkatraman, 1991; Anand and Khanna, 2000; Merchant and Schendel, 2000; Meschi and Cheng, 2007; Talay, 2010).

The practical application of the Market Model as a measure of normal returns in an Event Study to ascertain abnormal returns can be complicated. In order to ensure that empirical results based on it are workable and provide meaningful insight it is necessary that the model not only provides intuitively appealing representations of normal and abnormal returns but statistically sound ones as well. Coutts *et al.*, (1994) note how violations of statistical principles in many ESs could invalidate the results of those studies.

4.2.3 Important considerations in determining Normal and Abnormal Returns

From the foregoing description of normal return determination four questions arise, 1) how long must the estimation period be to capture the true normal return and how far away from the event must that estimation window be to ensure it is not unduly influenced by the actual event, 2) what data frequency should be used to accurately capture the change in collective market sentiment, 3) how to ensure that the full market response is captured in the abnormal returns and 4) avoiding the potential problem of making erroneous conclusions about the existence of ARs because of an anomalous AR result.

The length of the Estimation Window and how far away from the Event it should be

In determining the length of the windows, the empirical literature has taken periods between 120 and 250 days and that those days have not included the event day (cf. MacKinlay, 1997; Merchant and Schendel, 2000; Hanvanich *et al.*, 2005; De Jong, 2007). The key determinant of the window being a balance between parameter stability and parameter accuracy; where accuracy demands that the windows not be too small while stability demands that the windows not be excessively large (Reuer, 2001). In this study following convention in the literature we use a 120 day period prior to the event from day $t-130$ to $t-11$. Where the period before the event captures another IJV announcement the estimation window is taken after the event. This 120 day window allows enough time to assess normal returns while reducing the chance that estimation window dates will include other IJV announcements the firms make, for example, a long estimation

window may capture one IJV announcement in the assessment of the normal return prior to another announcement.

The Data frequency to be used

Data choice is often dictated by data availability and in this study the daily returns on the Johannesburg Securities Exchange will be used to ascertain security returns. Moreover, the use of daily returns can also be justified based on the fundamental premise of this analysis' ES; that the market efficiently reflects changes in information in investors' choices to trade in a company's securities. If the market is efficiently reflecting said information then it could be expected that the information's effects would be seen close to the event date. Using weekly or monthly data may not capture the quick response of the market to the new information/event.

Capturing the full market response

To capture the full market response the event window needs to be sufficiently large to allow the capture of the trade in the shares of a firm following its IJV announcement without being so large as to capture other events not under investigation. To this end a 3 day window from $t-1$ to $t+1$ is used for the event window. The use of a 3 day event window (following Nayyar, 1995 and Hanvanich *et al.*, 2005) allows the capture of venture announcements made at the close of the market on the day before the stipulated event day or at the close of the market on day the event day ($0/t_0$). Using a 3 day event window necessitates the use of cumulative abnormal returns for the announcement period. Rather than looking at AR for one day, the ARs for all event days are added together to ensure the AR resulting from the announcement is captured. These cumulative abnormal returns are represented as follows:

$$CAR_i = \sum_{t=-1}^{+1} AR_{it} \dots\dots\dots 4.6$$

As for the benchmark, the study will use the returns on the Johannesburg Securities Exchange All Share Index to capture system wide effects on firm value.

Catering for potentially anomalous individual results

Finally, the analysis of AR on individual securities would be problematic because of the stochastic nature of security returns (Fama, *et al.*1969). This makes the conclusion of event significance and the presence of abnormal returns problematic for single security investigations. Put simply, identifying statistically significant positive abnormal returns for one IJV does not provide enough evidence to support that IJV's formation characteristics as determinants of those returns. To combat this, convention is to view the ARs of several securities in a matrix of ARs as represented in De Jong (2007: 7):

$$\begin{array}{ccc} AR_{1,t-1} & \dots & AR_{N,t-1} \\ AR_{1,t0} & \dots & AR_{N,t0} \\ AR_{1,t+1} & \dots & AR_{N,t+1} \end{array}$$

Each column of the matrix represents the different securities and the abnormal returns on any given day beginning with security "1" all the way to security "N". The rows of the matrix represent a cross-section of the sample of abnormal returns for a particular day. Once a matrix of returns is drawn the average AR for each security can be added and averaged to arrive at cumulative average abnormal returns (\overline{CAR}). If these \overline{CAR} s are significantly different from zero then the announcement of the joint venture has a significant effect on the firm value of the companies under investigation. The computation and analysis of the significance of this \overline{CAR} is done for different groupings of companies to test particular influences on firm value in the light of IJV announcements, for example, by grouping IJVs for firms in the manufacturing industry and assessing their \overline{CAR} it can be seen if on average such ventures are associated with positive, negative or unchanged firm value as represented by the sign and significance of their \overline{CAR} .

4.2.4 Determining the statistical significance of the Abnormal Returns

As noted in the three models above, once normal returns are determined and the difference between them and actual returns is computed the analysis moves to an assessment of the statistical significance of those abnormal returns. There are two ways to determine this in an Event Study; the first is the parametric approach and the second is the non-parametric approach and these are both discussed below.

The Parametric Approach

In parametric tests (sometimes referred to as the “conventional tests”) a sample statistic is used to determine the statistical significance of the ARs. This sample statistic is assumed to represent the population it is taken from provided some assumptions imposed on the sample hold. These assumptions are that; 1) the ARs of series combined together to form CARs are of equal variance and that the variance of returns is the same in event and non-event periods (Seiler, 2000: 101) the ARs are cross-sectionally uncorrelated (Ahlgren and Antell, 2011: 1), and that the sample distribution follows a normal distribution (Coutts *et al.*, 1994). Violations of these assumptions could potentially challenge the validity of the results of the parametric t-tests by creating a bias in their estimates.

The test statistic for the hypothesis test (based on a null of Equation 4.3) is calculated as the ratio of the cumulative average abnormal returns (as shown above) to their estimated standard deviation calculated as follows:

$$\tilde{S}(\overline{CAR}) = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (CAR_i - \overline{CAR})^2} \dots\dots\dots 4.7$$

The test statistic is then:

$$T = \sqrt{N} \frac{\overline{CAR}}{\tilde{S}(\overline{CAR})} \approx N(0,1) \dots\dots\dots 4.8$$

Where $\tilde{S}(\overline{CAR})$ is the standard deviation of the average of the cumulated average abnormal returns (\overline{CAR}) of the firms under investigation.

In addition, as Brown and Warner (1985: 10) note, the t-stat has a standard normal distribution for sufficiently large N⁵⁹ in line with the Central Limit Theorem (CLT) that posits that

⁵⁹The definition of what constitutes “sufficiently large” varies in Brown and Warner (1985) when N is 50 the returns are normally distributed, in De Jong (2007) when N is 30 the normality assumption holds while in Hyung-Chan

potentially non-normal sample distributions will converge to normality as the sample size increases (Brooks, 2008: 608). This is demonstrated in the work of Brown and Warner (1985) and De Jong (2007).

In response to the concern that ARs of unequal variance will be grouped together De Jong (2007: 11) suggests that the assumption made by some researchers that the variance of abnormal returns is equal for all series is not likely to be true because some stocks are more volatile than others. Including volatile stocks in the analysis would cause a large variation in the average abnormal returns and lower the power of the test. To combat this, De Jong (2007) suggests standardising the returns by using a weighted average of the abnormal returns with lower weights placed on abnormal returns of high variance. This standardisation is done through a time series weighted estimate of standard deviation as follows:

$$SAR_{it} = \frac{AR_{it}}{\text{standard deviation of stock "i"}} \dots\dots\dots 4.9$$

Where the standardised abnormal returns (SAR_{it}) are equal to the event period residuals divided by the standard deviation of the estimation period residuals (Kothari and Warner, 1997: 311). The cross sectional average from this is:

$$\overline{SAR}_t = \frac{1}{N} \sum_{i=1}^N SAR_{it} \dots\dots\dots 4.10$$

In this case \overline{SAR}_t is the weighted average of the abnormal returns where weights are inversely related to estimated time series standard deviation of the security's abnormal return. In the case of the cumulative standardised average abnormal return (\overline{SCAR}) they are computed as follows⁶⁰:

(2006) running several simulated event studies to determine the effect of size on results, only when N fell below 10 did the normality assumption no longer hold. Notably, in Brown and Warner (1985: 14 and 25) the results of statistical tests did not suffer when sample sizes were as small as 5 securities. This issue of normality is explicitly considered in the section addressing the additional issues relating to the use of the market model.

$$\overline{SCAR} = \frac{1}{N} \sum_{i=1}^N \left| \frac{CAR_i}{\text{standard deviation of stock } CAR_i} \right| \dots\dots\dots 4.11$$

The resulting test statistic is as follows:

$$s(T) = \sqrt{N} \times \overline{SCAR} \dots\dots\dots 4.12$$

To account for the problem of potentially different event and non-event volatility this test statistic can be further adjusted for the possibility of event induced variance by dividing the \overline{SCAR} by its cross sectional standard deviation (Boehmer *et al.*, 1991: 259) making the new test statistic:

$$s(T)^* = \sqrt{N} \times \frac{\overline{SCAR}}{S} \dots\dots\dots 4.13$$

Where $s(T)^*$ is the event variance adjusted test statistic of the standardised cumulative average abnormal returns and “S” is the cross sectional standard deviation.

As noted above, this analysis of cumulative abnormal returns through test statistics is dependent on the assumption of normality which can be defended in sufficiently large samples, because of the Central Limit Theorem which posits that as a sample gets larger it approaches a normal distribution. In this study, however, some sub-groupings of firms may be small, for example, the sub-set of IJVs involving South African partners in the Wholesale and Retail industry has only 7 observations. With samples where the assumption of normality can be challenged some researchers opt to use non-parametric procedures to test the statistical significance of observed abnormal returns. These tests are described below.

Non-Parametric Tests (Distribution Free Tests)

While the test procedure above (the parametric test) is the standard test for statistical inference relating to the statistical significance of abnormal returns, it presents a potentially problematic weakness. In order to justify the use of the Student-t tables in ascertaining the statistical

significance of abnormal returns in the parametric approach the assumption of normality has been made. According to Coutts *et al.*, (1994: 157) "...non-normality undermines the distributional properties of the OLS estimates, and precludes inference". Put differently, violating the normality assumption would challenge the validity of this study's parametric results.

There are two popular non-parametric tests in Event Studies⁶¹; the Generalised Sign Test (GST) and the Corrado Rank Test (CRT). As in the parametric tests, the timeline described above is used to explain the equations necessary to compute these test's test statistics:

Generalised Sign Test (GST)

The GST examines whether the number of stocks with positive cumulative abnormal returns in the event window exceeds the number expected in the absence of abnormal performance (Cowan, 1992: 5). It is an improvement of the original Sign Test which is a binomial test of whether the frequency of positive abnormal returns equals 50%. In the generalized test the probability of obtaining positive returns is determined within the sample rather than arbitrarily set at 50% (Serra, 2002: 8). Essentially, this allows the distribution of returns to be skewed.

Following Corrado and Zivney (1992), the median excess return in security *i*'s time series of abnormal returns can be denoted by *median (AR_i)*. For every day in the sample period the sign of the excess return is calculated as follows:

$$G_{it} = \text{sign}(AR_{it} - \text{median}(AR_i)) \dots\dots\dots 4.14$$

With *sign (AR_{it} - median (AR_i))* equal to +1, -1 or 0 since *(AR_{it} - median (AR_i))* is positive, negative or zero. The event day test statistic is as follows:

$$t(GST) = \frac{1}{\sqrt{N}} \sum_{i=1}^N G_{it_0} / S(G) \dots\dots\dots 4.15$$

⁶¹There are more than two types of non-parametric tests but these are the most commonly considered in ES literature.

With $S(G)$ being the standard deviation of the entire sample period computed as

$$S(G) = \sqrt{\frac{1}{120} \sum_{t=-130}^{-11} \left(\frac{1}{\sqrt{N_t}} \sum_{i=t}^{N_t} G_{it} \right)^2} \dots\dots\dots 4.16^{62}$$

With N_t being the number of returns in the cross section of N -firms on day t in event time. This test statistic is expected to follow a unit normal distribution. However, while the GST overcomes the weakness of assuming a 50% probability of abnormal returns in the simple Sign Test its does not consider the magnitude of abnormal returns unlike the Corrado Rank Test described below.

Corrado Rank Test (CRT)

This non-parametric test considers the magnitude of the abnormal returns without the distributional assumptions of the t-tests (Corrado, 1989). In this test the abnormal returns are ordered in ranks (K_i) over the event and estimation windows (a period denoted as T) where:

$$AR_{it-130} > AR_{it-129} \text{ then } K_{it-130} > K_{it-129} \dots\dots\dots 4.17$$

The test then compares the ranks in the event period for each firm with the expected average rank under the null hypothesis of no abnormal returns. The test statistic has a unit normal distribution and is as follows:

$$R = \frac{\frac{1}{N} \sum_{i=0}^N (K_{it_0} - \bar{K}_i)}{S(\bar{K})} \dots\dots\dots 4.18$$

With $\bar{K}_i = 0.5 + T_i/2$ and

⁶²The numbers presented in equation 4.16 are based on the previously mentioned estimation window.

$$S(\bar{K}) = \sqrt{\frac{1}{T} \sum_{t=1}^T \frac{1}{N^2} \sum_{i=1}^N (K_{it} - \bar{K}_i)^2}$$

.....4.19

In addition to allowing the relaxation of the normality assumption Boehmer *et al.*(1991: 256) observe that rank tests are not susceptible to the distortion that event induced variance can have on parametric tests where abnormal returns are not standardised.

Unfortunately, despite allowing comparatively relaxed assumptions in statistical testing, non-parametric tests may lack power compared to parametric tests when samples are small or the assumption of normality holds (Whitley and Ball, 2002: 513). Put differently, small but statistically significant abnormal returns in small samples are more easily detected with conventional parametric tests than non-parametric tests.

The question now arising is whether to use parametric, non-parametric tests or a combination in this investigations event study?

As noted before, in sufficiently large samples, Brown and Warner (1985) and De Jong (2007) show how the assumption of normality can hold in samples with as little as 30 observations and in Hyung-Chan (2006) in as little as 10 observations⁶³. In such samples the conventional parametric tests are used. In samples smaller than 10 observations the temptation may be to use non-parametric tests but that would ignore the cause of the potential violation of the normality assumption. In this case the small size of the sample is the potential cause of violation of the normality assumption and as Whitley and Ball (2002) note, small samples weaken non-parametric tests. Proponents of the non-parametric test would argue that the reduced power of the test is a necessary sacrifice to compensate for the violation of the assumption of normality (cf. Corrado, 1989 and Corrado and Zivney, 1992).

Notably, an implied assertion of the non-parametric proponents is that the violation of normality is a material issue. However, empirically both Brown and Warner (1985) and Hyung-Chan (2006) show that in conventionally small samples non-normality does not negatively affect the

⁶³Each observation represents the event study on each venture announcement complete with its individual estimation window and computations of abnormal return.

conclusion of event studies. In samples with as little as 5 securities Brown and Warner (1985: 25) note that the “non-normality of daily returns has no clear impact on the event study conclusions”.

In the tests of Brown and Warner (1985) and Hyung-Chan (2006) the important assessment of the impact that the violation of the normality assumption would have on the outcome of event studies is made. In both cases when the sample did not have a conventional normality defensible size (5 and 10 observations respectively) the samples still yielded accurate parametric results. As Worrel *et al.* (1993) and Macher *et al.* (1997) (in Hanvanich and Cavusgil, 2001: 144 and 148) demonstrate; event studies have been successfully performed when observations were as low as 5.

Consequently, given the superior power of the parametric tests and the empirical evidence supporting their use in small samples this study uses the more powerful parametric tests to ensure that even in small samples a small significant abnormal return can be detected. This conclusion is supported by Weaver (2002) who notes that the parametric tests are more robust than non-parametric tests that, although losing power in small samples, are capable of allowing more violation of its assumptions than nonparametric tests.

4.2.5 Additional issues relating to the use of the Market Model

In the discussion of the techniques used in assessing the statistical significance of abnormal returns some of the critical assumptions made when using the Market Model were addressed, for example, standardizing the abnormal returns in parametric tests to cater for differences in variance, the remaining issues are discussed here. The first is that of the potential problem of cross-sectional dependence of security-specific abnormal returns. When there is positive cross-sectional dependence the variance of the mean excess return is underestimated, implying too many rejections of the null hypothesis and in so doing failing to identify ARs when they are present (Brown and Warner, 1985: 18). However, as Binder’s (1998: 116) analysis of the evolution of the ES methodology notes, “cross-sectional dependence is not a problem where event dates for the different securities are not clustered or when the event period is short relative to the estimation period/window”. In this study the events are not determined by a single event at a specific point in time (e.g. new legislation) rather each data point is dependent on the

announcement of an IJV which means events are scattered across time and not clustered around a specific time period.

The third problem is one of thinly traded securities. Where trade in the securities of a firm are thin in the estimation period then there is problem in determining what normal returns are supposed to be. If normal returns cannot be accurately determined then abnormal returns cannot be identified. While there are a variety of options available for assessing normal returns in such circumstances one of the easiest and most popular approaches is to simply exclude such securities from the sample space. In this study it is reasonable to expect that listed firms engaged in international joint ventures are unlikely to have very thinly traded securities and where this may be the case that such cases are a small minority and can be excluded from the sample allowing this study to still maintain a reasonable sample from which to draw conclusions.

The fourth problem is associated with non-synchronous trading⁶⁴, namely, the fact that traditional OLS estimates of market model parameters may be biased and inconsistent (Scholes and Williams, 1977). This is because the market model beta is likely to have a downward bias in infrequently traded securities and an upward bias in frequently traded ones (Brown and Warner, 1985: 14). However, as Rumsey (1996: 79-81) and Binder (1998: 121) observe, empirical results do not actually suffer as a result of not explicitly catering for non-synchronous trading. As Rumsey (1996: 79) notes:

“.....Although it is logically true that conclusions based on false premises cannot be defended, it is relevant to ask whether the violations of the assumptions make an important difference in the results of traditional event studies. Mapmakers frequently assume the world to be flat, but this rarely leads to serious navigational difficulties.....”

This is a position supported by De Jong's (2007) conclusion of an analysis of alternative event study methodologies where the author notes that problems, such as cross-sectional dependence, serial correlation and thin trading vanish if abnormal returns are defined as market model residuals.

With the computation of test statistics presented the investigation of the potential impact of formation characteristics is investigated.

⁶⁴This is when the return on the security and the return on the market index are measured at different intervals.

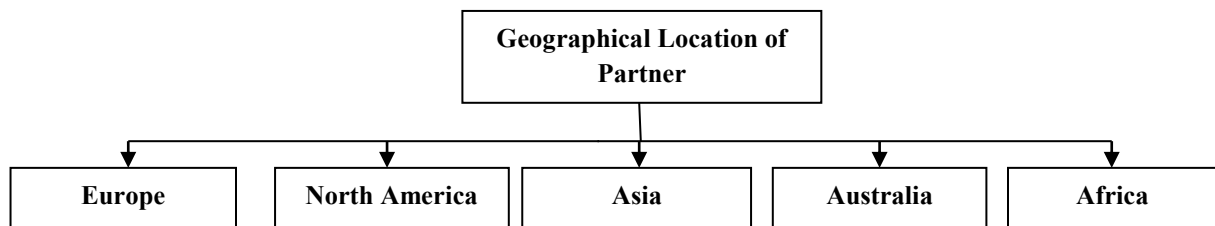
4.3 OBJECTIVE 2: TO DETERMINE WHETHER FOUR CONTENTIOUS FORMATION CHARACTERISTICS CAN HELP TO EXPLAIN SOUTH AFRICAN IJV FIRM VALUE CREATION

4.3.1 Operationalizing the formation characteristics

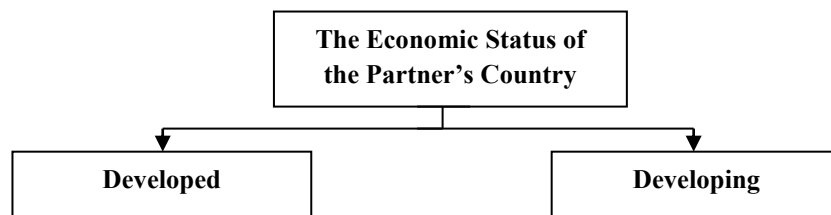
The second aim under investigation in this study is that firm value as a result of IJVs can be explained by formation characteristics. This aim is addressed in two ways. The first approach is to organise the data into groups for which the abnormal returns are noted and their statistical significance tested, for example, grouping together all IJVs where South African partners hold more than 50% of the venture's equity may reveal positive statistically significant results suggesting that equity may influence IJVs' ability to create firm value for their South African partners. These groups will be organised to test the four formation characteristics, namely, the Geographical Location of the partner, the Economic Status of the Partner's Country, the Equity Holding of the South African Partner and the Industry of the South African Partner.

For each of these categories the following sub-groups are investigated to ascertain whether they are related to value creation for South African firms in IJVs;

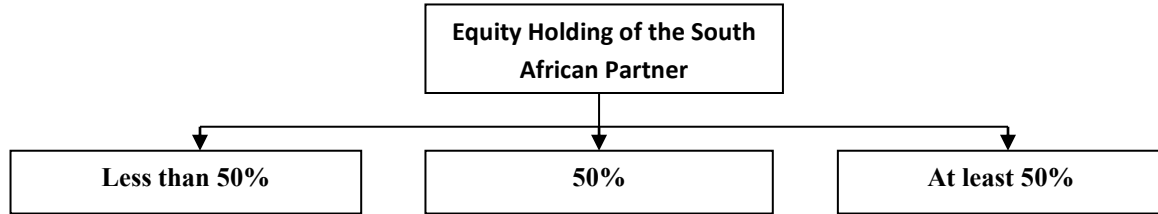
The Geographical Location,



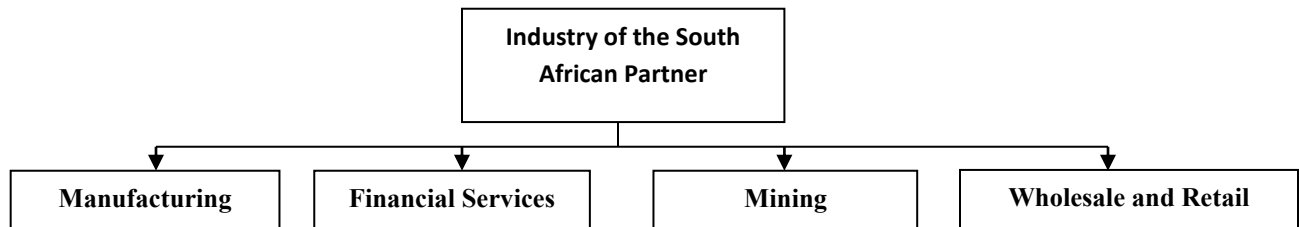
The Economic Status of the Partner's Country,



The Equity Holding of the South African Partner and



The Industry of the South African Partner



The Multivariate approach

One of the major issues facing researchers in event studies is the choice between parametric and non-parametric statistical testing procedures because of the contention on the effect of non-normality on the conclusions/results of traditional event studies as highlighted in this chapter. While the study uses the parametric procedures for the greater power in small samples the study also conducts a multivariate analysis of the variance in abnormal returns to assess whether the formation characteristics can explain changes in abnormal returns. As Tsitsou and Lalountas (2005: 262) note, regression models including dummy variables avoid the problems of non-normality independent of sample size. Consequently for robustness, the study also included an ANOVA investigation of abnormal returns using dummy variables and formation characteristics.

In the multivariate approach the standardised cumulative average abnormal returns will be the dependent variable while the explanatory variables will be dummy variables as shown in Table 4.1 below.

TABLE 4.1 DUMMY VARIABLES FOR THE MULTIVARIATE APPROACH

Dummy Variable	Description
D1	which is 1 if the partner is North American and zero otherwise
D2	which is 1 if the partner is Asian and zero otherwise
D3	which is 1 if the partner is Australian and zero otherwise
D4	which is 1 if the partner is African and zero otherwise
D5	which is 1 if the partner is South American and zero otherwise
D6	which is 1 if the partner is from a Developed country and zero otherwise
D7	which is 1 if the South African partner has less than 50% equity and zero otherwise
D8	which is 1 if the South African partner has 50% equity and zero otherwise
D9	which is 1 if the South African partner has more than 50% equity and zero otherwise
D10	which is 1 if the South African partner is in the Financial Services industry and zero otherwise
D11	which is 1 if the South African partner is in the Mining industry and zero otherwise
D12	which is 1 if the South African partner is in the Wholesale and Retail industry and zero otherwise

As can be noted from the above, to avoid the dummy variable trap a variable has been omitted from each class.

4.4 DATA

This study uses daily share returns data from Thomson Datastream™ for all South African IJV partner firms over the estimation, event and post event windows. Data on the IJV announcement was taken from company and press releases between 1998 and 2011; the details of which are in Table A20 of the Appendix. Since there was no database of IJV announcements, as is the case in many similar studies in developed countries, to obtain required IJV data an internet search of company records, media announcements and financial service bulletins for each of the Johannesburg Securities Exchange Main Board listed firms was conducted. Qualifying IJVs had to satisfy the following five requirements;

- i) The venture had to be an international venture. While joint ventures are a popular business model in South Africa many of the ventures are local ventures predominantly (Broad Based Economic Empowerment) BBE arrangements
- ii) The venture had to be an equity venture which unlike non-equity ventures represented more than a tentative agreement to cooperate in the future. Equity joint ventures required resource commitments from venture partners not only increasing the risk associated with them but the importance of their successful performance.
- iii) The announcement had to be made after the initial listing of the South African firm to ensure there was trading data from which to compute abnormal returns
- iv) The firm had to have regular traded shares as reflected by regular adjustment in its price. Irregularly traded stocks did not allow normal returns and consequently abnormal returns to be computed.
- v) The announcement had to be checked to ensure it was the earliest public announcement of the venture to ensure that event windows would capture the market's response

The data on SIC codes to classify the industries of the South African partners was taken from the Companies and Intellectual Property Commission (CIPC, 2011), the classifications for the partner's country's economic status was taken from the International Trade Centre's Trade Map (2012).

4.5 CHAPTER CONCLUSION

This investigation uses a Market Model Event Study of Abnormal Returns following IJV announcements. The methods described above are designed to ensure that not only can the effect of IJVs on South African firms be assessed but that the results the study obtains, and the subsequent conclusions drawn from it, can be defended both in theory through the choice of models selected for analysis and in practice through the statistical soundness of the results they obtain. To this end parametric tests are used to ascertain the statistical significance of the abnormal returns and a multivariate analysis is conducted on the variance of the abnormal returns to provide an additional test of the impact of formation characteristics on firm value creation for South African firms following the creation of an IJV. Moreover, the chapter noted that while methods can continue to be debated the approach selected here is suited to the purposes of this study's investigation. Chapter 5 now presents the results of the empirical analysis.

CHAPTER 5

RESULTS

5.1 INTRODUCTION

Following the explanation on the choice of empirical analysis and data selection in the preceding chapter, this chapter provides the results of the event studies noting the significance of the results and the interpretations thereof. Thereafter Chapter 6 explains what these results mean in the context of hypotheses set out in Chapter 1, namely, whether the evidence supports the belief that IJVs are beneficial to their South African partners and can formation characteristics present at formation explain these benefits.

These results are organised as follows, firstly Section 5.2 provides a description of the sample statistics in order to provide a clear picture of the sample used in the study. Section 5.3 describes the normal returns for all IJV announcements based on a 120 day estimation window. Section 5.4 the presents and analyses the abnormal returns of the IJV announcements. Following the identification of normal returns and a collective analysis of abnormal returns, the study then presents results of tests to assess whether firm value creation was influenced by the origin/geographical location of the partner (Section 5.5); the economic status of the partner firm's country (Section 5.6); the equity holding of the South African partner (Section 5.7) or the industry in which the South African partner operates (Section 5.8). Section 5.9 then provides a multivariate analysis of the variance in abnormal returns by regressing them on the geographical location of the partner, the economic status of the partner firm's country, the equity holding of the South African partner and the industry in which the South African partner operates. Section 5.10 concludes the chapter before Chapter 6 discusses the implications of the results.

5.2 DESCRIPTION OF SAMPLE STATISTICS

As noted in the data description in Chapter 4, this study's sample consisted of 189⁶⁵ event studies on 63 independent observations of IJV announcements spanning 14 years from 1998 to 2011⁶⁶. These IJVs are broken down in three ways to show the nature of the IJVs analysed. Firstly, the

⁶⁵ As shown and explained in section 5.3, the study actually conducts 195 event studies on 65 IJV announcements but eliminates 2 IJVs from the sample following the assessment of normal returns.

⁶⁶ The data is decomposed from Appendix Table A1

sample is organised by the year of the announcement (Table 5.1a) to illustrate the time bias in the sample. This is designed to show whether the observations reflect recent trends or potentially obsolete phenomena because the sample is dated. The second breakdown (Table 5.1b) shows the South African companies involved in the recorded IJVs to assess whether the sample consists of only a few companies because such a scenario could lead to results that are relevant to only a limited number of companies and are not applicable to South African companies in general. The final breakdown (Table 5.1c) organises the IJVs by the formation characteristics whose potential effect on firm value creation was tested, namely, the geographical location of the partner; the economic status of the partner firm's country; the equity holding of the South African partner and industry in which the South African partner operates. This last breakdown provides a summary of the sample sizes used to test the influence of these different formation characteristics on firm value creation.

TABLE 5.1a: IJV ANNOUNCEMENTS BY YEAR

YEAR	NO. OF IJVS	% OF TOTAL SAMPLE
1998	1	1.59
1999	1	1.59
2000	0	0.00
2001	2	3.17
2002	0	0.00
2003	3	4.76
2004	6	9.52
2005	4	6.35
2006	5	7.94
2007	6	9.52
2008	12	19.05
2009	5	7.94
2010	10	15.87
2011	8	12.70
	63	100

The most significant point to note in the breakdown above is that the sample covers a fairly large window spanning more than a decade of the period after South Africa's reintroduction to the international community in the mid-1990s. This ensures that results are not skewed by transitory phenomena. If all observations were taken from a very narrow period prevailing economic conditions could taint the results, for example, if announcements were exclusively taken in the

period of the most recent international credit crunch, general market scepticism over the period would unduly affect the study's results and their relevance outside of the that narrow window. The spread in observations helps draw meaningful conclusions and allows their extrapolation into the future.

TABLE 5.1b: IJV ANNOUNCEMENTS BY SOUTH AFRICAN COMPANY

COMPANY	NO. OF IJVS	% OF TOTAL SAMPLE
ABSA	2	3.17
AECI	2	3.17
African Rainbow Minerals	4	6.35
Aspen Pharmacare	2	3.17
Astral Foods	1	1.59
Aveng	1	1.59
Barloworld	1	1.59
Business Connexion	1	1.59
Datatec	1	1.59
Discovery	1	1.59
Distell	2	3.17
DRDGold	3	4.76
Goldfields	3	4.76
Harmony	2	3.17
Illovo	1	1.59
Impala Platinum	3	4.76
Investec	1	1.59
MERAFA	1	1.59
MTN	2	3.17
Mvelaphanda	1	1.59
Omina	1	1.59
Pick 'n' Pay	1	1.59
SABMiller	6	9.52
Sanlam	4	6.35
SASOL	9	14.29
SPAR	3	4.76
Standard Bank	1	1.59
Tiger Brands	2	3.17
Woolworths	1	1.59
	63	100

The sample is made up of 29 South African companies which is important in allowing for the generality of the observations made from it. If the sample was limited to a very small number of firms, those firms' idiosyncrasies could lead to misleading conclusions on IJVs and firm value creation in South Africa.

TABLE 5.1c: IJV ANNOUNCEMENTS BY FORMATION CHARACTERISTICS

Group	Sub-Sample	No. of IJVs	% of Total Sample
Geographical Location of Partner	Europe	18	29
	North America	13	22
	Asia	15	27
	Australia	8	13
	Africa	10	17
	South America	4	6
Economics Status of Partner	Developed	34	54
	Developing	29	46
Equity Holding of South African Partner	At least 50% ⁶⁷	29	46
	50%	15	24
	Less than 50%	11	16
Industry of South African Partner	Manufacturing	24	38
	Financial Services	12	19
	Mining	17	27
	Wholesale and Retail	7	11

Table 5.1c, above, shows the number of IJVs in each sub group of the formation characteristics investigated. In relation to geographical location, Europe had the most observations followed by Asia and North America respectively. South America, on the other hand, has limited representation in the sample with only 3 qualifying observations found. The presence of a reasonably sized European sample will allow the testing of potential bias in the assessment of European company contributions to developing country firms as highlighted in Lyles and Salk (1996) while the Asian sample will allow testing of the Trojan horse phenomenon described in Chapter 2.

⁶⁷ These are IJV agreements in which the South African firm is not a minority shareholder

In relation to the economic status of the partner’s country, the sample is closely split between developed (54%) and developing (46%) countries allowing the study to assess whether the economic status of the origins of a company affects firm value creation as assessed by the stock market.

On the issue of equity holding the sample is closely split between observations for ventures where firms hold at least 50%, 50% and less than 50% of the IJV’s equity. This provides sub-groups to assess whether equity holding, as a potential proxy for venture control, has any influence on firm value creation.

Finally, the table also shows the breakdown of IJVs by industry allowing the assessment of the effect the industry of the South African firm might have on the ability of IJVs to create firm value. Manufacturing is the largest sub-group with 38% of observations while Wholesale and Retail is the smallest group with 11% of the observations.

5.3 THE NORMAL RETURNS FOR ALL ANNOUNCEMENTS

The normal returns for the South African companies were computed from Equation 4.4a which has been reproduced below as Equation 5.1 where the return on the All Share Index (ALSI) is explicitly presented as the market return.

$$E(R_{it}) = \alpha_i + \beta_i R_{ALSIit} + \varepsilon_{it} \dots\dots\dots 5.1$$

The resultant normal returns are presented in Table 5.2 below together with the probabilities of the parameters of their equations. The results are divided into two parts; a constant, “ α ” and a parameter “ β ” which denotes the relationship between the returns of the South African partner firm and the ALSI.

TABLE 5.2 THE NORMAL RETURNS OF ALL SOUTH AFRICAN PARTNERS

DEAL NUMBER	NORMAL RETURN				STANDARD DEVIATION OF NORMAL RETURNS
	C	Prob.	β	Prob.	
1	0.1192	0.30	0.7049	0.00	1.6977
2	-0.0035	0.92	0.9256	0.00	1.3607
3	0.1900	0.16	0.2298	0.06	1.5325
4	-0.0526	0.65	0.3036	0.00	1.3340

TABLE 5.2 continued....

DEAL NUMBER	NORMAL RETURN				STANDARD DEVIATION OF NORMAL RETURNS
	C	Prob.	β	Prob.	
5	-0.1504	0.40	0.7407	0.00	2.0056
6	-0.2487	0.48	1.3450	0.00	3.9646
7	-0.1112	0.75	1.3456	0.00	4.1071
8	0.0837	0.49	1.3337	0.00	1.3514
9	0.2069	0.09	0.3064	0.07	1.3674
10	0.2682	0.04	0.3492	0.01	1.4885
11	-0.3266	0.07	0.2400	0.04	2.0186
12	0.1159	0.32	0.6305	0.00	1.3569
13	-0.0038	0.96	0.4928	0.00	0.9984
14	0.0195	0.89	0.2036	0.06	1.5363
15	0.0956	0.49	0.7089	0.00	1.5819
16	0.0464	0.51	0.4129	0.00	0.7942
17	0.1618	0.34	0.2191	0.04	1.9000
18	-0.0076	0.93	0.3408	0.00	1.0377
19	-0.0156	0.97	1.0233	0.00	4.5698
20	-0.7337	0.01	1.2345	0.00	3.1650
21	-0.1783	0.53	1.1125	0.00	3.1609
22	-0.2480	0.46	0.4918	0.21	3.7966
23	-0.1313	0.53	0.8242	0.00	2.3682
24	0.0054	0.99	0.7074	0.00	4.3216
25	0.4316	0.34	0.8762	0.00	5.1388
26	0.1777	0.45	0.6475	0.00	2.6871
27	0.8002	0.06	0.6111	0.00	4.8076
28	0.1176	0.53	0.2807	0.01	2.1311
29	0.1860	0.26	1.1500	0.00	1.8866
30	0.1414	0.42	1.3063	0.00	1.8809
31	0.1753	0.45	1.4766	0.00	2.6454
32	0.0050	0.97	1.0917	0.00	1.4764
33	-0.0196	0.91	1.5554	0.00	2.0012
34	0.1232	0.53	1.1811	0.00	2.2411
35	0.0604	0.63	1.0301	0.00	1.4553
36	-0.2023	0.06	0.2761	0.00	1.3093
37	0.0227	0.86	0.2616	0.02	1.4391
38	-0.0909	0.63	0.4528	0.00	2.1736
39	0.1227	0.23	0.6749	0.00	1.1482
40	0.1227	0.23	0.6749	0.00	1.1482
41	-0.0822	0.57	0.7058	0.00	0.9651
42	0.0914	0.64	0.6381	0.00	2.2205

TABLE 5.2 continued....					
DEAL NUMBER	NORMAL RETURN				STANDARD DEVIATION OF NORMAL RETURNS
	C	Prob.	β	Prob.	
43	-0.0484	0.61	0.6958	0.00	1.6490
44	0.0541	0.51	0.8793	0.00	0.9207
45	0.0587	0.65	0.6629	0.00	1.4599
46	-0.0532	0.68	0.7576	0.00	1.4218
47	0.0282	0.88	0.8218	0.00	2.1957
48	0.0339	0.73	0.6987	0.00	1.1193
49	0.2924	0.02	0.1254	0.54	1.4128
50	-0.2241	0.22	1.4150	0.00	1.7640
51	0.0383	0.88	1.4469	0.00	2.6734
52	0.2902	0.09	0.4943	0.00	1.9342
53	-0.0317	0.80	1.3628	0.00	1.4283
54	-0.2470	0.05	1.3806	0.00	1.3910
55	-0.0099	0.95	1.2369	0.00	1.9068
56	-0.0491	0.61	1.0020	0.00	1.0764
57	-0.0014	0.99	0.9203	0.00	1.0289
58	0.0659	0.45	0.9439	0.00	0.9889
59	0.1202	0.26	0.4823	0.00	1.1112
60	-0.0527	0.54	0.5947	0.00	0.9815
61	-0.0011	0.98	0.6648	0.00	0.9075
62	-0.0631	0.55	1.0684	0.00	1.2058
63	-0.0280	0.72	0.6013	0.00	0.9134
64	0.0572	0.46	0.6729	0.00	0.8713
65	0.2781	0.00	0.8968	0.00	1.1439

Calculated by Equation 5.1 above where “C” in the table represents the constant denoted by “ α ” in the equation

As can be seen, the β s are statistically significant with the exception of two announcements (Deals 22 and 49) where the p values of the β s, 0.21 and 0.54, respectively, are greater than 0.1 which is the threshold for statistical significance at 10%. The composition of these deals is given below;

- Deal 22: {Chizim Gold between DRDGold (South Africa) and Chizim Investments (Zimbabwe), Announced: May 13 2010, SIC Code (2), Economic Classification of Partner (Developing), and Equity Holding of South African Partner (49%)} and

- Deal 49: {Merisol between SASOL (South Africa) and Merichem (USA), Announced: October 22 1997, SIC Code (3), Economic Classification of Partner (Developed), and Equity Holding of South African Partner (50%)}

The lack of a statistically significant β in these deals would suggest that the regression results have failed to capture a relationship between the returns on the South African company's stock and the All Share Index (ALSI). The immediate consequence of this is that it pre-empts the calculation of abnormal returns in these deals because they do not have a justifiable/statistically significant normal return to use as a benchmark to assess whether event period returns are abnormal. This negates the further use of these IJV agreements in the Event Study analysis despite the fact that they otherwise satisfy the data selection criteria described in Chapter 4. While the deals were excluded from the future sample the question arises as to why the analysis could not capture normal returns in these two deals and whether this failure questions the nature in which normal returns are calculated in conventional event studies.

These anomalies are best understood in the context of the nature of the computation of normal returns. In this study, as in other event studies, the normal returns were computed based on a regression of the individual company's stock return and the ALSI from which their linear relationship in the estimation window was taken as a representation of normal returns. In a case where the company's stock return is not linearly related to the ALSI in the estimation window, the regression results cannot capture a statistically significant normal return which would be the case if the returns on the stock were driven by considerable speculation on the firm's future over the course of the estimation window. Therefore the failure to obtain normal returns in these IJVs when the two firms (DRDGold and SASOL) have calculable normal returns in other IJVs within the sample can be ascribed to a period of non-linearity in the relationship between the firms' returns and the market's return without providing an indictment of the method of normal return computation.

With regard to the constant, most of the α s are not statistically significant, exceeding the 0.1 threshold for statistical significance at 10%. This, however, is not of material concern in these results because they are generated from "least squares" estimations where α is determined by a desire to ensure that the sum of the squared errors is minimised (Norwegian Social Science Data Services, 2012). This is to say that using the *prob.* value to determine the validity of the constant

in the model would ignore the fact that it is there to ensure that, in combination with the β , the regression results are unbiased.

In addition to providing α and β for each IJV announcement, the estimation window allows the abnormal returns in the event period to be standardised to cater for differences in the volatility of individual company shares, as described in Chapter 4. The standard deviations of the residuals of the normal returns are also presented in Table 5.2. The standard deviations vary from 0.87% for Deal 64 to 5.14% for Deal 25 suggesting large discrepancies between the stock return variances of the different South African firms which validates the need to standardise them in order to avoid making Type 1 errors where *t-stats* are overestimated because they have been mistakenly computed under the assumption of equal variance for all stock returns.

5.4 THE ABNORMAL RETURNS FOR ALL ANNOUNCEMENTS

The abnormal returns over the event window are determined by Equation 5.2 presented below which is itself a representation of Equation 4.5 from Chapter 4 with the market returns explicitly noted as being represented by the ALSI.

$$AR_{it} = \varepsilon_{it} = E(R_{it}) - \alpha_i - \beta_i R_{ALSI_{it}} \dots\dots\dots 5.2$$

These abnormal returns are marked as AR1, AR2, AR3 to denote abnormal returns on days t_1, t_0, t_1 in Table A2 of the Appendix. The cumulative abnormal return (CAR) for each announcement is adjacent to the announcement date (AR2/ t_0). Based on these CARs there are 34 positively valued joint venture announcements in the sample and 29 negatively valued ones. This is to say that of the ventures studied the market's considered response to the entry of a firm into a joint venture was closely split between positive valuations and negative valuations. The immediate implication of this is to reinforce the view that not all IJVs are intrinsically beneficial as evidenced by the fact that the market does not regard them as such, otherwise all IJV announcements would be accompanied by positive abnormal returns. This provides early support for Geringer and Hebert's (1991: 249) assertion that simply because an IJV had been formed did not mean that that the IJV would perform desirably; collaboration was not inherently value creating.

Of these 63 viable IJV announcements the study then identified the 5 most positive and negative responses to IJV announcements in order to identify whether they revealed a pattern as to which ventures were undesirable and which were desirable and by extension which ones were value diminishing and which were value enhancing⁶⁸. This is an important preliminary step as a pattern in the most positive and negative responses would suggest factors that may influence firm value creation, for example, if all the highest responses were attributed to mining ventures with Chinese partners that would suggest the need for a further investigation of this subset of IJVs.

5.4.1 The five most positive responses to the IJV announcement

The five most positive responses to the IJV announcement in terms of their cumulative abnormal returns are listed in Table 5.3 below⁶⁹.

TABLE 5.3: DETAILS OF THE FIVE MOST POSITIVE RESPONSES TO THE IJV ANNOUNCEMENT

Deal Number	Venture Name	\overline{CARs}	Partners	Announced	SIC Code	Economic Classification of Partner	Equity Holding of South African Partner
27	Morobe	9.07%	Harmony and NewCrest (Australia)	August 11 2011	2	Developed	50%
38 ⁷⁰	-	8.58%	Pick 'n' Pay and Kingdom Meikles Africa (Zimbabwe)	September 5 2008	6	Developing	-
25	El Paso, Lobo and Talahib	6.54%	Goldfields and Oz Minerals (Australia) and Mindoro (Philippines)	May 05 2009	2	Developed and Developing	75%
19	Porgera Joint Venture	5.64%	DRDGold and Mintails (Australia)	October 14 2003	2	Developed	20%
46	Shiriram Life Insurance	4.53%	Sanlam and Shiriram Group (India)	May 19 2005	8	Developing	26%

Constructed from Table A1 and A4 of the Appendix

⁶⁸It is noted by the author that these responses cannot provide conclusive evidence on the influences that most affect positive and negative market responses to IJV formation but that this brief analysis potentially uncovers patterns in successful and unsuccessful IJVs. As to the specific selection of only 5 events, the analysis sample size is taken from Hyung-Chan's (2006) smallest simulated sample of stock returns in the author's investigation of event studies.

⁶⁹ As shown in Table A1 of the Appendix, every qualifying IJV announcement is catalogued to assign a "Deal Number" to each. This allows the IJV announcements to be described and analysed without the need to refer to the specific elements of the deal every time it is mentioned, for example, who the local partner is, what industry they are in or the date of the announcement.

⁷⁰It is important to note that some of the deals do not have explicitly stated names for the IJV despite the announcement's description of an equity IJV between firms which is the case in cases where the public announcement is made by naming the participating partners and not the name of the proposed venture.

As can be seen, there is no clear pattern in equity distribution and the economic status of the partner's country. However, three of the five most positive responses to IJV announcements have Australian partners and involved firms in the mining industry (Deals 27, 25 and 19). With only a look at five observations this does not give conclusive evidence that Australian Partner mining IJVs are value creating or superior to other types of ventures. It does, however, warrant an investigation of Australian IJVs and mining industry IJVs as independent subsets to ascertain whether they actually influence firm value creation (see Table 5.7 and Table 5.8 respectively)

5.4.2 The five most negative responses to the IJV announcement

In the case of the most negative responses (Table 5.4 below), there is no clear pattern in terms of partner nationality, the economic status of the partner's country or the industry in which the South African company operates. However, four of the five most negative responses involve ventures in which the South African partner holds 50% of the equity (Deals 11, 9, 58 and 12). This would lend credence to the view that equal equity holdings negatively affect IJV performance by affecting the venture's decision making. However, as in the case of the most positive responses, this preliminary look does not provide conclusive evidence just an indication of subsets that warrant closer inspection (see Section 5.6 for equity distribution assessment). It is a nonetheless important step as it provides preliminary insight into whether or not the elements under investigation can be viewed as closely associated with firm value creation or firm value destruction following an IJV's announcement.

TABLE 5.4: DETAILS OF THE FIVE MOST NEGATIVE RESPONSES TO THE IJV ANNOUNCEMENT

Deal Number	Venture Name	CARs	Partners	Announced	SIC Code	Economic Classification of Partner	Equity Holding of South African Partner
29	Hartley Platinum	-10.60%	Impala Platinum and Zimplats (Zimbabwe),	March 26 2001	2	Developing	30%
11	East Balt SA	-9.53%	Astral Foods and East Balt (USA)	July 2 2008	8	Developed	50%
9	-	-5.05%	Aspen Pharmacare and Matrix Laboratories (India)	September 23 2005	3	Developing	50%
58	Cypress A Asset	-3.89%	SASOL and Talisman Energy (Canada)	March 9 2011	3	Developed	50%
12	KNM Grinaker-LTA	-2.59%	Aveng and KNM Group (Malaysia)	December 2 2010	5	Developing	50%

Constructed from Table A1 and A4 of the Appendix

5.4.3 Standardising CARs

As noted in this study's methodology (Chapter 4), the CARs could be used to ascertain the statistical significance of abnormal returns, and by extension whether IJVs truly generated abnormal returns. However, the unequal variance in stock returns means that high variance stocks can exaggerate the level of aggregate abnormal returns and increase the susceptibility to Type 2 errors in hypothesis tests on those abnormal returns. This creates the need to place weights on the abnormal returns to be included in the test statistic of abnormal returns. The resultant standardised returns, SCARs, are in Table A4 of the Appendix where the standard deviation of cumulative abnormal returns has fallen from 3.3272 to 1.7510.

Factoring in individual stock variance changed the Deals representing the most positive responses to Deals 38 (3.94%); 46 (3.18%); 54 (2.39%); 3 (2.37%) and 13 (2.25%) (in Table 5.5), and most negative responses to Deals 29 (-5.62%); 11 (-4.72%); 58 (-3.93%); 9 (-3.69%) and 62 (-1.96%) (in Table 5.6). In the case of the most positive responses Australia no longer featured as prominently with only one entry in the revised list while the mining industry was completely out of the top five. This change illustrates the profound impact and importance that standardisation has on the results of event studies. Without standardisation mining and the presence of an Australian partner appeared to be closely associated with positive firm value

creation but once variances in returns had been catered for through standardisation the perceived relationship was lost.

TABLE 5.5: DETAILS OF THE FIVE MOST POSITIVE RESPONSES TO THE IJV ANNOUNCEMENT AFTER STANDARDISING THE CUMULATIVE AVERAGE ABNORMAL RETURNS

Deal Number	Venture Name	\overline{SCARs}	Partners	Announced	SIC Code	Economic Classification of Partner	Equity Holding of South African Partner
38	-	3.95%	Pick 'n' Pay and Kingdom Meikles Africa (Zimbabwe)	September 5 2008	6	Developing	-
46	Shiriram Life Insurance	3.18%	Sanlam and Shiriram Group (India)	May 19 2005	8	Developing	26%
54	SASOL Dyno Nobel	2.39%	SASOL and Dyno Nobel (Australia)	May 3 2007	3	Developed	50%
3	Detnet	2.37%	AECI and Dyno Nobel (USA)	December 10 2003	3	Developed	50%
13	Vostochnaya Technica	2.25%	Barloworld and Wagner International (UK)	July 30 2004	5	Developed	-

Constructed from Table A1 and A4 of the Appendix

However, in the case of the negative returns (Table 5.6), while the standardisation created some change in the Deals constituting the most negative responses, it did not alter the fact that four of the five most negative responses to the IJV announcements were for IJVs where the South African partner held 50% of the equity. The standardised results echoed the non-standardised results and reiterated a need to investigate the potential relationship between a 50% equity holding for South African partners and firm value reduction as represented by significant negative abnormal returns.

TABLE 5.6: DETAILS OF THE FIVE MOST NEGATIVE RESPONSES TO THE IJV ANNOUNCEMENT AFTER STANDARDISING THE CUMULATIVE AVERAGE ABNORMAL RETURNS

Deal Number	Venture Name	\overline{SCARs}	Partners	Announced	SIC Code	Economic Classification of Partner	Equity Holding of South African Partner
29	Hartley Platinum	-5.62%	Impala Platinum and Zimplats (Zimbabwe),	March 26 2001	2	Developing	30%
11	East Balt SA	-4.72%	Astral Foods and East Balt (USA)	July 2 2008	8	Developed	50%
58	Cypress A Asset	-3.93%	SASOL and Talisman Energy (Canada)	March 9 2011	3	Developed	50%
9	-	-5.05%	Aspen Pharmacare and Matrix Laboratories (India)	September 23 2005	3	Developing	50%
62	Credit Suisse Standard Securities	-1.96%	Standard Bank and Credit Suisse (Switzerland)	March 13 2006	8	Developed	50%

Constructed from Table A1 and A4 of the Appendix

With the preliminary analysis (based on the more accurate standardised results) suggesting that positive returns had no distinct associated factors within the study's sample and negative returns were associated with a 50% equity holding for South African partners, the analysis went on to test the statistical significance of the abnormal returns to assess whether they significantly differed from zero. The assertion that equity holding may influence firm value creation in IJVs would be invalidated if the abnormal returns were not significantly non-zero.

With this in mind the statistical significance of the abnormal returns is assessed under different conditions to assess whether they are significantly non zero and if so under which circumstances.

5.4.4 Statistical significance of all results

The test of the significance of the abnormal returns begins with an assessment of their collective significance as described in Chapter 4. The test statistic to determine whether the SCAR obtained for the 63 ventures was statistically significant was calculated by dividing the average SCAR by the cross-sectional standard deviation of the CARs and multiplying it by the square root of the sample size as shown in Equation 4.13. This equation is reproduced below as Equation 5.3:

$$s(T)^* = \sqrt{N} \times \frac{\overline{SCAR}}{S} \dots\dots\dots 5.3$$

The full results are in Tables A4 to A19 of the Appendix and the summary of them is presented in Table 5.7 below:

TABLE 5.7: SUMMARY STATISTICS OF CUMULATIVE AVERAGE ABNORMAL RETURNS AND STANDARDISED CUMULATIVE AVERAGE ABNORMAL RETURNS

	N	Σ	AVERAGE CAR [SCAR]	\sqrt{N}	ST. DEV. (CROSS- SECTIONAL)	T-STAT
PANEL 1: OVERALL SAMPLE						
IJV Deals	63	30.8161 [2.8741]	0.4891 [0.0456]	7.9373	3.3272 [1.751]	0.2068
PANEL 2: ACCORDING TO THE SIGNS OF THE ABNORMAL RETURNS						
IJV Deals with Positive \overline{SCARs}	34	92.0455 [43.6832]	2.7072 [1.2848]	5.831	2.1741 [0.8396]	8.9231*
IJV Deals with Negative \overline{SCARs}	29	-61.2292 [-40.8093]	-2.1114 [-1.4072]	5.5678	2.4421 [1.3812]	-5.6727*
PANEL 3: ACCORDING TO THE GEOGRAPHICAL LOCATION OF PARTNER/ ORIGIN OF PARTNER FIRM:						
IJV Deals with European Partners	18	4.4041 [1.5072]	0.2447 [0.0837]	4.2426	1.8981 [1.3295]	0.2672
IJV Deals with North American Partners	13	-3.4438 [-5.4088]	-0.2649 [-0.4161]	3.6056	3.7212 [2.1468]	-0.6988
IJV Deals with Asian Partners	15	-3.3255 [-2.6975]	-0.2217 [-0.1798]	3.8730	2.5763 [1.7409]	-0.4000

IJV Deals with Australian Partners	8	24.3422 [6.8517]	3.0428 [0.8565]	2.8284	3.7507 [1.0150]	2.3866**
IJV Deals with African Partners	10	1.3551 [-0.1000]	0.1355 [-0.0100]	3.1662	4.7937 [2.4538]	-0.0129
PANEL 4: ACCORDING TO THE ECONOMIC STATUS OF PARTNER'S COUNTRY:						
IJV Deals with Developed Country Partners	34	25.8366 [6.0470]	0.7599 [0.1779]	5.9161	3.1449 [1.6892]	0.6229
IJV Deals with Developing Country Partners	29	4.9797 [-3.1731]	0.171 [-0.1058]	5.3852	3.5585 [1.8385]	-0.3098
PANEL 5: ACCORDING TO THE LEVEL OF EQUITY HOLDING BY SOUTH AFRICAN FIRMS:						
IJV Deals where the South African Partner Holds at Least 50% Equity in the IJV	29	8.7448 [-8.7967]	0.3015 [-0.3033]	5.3852	3.6675 [1.8185]	-0.8983
IJV Deals where the South African Partner Holds 50% Equity in the IJV	15	4.6565 [-5.6087]	0.3104 [-0.3739]	3.8730	4.6171 [2.3346]	-0.6203
IJV Deals where the South African Partner Holds Less than 50% Equity of the IJV	11	3.3265 [0.8454]	0.3829 [0.0769]	3.1666	4.2886 [2.2794]	0.1119
PANEL 6: ACCORDING TO INDUSTRY CLASSES:						
IJV Deals where the South African Partner is in the Manufacturing Sector	24	0.8904 [-4.0566]	0.0371 [-0.1690]	4.899	3.1902 [1.8951]	-0.4370

IJV Deals where the South African Partner is in the Financial Services Sector	12	-0.1233 [-0.6639]	-0.0103 [-0.0553]	3.4641	2.1306 [1.4738]	-0.0248
IJV Deals where the South African Partner is in the Mining Sector	17	19.7628 [-0.3890]	1.1625 [-0.0229]	4.1231	4.4818 [1.7701]	-0.0533
IJV Deals where the South African Partner is in the Wholesale and Retail Sector	7	13.9424 [7.9930]	1.9918 [1.1419]	2.6458	3.1077 [1.5601]	1.9365***

Notes: Numbers in the table represent the CAR while the numbers enclosed [] stand for the SCAR. “ Σ ” shows the sum of the CARs and SCARs and “St. Dev. (Cross-Sectional)” is the cross-sectional standard deviation of the CARs and SCARs. Critical Values are sourced from Brooks (2008: 617). *, **, * denotes statistical significance at 1%, 5% and 10% respectively and n-1 degrees of freedom.**

The Critical Values for Panel 1 of Table 5.7 based on 60 degrees of freedom are 2.0003, 1.2958 and 1.0455 for statistical significance at 1%, 5% and 10% respectively. The \overline{SCAR} shows that on average, the IJV announcements resulted in a positive return of 0.05%. However, based on the low *t-stat* of 0.2068 we fail to reject the null hypothesis that $\overline{SCAR} = 0$ (Equation 4.3) and conclude that based on these IJV announcements, there is *seemingly* insufficient evidence to suggest that the market significantly responds to IJVs⁷¹ and by extension, that the market does not regard them as either firm value enhancing or diminishing vehicles.

However, this conclusion would ignore the formulation of the test statistic (*t-stat*) where the sum of the \overline{SCAR} s is used to assess statistical significance (see Equation 4.11 reproduced below as Equation 5.4 and Equation 5.3, above)

$$\overline{SCAR} = \frac{1}{N} \sum_{i=1}^N \left[\frac{CAR_i}{\text{standard deviation of stock } CAR_i} \right] \dots\dots\dots 5.4$$

In this formulation, the combination of all ventures' \overline{SCAR} s regardless of whether they generated positive or negative returns resulted in a low total \overline{SCAR} (2.8741) which was ultimately not statistically significant as shown in Table 5.7. As Equation 5.3 shows, the *t-stat* is determined by dividing the average \overline{SCAR} ⁷² by the cross sectional standard deviation of the IJVs' standardised cumulative abnormal returns and so a small average \overline{SCAR} will result in a small *t-stat*. In the case of Table 5.7 adding positive standardised abnormal returns to negative standardised abnormal returns ultimately resulted in low average standardised abnormal returns because positive returns were counter balanced by negative returns and negative returns were counter balanced by positive returns effectively forcing average \overline{SCAR} s to be low.

Given an appreciation of the bias that the summation of positive abnormal returns and negative abnormal returns can have on the size of the average \overline{SCAR} s, the result in Table 5.6 *did not show* that IJVs did not influence firm value in South African firms but, rather, that there was no single statistically significant response to them. To clarify, for the total \overline{SCAR} in the combined IJV

⁷¹Another important note on standardisation can be made on these results. If the CAR had not been standardised the *t-stat* to determine statistical significance would have been 1.1668 which would have allowed rejection of the null at a 10% level of significance allowing the study to erroneously conclude that the positive abnormal return of 0.05% was statistically significant.

⁷² As noted in Chapter 4 average \overline{SCAR} is denoted by \overline{SCAR}

announcement sample to be statistically significant it would have to be significantly low or significantly high which would require that either the negative returns or the positive returns dominated the sample. Without a strong positive or negative bias in abnormal returns the test suggests that the returns do not meaningfully differ from zero.

To assess whether the combination of negative and positive returns had impacted otherwise statistical significant abnormal returns generated by IJVs the study split positive and negative abnormal returns to determine whether they were separately statistically significant.

Positive Returns

The positive \overline{SCAR} s were grouped together and their collective statistical significance is shown in Panel 2 of Table 5.7 above and fully presented in Table A5 of the Appendix under the null hypothesis that \overline{SCAR} is equal to zero and an alternative hypothesis that they are greater than zero. The Critical Values based on 30 degrees of freedom are 2.4573, 1.6973 and 1.3104 for statistical significance at 1%, 5% and 10% respectively. The average SCAR shows that on average positively valued IJVs had a 1.28% increase in returns following an IJV announcement. In addition, this abnormal return was statistically significant at a 1% level of significance since the null hypothesis of $\overline{SCAR} = 0$ could be rejected because of the relatively high t-stat. This result suggests that when the market has a positive outlook on an IJV it positively responds to that outlook. Put differently, good IJV decisions by firms were rewarded with greater stock returns. The consequence of this result being that while IJVs are not, as a group, conclusively beneficial to South African firms (given the result in panel 1 of Table 5.7) some of them are emphatically so.

Negative Returns

In addition to identifying that firms respond to good IJV decisions it was important to assess whether they similarly responded to negative assessments of IJVs as represented by statistically significant negative abnormal returns following their announcement. This was important to note not only to confirm that the market evaluates IJVs but to ascertain whether in addition to rewarding good IJV decisions as shown in Panel 2 of Table 5.7 that it punished bad IJV decisions as well. If the market were to positively respond to good IJVs and not respond to bad IJVs then an unfettered support for IJVs could be promoted on the strength of the understanding

that IJVs can be good but they cannot be bad; they have an upside but no downside. Panel 2 of Table 5.7 presents the results for the negatively assessed IJVs under the null hypothesis that the $\overline{SCAR} = 0$ and an alternative hypothesis that it is less than zero (full results are in Table A6 of the Appendix): The Critical Values based on 28 degrees of freedom are 2.0452, 1.6991 and 1.3114 for statistical significance at 1%, 5% and 10% respectively. The average SCAR shows that on average negatively valued IJVs had a 1.41% abnormal decrease in returns following an IJV announcement. Moreover, this result was statistically significant at a 1% level of significance since $p < 0.0005$ for a *t-stat* of -5.6727. This result, in combination with the positive return result showed that IJVs influenced South African firm value both positively and negatively.

The results presented in Panels 1 and 2 of Tables 5.7 raise the question of what it means for the collective IJV announcements to not be statistically significant while their positive and negative sub-groups are statistically significant. Since the market shows a statistically significant positive response to some IJVs and a statistically significant negative response to others, the results showed that the market responded to IJVs by influencing abnormal returns positively or negatively which, in turn, showed that IJVs influenced firm value amongst South African firms both positively and negatively. The fact that the collective IJV announcements did not yield statistically non-zero abnormal returns shows that while the market responds to positive and negative assessments of IJVs it does not have a generic or biased response to IJVs. IJVs cannot be said to be decidedly beneficial or harmful to firm value at formation only that they can influence firm value positively or negatively as evidenced by the statistical significance of the abnormal returns when the positive responses were separated from the negative responses.

The evidence that an IJV is not intrinsically beneficial may not represent a startling revelation but it serves to caution an unencumbered desire amongst firms to enter IJVs as can be the case in developing countries that see the good in working with developed country partners and not necessarily the threats such collaborations pose (cf. Lyles and Salk, 1996 and Hennart *et al.*, 1999).

Having observed that the empirical evidence supported the view that the market evaluates the merits of an IJV at the time of its announcement it was important to identify if the differences in positive and negative assessment could be explained by factors identified in Chapter 1, namely,

the geographical location of the non-South African partner, the economic status of the partner firm's country, the equity holding of the South African firm or the industry in which it operates.

5.5 GEOGRAPHICAL LOCATION OF PARTNER/ ORIGIN OF PARTNER FIRM⁷³

As reviewed in the theoretical and empirical literature, the geographical location/nationality of the partner firm may influence the success and failure of an IJV by affecting the ability of partner firms to jointly manage/ contribute to the operation of the IJV because of underlying differences in culture, ethics and management systems which have evolved in disparate locations. Isolating IJVs with EU partners, for example, may reveal a positive statistically significant result that was hidden by the inclusion of IJVs with non-EU partners into the sample space. Consequently, the analysis now looked at partner origins as a possible explanatory variable of when IJVs had positive effects on firm value for South Africa firms.

In this study the IJV announcements are divided by continent placing partner firms into five groups; European Partners, North American Partners, Asian Partners, Australian Partners and African Partners⁷⁴

5.5.1 European Partners

The SCARs for IJVs between South African and European firms range from 2.25% for Deal 13 to -1.96% for Deal 62 providing an early indication that IJVs with European partners are beneficial in some cases and harmful in others. The results in Panel 3 of Table 5.7 above assessed whether there was a standard/ average influence on firm value either positively or negatively under a null hypothesis that $\overline{SCAR} = 0$ and an alternative hypothesis that it is not equal to zero. The full results are in Table A7 in the Appendix.

The Critical Values based on 17 degrees of freedom are 2.8982, 2.1098 and 1.7396 for statistical significance at 1%, 5% and 10% respectively. Although the results show a 0.08% abnormal increase in returns in response to IJVs with European partners, the result is not statistically different from zero given that for its *t-stat* of 0.2672 we cannot reject the null hypothesis and must conclude that the abnormal returns do not significantly differ from zero. As in the case of

⁷³The full results for the Geographical Location of Partner tests are in Tables A6 to A10 of the Appendix.

⁷⁴ There are 3 South American ventures in the sample but they are not individually investigated as a sub-group because of their small size. However, they are considered in the multivariate analysis in Section 5.8.

the collective assessment of IJVs in Panel 3 there is no standard market response to IJVs with European partners which suggests that partnerships of this nature are not intrinsically beneficial or harmful. Political rhetoric on the African continent raising concerns over alliances with European firms is not supported by the data in South Africa neither is an over-exuberance relating to the benefit that they may provide. This is not only because the returns are not statistically above their normal levels but also that the results are closely split between negative and positive returns according to the \overline{SCAR} of European partner venture announcements.

5.5.2 North American Partners

As with the European partners, the SCARs show both positive and negative influences on South African firm returns following venture announcements between them and North American partners (see Appendix Table A8). As to whether the abnormal returns they generate are different from zero the *t*-stat to test statistical significance is presented in Panel 3 Table 5.7 below and tested under the null hypothesis that $\overline{SCAR} = 0$ and the alternative hypothesis that it is not equal to zero.

The Critical Values based on 12 degrees of freedom are 3.0268, 2.1748 and 1.7813 for statistical significance at 1%, 5% and 10% respectively. The average SCAR suggests that North American partner IJVs are value diminishing on average since abnormal returns are negative (-0.42%). However, the *t*-stat (-0.6988) suggests that the negative return is not statistically different from zero at a 10% level of significance indicating that IJVs with North American Partners are neither intrinsically/decidedly beneficial or harmful.

5.5.3 Asian Partners

As noted in the empirical literature, IJVs with Asian partners are particularly important to consider because of Reich and Mankin (1986) and Hamel's (1991) identification of the "Trojan horse" phenomenon (discussed in the Chapter 2) in which some Asian firms are viewed as value diminishing joint venture partners. The summary of results for all Asian partner joint ventures is presented in Panel 3 of Table 5.7 under the null hypothesis that $\overline{SCAR} = 0$ and the alternative hypothesis that it is not equal to zero (the full results are in Table A9 in the Appendix).

The Critical Values based on 14 degrees of freedom are 2.9768, 2.1448 and 1.7613 for statistical significance at 1%, 5% and 10% respectively. The negative average SCAR of -0.18% suggests that on average IJVs with Asian partners are value diminishing and would lend credence to concerns over Asian partner joint ventures and the “Trojan horse” phenomenon.

However, a conclusion that such ventures are decidedly harmful is also not supported by the data where the observed negative average CAR was not statistically significant at a 10% level of significance given the *t-stat* of -0.4000. This result would suggest that while the evidence does hint at the “Trojan horse” phenomenon it also does not support the idea that these IJVs are decidedly firm value diminishing. Consequently, Asian partner firm IJVs, as with European and North American partner IJVs are neither decidedly beneficial nor harmful as the returns associated with them are not statistically different from their normal levels either positively or negatively.

5.5.4 Australia Partners

In contrast to the groupings above, Australian partner IJVs had positive firm value creation for South African firms. Under the null hypothesis that $\overline{SCAR} = 0$ and the alternative hypothesis that it is not equal to zero, the *t-stat* of 2.3866 (shown in summary in Panel 3 of Table 5.7 and in full in the Appendix Table A10) suggested that the average positive SCAR of 0.86% was significantly different from zero at a 5% level of significance as the *t-stat*'s corresponding probability value was $p < 0.05$. This is the case given Critical Values of 3.4995, 2.3646 and 1.8946 for statistical significance at 1%, 5% and 10%.

However because the sample size is small, the result must be tempered by three considerations, the first, is that in very small samples the significance of a result can be difficult to definitively assess through statistical tests, secondly, that in a sample as small as this it is unlikely that the assumption of normality could be defended and crucially, thirdly, whether the sample is representative of the population it is drawn from⁷⁵.

⁷⁵The final point is an important point highlighted in the debate on a sample's substantive significance versus its statistical significance where the former can occur without the latter and vice versa (Davidson, 2010). If a population is small resultant population representative samples will also be small which affects the effectiveness of conventional statistical tests. This has raised questions on the mechanical dependence on statistical significance in

To the first question, that the effect was detected in a small sample suggests that, at least, for the firms in this subset the positive abnormal returns are significantly so. This can be shown from the fact that as the number of observations and degrees of freedom fall the Critical Values increase raising the threshold for statistical significance. Put differently, to make a conclusion of significance in a small sample the effect of the phenomenon under investigation must be larger than it would be in a larger sample. However, while detecting statistical significance in a small sample speaks to the strength of the effect under investigation it does not change the fact that in this case the study has used a parametric test for which a sample of this size challenges the assumption of normality in the distribution of abnormal returns.

To this second question of normality, the study is limited to a small sample by virtue of data availability (see data collection in Chapter 4) and so small samples potentially violating normality are a function of the small population of qualifying ventures⁷⁶. Despite this Brown and Warner, 1985; Worrel *et al.* (1993) and Macher *et al.* (1997) (in Hanvanich and Cavusgil, 2001: 144 and 148) would suggest that the result remains valid even though the sample is small. While the argument is not explicitly made, the chief driver for normality is to ensure that the sample under study has a mean similar to the population it is taken from⁷⁷. Without a normal distribution the CLT (described in Chapter 4) is used to ensure that by increasing the size of the sample the problem of non-normality is counteracted by using sufficient observations to allow the sample mean to closely resemble the population mean. However, if a sample of four observations taken from a population of five events is considered “not normally” distributed would the validity of their information not represent their population simply because CLT thresholds in larger studies suggested 30 observations were necessary for the assumption of normality to be made for the sample? No, the sample would still represent its population. In this case that the sample is relatively small does not invalidate its result but does suggest that it may need to be corroborated when the population it is taken from grows.

empirical studies where statistical testing conventions may fail to capture the underlying relationships in the data they are being used to investigate.

⁷⁶It is important to note that non-parametric tests, while offering a channel for statistical tests in non-Gaussian samples also have low power in small samples as shown in De Jong's (2007) comparison of parametric and non-parametric tests.

⁷⁷ This is so that sample deviations from the sample mean are deviations from the population mean.

Finally, as to the question of size and representation, without a population figure to ascertain the relative size of the population to the sample the study interprets the results with a proviso that while it is likely that the subset of Australian partner equity IJVs with publically available announcement information formed within the 15 year sample period between South African firms with regularly traded stocks and for whom the deals were announced after the South African firm began trading on the JSE is small and that the observations made would not be insignificant in comparison to such a population. However, as stated above, the fact that the sample has only 8 observations suggests that as the population of Australian partner IJVs grows confirmatory research should be conducted to consolidate this study's finding. Moreover, one of the main values of the result is in identifying that there is within these IJVs an element that has positively influenced firm value and may be better revealed in the analysis of the effect of the industry in which the IJV occurs or the economic status of the partner country. For example, 6 of the 8 IJVs with Australian partners are in the mining industry suggesting a need to investigate whether it is IJVs in the mining industry (for which the sample is larger) that create positive firm value (This is considered in the results on the industry of the South African Partner in Section 5.7).

5.5.5 African Partners

For African partner IJVs, Panel 3 of Table 5.7 reveals that South African firms have negative cumulative average abnormal returns according to the sample of this study (-0.01%). However, the *t-stat* of -0.0129 suggests that this average abnormal return is not statistically different from zero given a null hypothesis that $\overline{SCAR} = 0$ and an alternative hypothesis that it is not equal to zero and Critical Values of 3.4765, 2.3494 and 1.8846 for statistical significance at 1%, 5% and 10% respectively.

IJVs with African partners as with IJVs with European, North American or Asian partners did not have statistically significant abnormal returns and so did not present evidence that they were decidedly beneficial to South African firms. This is a particularly important observation as growing Pan-Africanism seeks closer links between African countries and their economies. The data suggests that such collaborations are neither superior nor inferior to European, North American and Asian partner IJVs. However, such an overarching conclusion requires the same caution as the small sample Australian partner IJVs because while the sample may be representative of the population it is drawn from a conclusion of no intrinsic effect on firm value,

the possible negative/positive effects of African partner IJVs on firm value creation may simply not be significant enough to be detected in such a small sample.

While geographical location provided some explanation of positive and negative changes in firm value following IJV announcements, some of the sub-groups did not allow conclusive statistical tests because of their size. The sample was reconfigured in Section 5.6 (below) to test the economic status of the partner's country to allow for a test of the possible effect it had and to allow larger samples on which to perform more conclusive statistical tests. The sample was divided into ventures with Developed country partners and those with Developing country partners.

5.6 ECONOMIC STATUS OF PARTNER'S COUNTRY

5.6.1 Developed Country

As is shown in Panel 4 of Table 5.7, the impact on firm value of IJVs with developed country partners was small (0.18%) and not statistically different from zero given a *t-stat* of 0.6229 and Critical Values based on 30 degrees of freedom which are 2.7500, 2.0423 and 1.6973 for statistical significance at 1%, 5% and 10% respectively. This result is inconsistent with the widespread promotion of developing - developed country partnerships. Where Knowledge Acquisition has been at the forefront of supporting such collaborations in the interests of allowing developing country firms to learn best practice from developed country firms the results suggest that the market does not consider this a virtue inherent in all partnerships with developed country firms. In this case the data supports the intuition that while many developed countries may have firms with superior management practices, operations and distribution channels it cannot be assumed that such knowledge will be acquired or used by the developing country partner.

5.6.2 Developing Country

Also, in Panel 4 of Table 5.7, in the case of IJVs with developing country partnerships there were negative cumulative average abnormal returns of -0.11% but these are not statistically different from zero based on a *t-stat* of -0.3098 and Critical Values of 2.7663, 2.0484 and 1.7011 for statistical significance at 1%, 5% and 10% respectively with 28 degrees of freedom and a null of

\overline{SCAR} is equal to zero and the alternative hypothesis that it is not equal to zero. As with the developed country firm partnerships, developing country firm partnerships were not decidedly beneficial or harmful South African partner firm value.

Given that the study has shown that the market assesses IJVs positively and negatively the fact that the economic statuses of the partner firms' countries could not explain firm value creation, neither negatively nor positively, would suggest that whether the partner firm is from a developed or developing country does not materially influence firm value creation in IJVs for South African firms. With the economic status of the partner firms' countries failing to explain the creation of firm value the analysis moved onto the investigation of the equity holding of firms to assess whether firm value creation was influenced by the equity holding of the South African partner firms, particularly, in the light of the preliminary analysis of the five most negative responses to IJVs.

5.7 EQUITY HOLDING

First the study investigated the IJVs where the South African firms held at least 50% of the joint venture's equity⁷⁸.

5.7.1 Equity (At Least 50%)

It is shown in Panel 5 of Table 5.7 that when the South African firm held more than a minority interest in the IJV the abnormal returns were negative (-0.30%) but not statistically significant based on a *t-stat* of -0.89838 and Critical Values of 2.7663, 2.0484 and 1.7011 for statistical significance at 1%, 5% and 10% given 28 degrees of freedom and a null of $\overline{SCAR} = 0$. Holding at least an equal share of the venture's equity and potentially at least an equal share of its profits and control did not help to explain firm value creating IJVs. If the negative average abnormal returns had been statistically significant the result may have indicated that equity holding influences knowledge acquisition (from which developing country partner firm value is largely expected to be derived from). However, that the average abnormal returns were not statistically different from zero suggests an equity holding of at least 50% alone does not materially influence firm value creation in South African IJVs.

⁷⁸ These are IJVs where the South African firm is *not* the minority partner.

5.7.2 Equity (50%)

According to the average standardised cumulative abnormal returns of -0.37% in Panel 5 of Table 5.7 above, equity ventures where South African partners held 50% of the equity negatively affected firm value. This seemed to reiterate the observations made in the preliminary analysis. However, the test of the statistical significance of the result showed that for a t -stat of -0.6203 and Critical values of 2.9768, 2.1448 and 1.7613 for statistical significance at 1%, 5% and 10% under a null hypothesis that $\overline{SCAR} = 0$ the result was not statistically different from zero. The initial concern over the decision making capabilities of 50-50 equity joint ventures was not validated by the test on the 50% equity holding sub-set of South African IJVs⁷⁹. Given the failure of a 50% equity holding to explain IJV firm value creation the study then investigated if an equity holding of 50% could provide some explanation for firm value creation following the creation of an IJV.

5.7.3 Equity (Less than 50%)

In IJVs in which the South African firm was holding a minority interest average abnormal returns were positive (0.08%) but they were also not statistically significant given a t -stat of -0.0639 ($p > 0.8$) and Critical Values of 3.192, 2.2335 and 1.8012 for statistical significance at 1%, 5% and 10% given 9 degrees of freedom and a null of $\overline{SCAR} = 0$ and the alternative hypothesis that it is not equal to zero. This result is presented in Panel 5 of Table 5.7.

Holding a minority interest in the IJV does not appear to positively or negatively influence the IJV's ability to create firm value for its South African partners.

Since equity holdings cannot explain increased or diminished firm value due to an IJV the analysis moved to an assessment of the industry in which the South African partner operated. In the theoretical review of this study the idea that some industries may be better suited to enjoy the benefits of IJVs was noted. Below is an empirical investigation of that view for South African firms in four industries; manufacturing, financial services, mining and wholesale and retail industries.

⁷⁹ Deal 18 is not a 50-50 IJV but its exclusion does not change the conclusion that a 50% equity holding does not help to explain firm value creation or destruction when an IJV is formed.

5.8 INDUSTRY

5.8.1 Manufacturing (SIC – 3)

In the manufacturing industry where the benefit of knowledge acquisition relating to best practice and technology adoption would be expected to be high such ventures could be expected to have a positive effect on firm value for South African firms. However, the results showed that the average abnormal returns for such firms in this study's sample of IJVs were negative (-0.17%). Moreover, that these returns could not be statistically differentiated from zero based on a *t-stat* of -0.4370 and Critical Values of 2.8073, 2.0687 and 1.7139 for statistical significance at 1%, 5% and 10% and a null hypothesis of \overline{SCAR} is equal to zero and the alternative hypothesis that it is not equal to zero. This also suggests that firms in manufacturing in South Africa cannot be expected to benefit from IJVs simply because of their industry despite its potential for knowledge acquisition. This is shown in Panel 6 of Table 5.7 above in summary and fully shown in Table A17 of the Appendix.

5.8.2 Financial Services (SIC – 8)

In the financial services average abnormal returns were negative (-0.06%). However, this result is not statistically different from zero based on a *t-stat* of -0.0248 for which $p > 0.8$ and Critical values of 3.1058, 2.2010 and 1.7959 for statistical significance at 1%, 5% and 10% respectively under a null hypothesis of $\overline{SCAR} = 0$ and the alternative hypothesis that it is not equal to zero (see in Panel 6 of Table 5.7 above for a summary of the full result in Table A18 of the Appendix).

IJVs for firms in the financial services, as with those for firms in the manufacturing industry, were not decidedly beneficial or detrimental to firm value for South African firms.

5.8.3 Mining (SIC – 2)

The mining industry, as with the manufacturing industry, is traditionally expected to lend itself to the collaborative business model because of the high costs of start-up and the political obstacles many multinational companies face in establishing mining operations in countries other than their own (Beamish, 1988: 33).

The results of analysing the mining industry's IJVs suggested that despite the study's identification of a negative abnormal return for IJVs involving firms in the mining industry (-0.02%) the result was not statistically different from zero given a *t-stat* of -0.0533 for which $p > 0.8$ and Critical Values of 2.9208, 2.1199 and 1.7459 for statistical significance at 1%, 5% and 10% under a null of $\overline{SCAR} = 0$ and the alternative hypothesis that it is not equal to zero (see panel 6 of table 5.7 for a summary of the full result in Table A19 of the Appendix).

5.8.4 Wholesale and Retail (SIC – 6)

In the final industry class, the wholesale and retail industry's results depart from the other industry classifications with a positive abnormal return (1.14%)⁸⁰ for South African firms in IJVs being statistically different from zero suggesting that the firms in this industry realise above normal firm value as a result of IJVs, on average. This is based on a *t-stat* of 1.9365 ($p > 0.05$) Critical Values of 3.142, 1.9432 and 1.4398 for statistical significance at 1%, 5% and 10% respectively and a null of \overline{SCAR} is equal to zero and the alternative hypothesis that it is not equal to zero. The result is statistically significant since the *t-stat* (1.9365) is greater than the Critical Value at 10% meaning that the null hypothesis of "no abnormal returns" can be rejected (see Panel 6 of Table 5.7 for a summary of the full result in Table A20 of the Appendix).

As described in Chapter 4, the study also conducted an analysis of the variance (ANOVA) in the \overline{SCAR} s through a multiple regression of qualitative variables. The results of that investigation are in Table 5.9 below.

⁸⁰The small sample provisos of the Australian Partner IJVs are applicable here as well.

5.9 A MULTIPLE REGRESSION ANALYSIS OF VARIANCE (ANOVA) IN STANDARDISED CUMULATIVE AVERAGE ABNORMAL RETURNS

TABLE 5.8: RESULTS OF ANOVA IN STANDARDISED CUMULATIVE AVERAGE ABNORMAL RETURNS

	COEFFICIENT	t-stat	prob.
C	-0.0483	-0.0448	0.9644
NORTH AMERICA	0.0141	0.0196	0.9844
SOUTH AMERICA	2.1785	1.3728	0.1759
ASIA	0.0864	0.0837	0.9337
AUSTRALIA	1.5904	1.7642***	0.0838
AFRICA	0.1544	0.1427	0.8871
DEVELOPED	0.3582	0.3884	0.6993
EQUITY (50%)	-0.5437	-0.7321	0.4675
EQUITY (AT LEAST 50%)	-0.5457	-0.8438	0.4028
EQUITY (BELOW 50%)	-0.6138	-0.8290	0.4110
INDUSTRY (FIN)	0.1713	0.2599	0.796
INDUSTRY (MIN)	-0.5227	-0.8208	0.4157
INDUSTRY (W AND R)	1.2238	1.5084	0.1377
Adjusted R-Squared	-0.0192		
F-statistic	0.9025		
Prob(F-statistic)	0.5508		

N is 63, *, **, *** denotes statistical significance at 1%, 5% and 10% respectively. Key: The bases used for the dummy variables to avoid the dummy variable trap are as follows; for Geographical location the base is Europe Partner IJVs, the base for the Economic Status of Partner Country is Developing Country Partner IJVs, for Equity holding the base is cases when equity distribution is undefined in the IJV announcement and in the case of the Industry of the South African Partner the Manufacturing Industry is the base.

As can be seen, the results of the multiple regression analysis confirm the findings of the preceding analysis by showing that most of the factors under investigation have no statistically significant impact on the level of \overline{SCARs} with the exception of Australia which had a statistically significant impact at a 10% level of significance. Australian IJVs created more firm value for South African firms than IJVs with partners from other regions. This reinforces the findings of Section 5.5.4 that suggested that Australian partner IJVs were firm value enhancing. The other formation characteristics could not help explain variations in \overline{SCARs} . The wholesale and retail industry that had been associated with statistically significant positive abnormal returns in the results of Section 5.8.4 no longer retains that significance. Unlike the case of Australian partner IJVs, the findings for the wholesale and retail industry were not as robust and were challenged by the multivariate analysis. Ultimately, while there is some evidence to support the influence of

the wholesale and retail industry on IJV firm value creation in Table 5.7 the fact that it is questioned by Table 5.8, in which each subset is compared to other subsets within its category, suggests that the wholesale and retail industry does not significantly provide positive wealth effects when compared to the mining, financial and manufacturing industries.

Quite notably in the multiple regression analysis is the low adjusted R^2 (-0.0192) and the high Prob(F-statistic) (0.5508) which suggest one of two conclusions, firstly, that the overall model has little predictive power in relation to the dependent variable. Put differently, the formation characteristics under study were poor determinants/indicators of firm value creation for South African firms. Alternatively, the model may not have sufficient variables to explain abnormal returns.

From the evidence in Table 5.8 the results would suggest that the variables are not collectively significant determinants of IJV firm value creation (a conclusion discussed in Chapter 6).

5.10 CHAPTER CONCLUSION

This chapter presented the empirical results of the study and provided brief comments as to their importance in view of the objectives of the entire research. The key results are as follows: South African firms can and do benefit from IJVs through increased firm value as represented by statistically significant positive standardised average cumulative abnormal returns. They also lose firm value from bad IJVs as represented by statistically significant negative standardised average cumulative abnormal returns. Attempting to explain the positive returns and the negative returns through formation characteristics provided little support for their impact on South African firm value creation through IJVs. The abnormal returns were not related to the economic status of the partner firm, the equity holding of the South African partner or the industry in which the South African partner operated. Only in the case of Australia did there appear to be a relationship with some evidence to suggest that Australian partner IJVs performed better than IJVs with partners from other regions.

The study used the established event study methodology as presented in the leading work of Brown and Warner (1985) with revisions of the method to incorporate Coutts *et al.*'s (1994) criticisms and De Jong's (2007) adjustments.

Chapter 6 now provides an analysis of the results in light of the five hypotheses set out in Chapter 1 as well as the implications of its findings for policy makers, potential South African IJV entrants and researchers on IJV performance for developing country partner firms.

CHAPTER 6

ANALYSIS OF RESULTS

6.1 INTRODUCTION

Chapter 5 presented the empirical results of the study, noting their statistical significance and the potential violations of methodological assumptions. This chapter now seeks to interpret these results in the light of the principal aims of the study as set out in Chapter 1⁸¹ and the foregoing theoretical and empirical literature. It is divided according to the five hypotheses set out in Chapter 1 as follows; Section 6.2 addresses the first hypothesis while Section 6.3, 6.4, 6.5 and 6.6 address the remaining four hypotheses. Section 6.7 then explains the implications of the study's findings for IJV participants, policy makers, firm value creation theory and researchers. Section 6.8 addresses conflict in findings and existing empirical literature before Section 6.9 notes the specific contributions the study makes. Thereafter Chapter 7 gives a summary and conclusion of the entire study.

6.2 HYPOTHESIS 1: IJVs RESULT IN POSITIVE FIRM VALUE CREATION FOR SOUTH AFRICAN FIRMS

To support the hypothesis and observe that IJVs positively change South African partner firm value, the average abnormal returns for the analysis of the entire sample had to be positive and statistically significant. As shown in Table 5.7 this is not the case as the average abnormal returns, though positive, were not statistically different from zero. Consequently, the hypothesis above is not supported by this study's evidence. There is insufficient evidence to suggest a positive relationship between the IJV and positive firm value creation in South Africa when firm benefits are measured at formation⁸².

This result places the study's observations on the side of Finnerty *et al.* (1986), Chen and Hu (1991), Merchant (1997) and Borde *et al.* (1998) who also note that IJVs do not create statistically significant abnormal returns and puts it at odds with Lee and Wyatt (1990), Chung *et*

⁸¹Namely, to determine whether IJVs create positive firm value for their South African partners and if that firm value can be explained by four selected formation characteristics.

⁸² The caveat of noting that the study measures IJVs at formation is discussed in the limitations of the study later in this chapter.

al. (1993), Janakiramanan and Lamba (2004) and Meschi (2004) who identify changes in firm value through IJV announcements.

On the strength of the non-significant relationship, it could be erroneously concluded that IJVs simply do not result in firm value creation for their South African partners. However, such a broad conclusion is not what the results reveal. Rather, they show that there is no standard, positive relationship between the creation of an IJV and firm value creation for its South African partners. This is a conclusion that has implications for how they are managed by participants and supported by national policy organisers as discussed in Section 6.7.

From the foregoing the question arises as to why this is the case; why do IJV formations not create firm value for their South African partners, particularly, given the strong theoretical support for the power of IJVs to create positive firm value? In explaining the lack of a statistically significant change in firm value following an IJV announcement, Finnerty *et al.* (1986: 24) suggested that at formation ventures did not have a “performance history” to provide sufficient information for investors to make a meaningful revaluation of the value of a firm. Put differently, whether the IJVs ultimately led to firm value creation could not be determined at formation and that is why despite strong support from transaction cost economics (TCE), resource based theory (RBT) and real options (ROT) to suggest IJVs will benefit South African firms, the evidence does not reflect that benefit.

However, this explanation, while plausible, does not hold in this study because the splitting of IJVs into positively and negatively valued IJVs showed statistically significant changes in firm value for South African firms entering IJVs. Positive changes in firm value and negative changes in firm value were statistically significant as shown in Table 5.7 reflecting that at formation, IJV firm value had been considered and market participants had responded to their evaluations of them.

Rather than a conclusion that the IJV does not provide enough information for evaluation at formation, the results suggest that the creation of an IJV does not provide a decidedly positive or negative influence on South African partner firm value. The evidence shows that the market responds to the IJV announcement but it cannot be said to reflect a positive bias that would have suggested that IJVs were, on average, firm value enhancing.

6.3 HYPOTHESIS 2: POSITIVE AND NEGATIVE FIRM VALUE CREATION CAN BE EXPLAINED BY THE DIFFERENCES IN THE GEOGRAPHICAL ORIGINS OF THE NON-SOUTH AFRICAN IJV PARTNER

On average IJV partner geographical location did not determine whether the IJV was value enhancing or diminishing for the South African partner with the exception of IJVs with Australian partners. Despite European and African partner IJVs recording positive abnormal returns, these returns were not statistically different from zero which prevents a conclusion that such ventures were likely to be beneficial to South African firms. Similarly, despite the negative average abnormal returns for partnerships with North American and Asian firms, the fact that the results were also not statistically different from zero suggests that these IJVs are not likely to be more detrimental/harmful to South African firms than IJVs with partners from different regions. Essentially whether the IJV partner was from Europe, North America, Asia or Africa did not meaningfully influence firm value creation for the South African firms entering IJVs.

In the case of Australia, however, the evidence suggested that such partnerships were value enhancing with an average abnormal return of 0.86% that was statistically significant at a 5% level of significance. The Australian partner result would lend some credence to the idea that the origin of one firm affects the firm value creation of its partner firms. However, it is only in the smallest sample (Australian partner IJVs) where such influence is demonstrated. Given Brown and Warner's (1985) and Hyung-Chan's (2006) assertions that the results of an event study will not be materially affected by the violation of statistical assumptions of normality in small samples, the fact that Australia, with a relatively small sample size, is the only region with a significant impact on firm value creation does not necessarily challenge the conclusion that Australian IJVs are firm value enhancing.

However, with Australian partner IJVs being the only ones to show statistically significant positive IJV firm value creation and the other geographical locations providing no statistically significant changes in firm value, it would appear that geographical locations, at least as they are set out here, provide limited explanation for IJV firm value creation for South African firms entering IJVs. Hennart *et al.*'s (1999), McSweeney's (2002) and Avny and Anderson's (2008) analyses that concluded that partner origins were not homogenous enough to provide a standard/typical influence on firm value creation following the formation of an IJV find new

support in this study's empirical results. As Schien (1981) suggested, organisational norms supplant national cultures preventing meaningful relationships emerging between a firm's geographical origin and its conduct, ethics, efficiency etc. The evidence from this study supports the challenge to the power of geographical origins to determine positive and negative firm value creation.

The multivariate analysis of Table 5.8 confirms the findings by showing little evidence that firm value creation through IJVs is influenced by where a firm's partner is from. Again, the Australian partners are the only ones to show a statistically significant positive influence on firm value creation but as it is the only region that exhibits such evidence the results do not provide strong support the power of partner geographical origins to explain firm value creation. There is support for Australian partner IJV firm value creation but not sufficient evidence to conclude that IJV positive and negative firm value effects are determined by partner geographical location.

However, it is important to note that the influence of geographical location has been operationalized differently from how Hofstede's analysis of national cultures would suggest. In Hofstede's work national cultures differ and so the study should separate venture partners by country rather than region. However, the study operationalizes partner origins in the manner it does for two reasons, firstly because the samples would become even smaller if they were divided by country rather than region and secondly, and more importantly, the political rhetoric, which has been part of the motivation, for this study argues in favour and against collaborations with regions rather than specific countries, for example, looking east rather than west as opposed to choosing China over the USA (cf. Naidu, 2009).

Ultimately the evidence would suggest that the hypothesis that positive and negative IJV firm value will vary by the geographical origin of the South African firm's IJV partner cannot be conclusively supported as only one of its five sub-groupings reflects a statistically significant effect on firm value creation. The differences in positive and non-significant value can only be explained by this formation characteristic to a limited extent.

6.4 HYPOTHESIS 3: IJVS WITH PARTNERS FROM DEVELOPED COUNTRIES WILL BE SUPERIOR TO THOSE WITH FIRMS FROM DEVELOPING COUNTRIES

To the question of whether an IJV partner's country's level of economic development influenced South African IJV firm value creation the empirical evidence suggests that it does not. As Section 5.6 shows, the firm value created by IJVs with developed countries does not statistically differ from zero and neither does the firm value created by IJVs with developing country partners. Put differently, whether a partner comes from a developed or developing country does not materially influence IJV firm value creation. A result corroborated by the ANOVA analysis in Table 5.8.

This would suggest that the bias in the subjective assessment of the value of some IJV partners as shown by Lyles and Salk (1996) and Rajan (2004) is not supported by objective assessments of firm value creation. There is no evidence to suggest that a developed country partner, with all the advantages of its country of origin, provides superior firm value creation to developing country partners. Rather than promote a discrimination of IJV partners by the economic development of their home countries, the result supports Ali's (1995) assessment of Bangladeshi IJVs that found no meaningful distinction between the value of IJVs with developing partners versus those with developing partners.

Aggarwal and Agmon's (1990) assertion that a firm's vetting of potential IJV partners mitigates the impact that the level of economic development in its home country might have provides an explanation for why firm value effects do not meaningfully differ by the level of economic development in partner firms' countries of origin.

The hypothesis that IJVs with partners from developed countries will be superior to those with firms from developing countries might make intuitive sense and affect a subjective assessment of IJV firm value creation but the evidence of this study suggests that once the IJVs are objectively assessed, the perceived differences between partnerships with developed and developing country firms do not manifest themselves as differences in firm value creation.

6.5 HYPOTHESIS 4: HIGHER EQUITY HOLDINGS RESULT IN POSITIVE IJV FIRM VALUE CREATION FOR SOUTH AFRICAN FIRMS

Reorganising the sample by equity holding to explain IJV firm value creation did not reveal a relationship between the equity that South African partners held and the firm value that the IJV created. Holding, in the very minimum, an equal equity holding did not influence IJV firm value creation as shown by the statistical non-significance of their abnormal returns in panel 5 of Table 5.7. Similarly, equal equity holdings and less than 50% equity holdings did not affect IJV firm value creation in South Africa. This was reflected by the fact that their influence on abnormal returns did not statistically differ from zero. These were results that were confirmed by the multivariate analysis in Table 5.8.

The results question the importance of equity in IJV formation and stand to support Herbert's (1994) assertion that the influence of equity in an IJV is easily mitigated by contracts preventing any meaningful distinctions in firm value creation according to IJV equity holdings. Despite evidence by Mjoen and Tallman (1997) and Meschi and Cheng (2002) suggesting that equity matters, the evidence in the case of South Africa suggests that it does not.

However, the conclusion that equity holdings are not related to the IJV's firm value creation should be accepted with one caveat; that in the case of equity holdings at the extremes of the scale, the IJV's firm value creation potential may be affected as suggested by Dhanaraj and Beamish (2004: 295). The sample did not have enough deals where firms held more than 80% or less than 20% of the venture's equity. Such IJVs may reveal the influence of equity holdings in firm value creation. In the context of holding majority and minority equity holdings in IJVs, firm value creation does not meaningfully differ between the two.

Moreover, with the exception of 5 deals, the IJVs all involve only two partners which means that the IJVs where the partner holds at least 50% equity can be rephrased as IJVs where the South African firm does not hold a minority stake and the grouping with deals where the South African partner holds less than 50% equity represents a minority stake in the venture⁸³. This means that the results can be viewed to show that holding a minority stake in an IJV, an equal stake or at least an equal stake will not positively or negatively affect firm value creation through the IJV.

⁸³ With the exception of deal 20 where despite holding 45% of the venture the firm jointly holds the highest amount of equity in the venture.

The hypothesis that higher equity should translate to greater firm value creation is not supported by the evidence. The conflation of equity and control that Yan and Gray (1994) suggest is at the heart of the mistaken connection between equity holdings and influence over the IJV could be supported by this result.

The lack of support for greater equity holdings in IJVs is not a vindication of minority holdings or equal shares of IJV equity. For proponents of equal equity holdings (Blodgett, 1991 and Bleeke and Ernst, 1991) the result suggests that they also do not offer a meaningful advantage over other equity distributions when measured by firm value creation while minority holdings do not result in statistically different firm value creation from competing equity distributions.

6.6 HYPOTHESIS 5: POSITIVE IJV FIRM VALUE EFFECTS WILL VARY BY THE INDUSTRY OF THEIR SOUTH AFRICAN PARTICIPANT

When the sample was sub-divided to isolate the potential influence of the industry of the South African partner the study showed that only in the wholesale and retail industry did industry materially affect IJV firm value creation. However, in the multivariate analysis the positive influence of the wholesale and retail industry on IJV firm value creation is lost.

The result would stand to reinforce McConnell and Nantell's (1985) and Anand and Khanna's (2000) view that the IJVs should not be divided by industry and provide some challenge for Ali's (1995) and Merchant and Schendel's (2000) suggestion that IJVs be distinguished by industry.

However, the lack of a relationship may be the result of the fact that the industry classifications are too broad in which case IJV firm value creation may be different for specific subsets of the manufacturing industry rather than manufacturing as a whole. Alternatively, the firms could be reorganised into different classifications according to the nature of the IJV (as suggested by Anand and Khanna, 2000) rather than by the industry of the South African partners. In other words the influence of industry would relate to the industry of the venture rather than that of its partner firm. This distinction would be the difference between studying manufacturing IJVs and IJVs with firms from the manufacturing industry that may not necessarily be manufacturing IJVs.

Nonetheless, the evidence provides little evidence that the industry of the South African partner influences IJV firm value creation. If the multivariate analysis had confirmed the impact of the wholesale and retail industry on value creation, as it reinforced the result of IJVs in partnership with Australian firms, the argument for industry effects might have stronger support but as this is not the case the hypothesis finds little support. However, that there is a positive result linking an industry to value creation does lend some credence to the hypothesis and unlike the cases of equity and economic development it should be noted that IJV firm value creation effects have varied by industry in South Africa.

6.7 IMPLICATIONS OF THE STUDY'S FINDINGS

6.7.1 IJV participants

For firms in IJVs or contemplating starting an IJV the study's results provide some important information. Firstly, not all IJVs are value enhancing and some are statistically significantly not so, and so caution needs to be exercised in deciding to enter an IJV. The expectation among developing country firms that developed country partners may be better suited to improve firm value than developing country partners is not borne by the results. Elements such as knowledge acquisition may vary by the level of economic development in a firm's home country but this does not translate into superior firm value creation. Discriminating between IJV partners by region is also not supported. European and North American partners are not necessarily more desirable than African and Asian partners.

One of the biggest points to note in the study is the implication of finding that equity holdings do not materially influence firm value creation at formation. By implication, a 51% stake in an IJV is not necessarily superior to a 38% or 25% stake⁸⁴. In negotiating IJV agreements determining the official distribution of equity need not stifle venture agreements. Put differently, an impasse on deciding a contract need not be created by the suggestion that minority equity holdings are inferior to majority holdings (as suggested by Contractor, 1990) or that equal holdings are critical to venture success (as suggested by Blodgett, 1991) or that unequal holdings are important in IJV performance and firm value creation (as suggested by Killing, 1983). The evidence does not support a pedantic inflexibility on a venture's equity distribution.

⁸⁴ Put differently, being a minority or majority equity holder does not materially affect IJV firm value creation for South African firms.

6.7.2 IJV policy makers

As with IJV participants the first lesson of the study is that IJVs are not inherently virtuous and that while some IJVs are value enhancing, promoting domestic investment, others are considerably not so. However, unlike the case of private market participants who may hold a greater burden to differentiate between value enhancing and value diminishing IJVs because of their direct impact on them as participants. Policy makers currently promoting IJVs with national incentives to draw foreign participants (see DTI, 2011) must do so aware of the fact that they do not necessarily yield positive firm benefits. Without such benefit, IJV participation may decline and the attendant benefits of the private IJV may be from the economy. The current DTI's (2011) incentives targeting foreign firms participating in IJVs may need to start considering local firm participation incentives to encourage participation in the face of uncertain firm value creation.

On the matter of discriminating between supporting value enhancing and value diminishing IJVs, there appears to be little evidence to identify distinctly superior IJVs to which limited national resources should be targeted. There is no reason to promote IJVs in specific industries or collaborations with partners from designated regions. Insistence on specific equity holdings is also not supported by value creation evidence. Allowing local South African firms to hold minority interests in IJVs does not necessarily leave the firm vulnerable to exploitation by its venture partners.

The latter point is a critical observation given political insistence on majority equity holdings for local firms in cooperative businesses with foreign firms⁸⁵ (cf. Boateng and Glaister, 2002: 524). As Barden *et al.* (2005) and Rajan (2004) suggest venture equity holdings should not be standardised arbitrarily.

6.7.3 IJV firm value creation theory

Transaction Cost Economics, Resource-Based Theory and Real Options Theory suggest that IJVs should change firm value. Individually they provide strong evidence to support positive IJV

⁸⁵ It should be noted that the result relates to firm value and not whether equity holdings materially affect other aspects of the IJV for example, whether it engages in environmentally detrimental or labour exploitative practices. Policy makers may still legitimately insist on majority holdings in IJVs in which the state holds equity to protect society. However, in the realm of private business support, based on these results, policy makers need not insist on majority holdings to protect local firms.

firm value creation and collectively that support grows stronger (as explained in Chapter 2). However, the empirical evidence in Chapter 5 suggests that this is not necessarily the case. IJVs may influence transaction costs, firm resources and growth options but they do not do so in manner that, on average, positively changes firm value.

Transaction Cost Theory, as presented in Chapter 2, would suggest that the IJV offers the benefit of cost reduction for its partner firms because of their ability to pool important resources and skills to reduce the potentially significant transaction costs associated with cross-border investments. However, in this study the transaction cost benefits of the IJV have not translated into greater firm value for South African partners which creates the need to explain its results in the context of the benefits of IJV transaction cost savings.

As the theory suggests, IJVs, critically, *can* reduce transaction costs but do not necessarily do so. Macher and Richman's (2008: 4) observation that the IJV offers transaction cost benefits only in some specific circumstances would seem to find support in the evidence. Reducing transaction costs would enhance the returns from an investment but this reduction in transaction costs does not naturally follow on from the formation of any IJV.

For Resource Based Theory and Real Options Theory the conclusions are similar. The evidence from the study does not show that the benefits that they are proposed to have are enjoyed in most ventures let alone all ventures. South African IJVs may allow resources to be shared and expose growth opportunities/options but these have not translated to clear positive firm value creation for the South African partners, on average.

6.7.4 IJV research/researchers

The results of the study provide more evidence to suggest that expectations that IJVs are firm value enhancing need to be tempered by latest evidence supporting the suggestion that they are not so, on average. However, one of the problems with the study's results is that the value of its findings are limited to their test area as the conflict in previous IJV research warns against simple extrapolation of results from one IJV study to another.

Noting as Ueng *et al.* (2000: 74) does that IJV research is characterised by conflicting evidence, this study's results, rather than definitively answering IJV research questions, supports or

contradicts the studies of others. Essentially, the results are useful for market participants and policy makers but are not easily extrapolated to new study areas. Rather than provide definitive IJV firm value creation answers that are universal, the results place the findings into opposing groups. In this case IJVs do not change firm value which agrees with one set of studies (cf. Finnerty *et al.*, 1986) and contradicts studies that note a negative influence (cf. Lee and Wyatt, 1990) and those that note a positive influence (cf. Lummer and McConnell, 1990). This is one of the greatest criticisms of IJV research that suggests that it is difficult to consolidate or revise because researchers select their own eclectic explanatory variables to study with little subsequent insight into resolving the conflict (Robson *et al.* 2002).

By conceding that conflict exists without providing a means to address its limits, the usefulness of a study's results in a different test area and the value of their contribution to the development of general IJV understanding and practice is limited.

It is to address this last point that Section 6.8 looks at the limitations and potential future of IJV research.

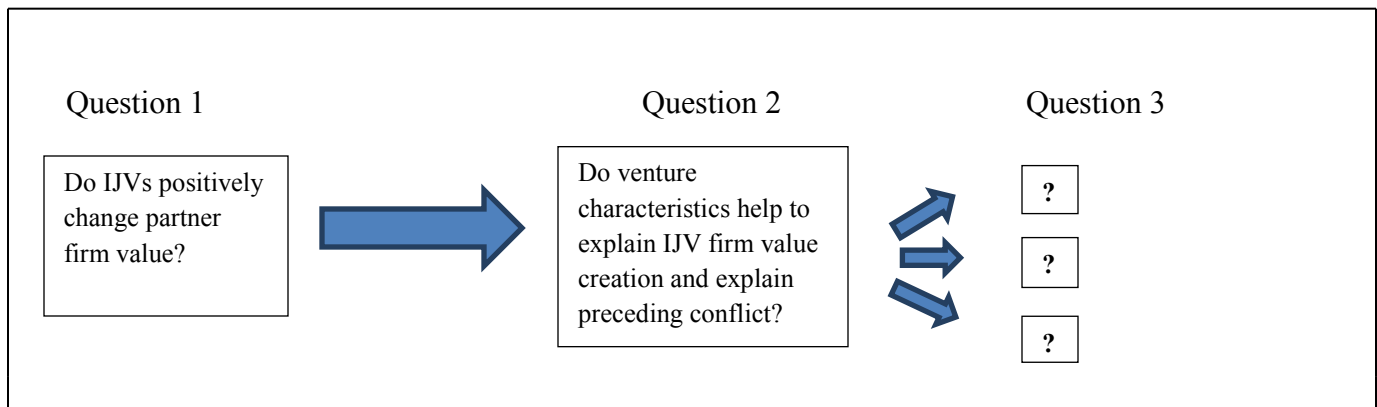
6.8 ADDRESSING CONFLICTING IJV EVIDENCE

As noted above in the study's consideration of its findings implications on IJV research, this study's results are confined to its sample area (South African IJVs). This has two consequences. The first is that results are limited in their relevance to new research sites and IJV firm value creation understanding. The second is that the results add to a list of studies with varying degrees of support and challenge for IJV firm value creation without substantially advancing theoretical understanding of IJV firm value creation in general.

To remedy these problems it is necessary to identify how IJV research has evolved and why it now needs to be revised to allow it to progress. As Borde *et al.* (1998) note, IJV research started by asking the question set out in the first hypothesis of this study, namely, whether IJVs positively influenced partner firm value creation. However, early studies drew conflicting conclusions on the question which necessitated a progression of the investigation to not only ask that question but to explore ways to explain the conflict and meaningfully enhance IJV firm value understanding. To this end explanatory factors, like formation characteristics, were investigated to determine if they could explain firm value creation (see Section 3.1).

However, now that the evidence shows that even venture characteristics, such as formation characteristics, have conflicting evidence on their role in IJV firm value creation the focus of investigation must evolve again in order to meaningfully draw conclusions on firm value creation through IJVs. Figure 6.1 below illustrates this point.

FIGURE 6.1: THE PROGRESSION OF THE IJV FIRM VALUE CREATION QUESTION



The progression of the IJV firm value creation question where the arrow represents conflicting results on the preceding question.

The research question needs to progress further to account for the conflict around the venture characteristics. So the question is how does the question evolve to address the conflicting evidence of the venture characteristics?

To answer this it is necessary to explore the reasons for the conflicting result. In the case of the movement from asking Question 1 to Question 2 the challenge was that conflicting results for the first question necessitated explanatory factors for that conflict. If the conflict could be explained then IJV rules could be uncovered. For example, once it was apparent that IJVs were not simply value enhancing it could be discovered that high equity IJVs were value enhancing, while low equity IJVs were not, thereby allowing the creation of an equity rule for venture formation and an explanation for preceding conflict in IJV firm value creation. However, now that even the formation characteristics are contentious the “rules” they created that suggested venture industries or partner origins were the determining factors in value creation no longer hold.

Returning to the revised model of IJV firm value creation in Chapter 2, the key value of the model was not in providing a model to unify current IJV theory⁸⁶ but in reducing the determinants of value creation to three components. As shown in Chapter 3 there are several competing explanatory factors for IJV firm value creation that potentially have conflicting influences which make it difficult to form rules on how they influence firm value creation. However, by reducing value creation to three factors that cumulatively exhaust all sources of firm value, research can look to argue for the enhancement of cash flows, growth options and non-cash flow assets. In this way there is no eclectic selection of variables that have little chance of meaningful replication to challenge or consolidate their empirical results. For example, if it were argued that a firm's CEO's years of experience influence firm value the research would have to show their impact on the three variables rather than allude to an unclear value attached to experience in successfully managing a firm. Disciplinary bias is also better managed because regardless of researcher background value creation would need to be explained through the variables.

Ultimately research questions will move from suggesting that minority equity holdings influence firm value, for example, to arguments that minority shareholdings limit growth options. If the answers should be conflicting, the question that needs to be asked is what simultaneous effect a minority equity holding has on non-cash flow assets and cash flows? In this way the full effect of a minority equity holding is identified rather than the selection of another explanatory variable that invariably brings conflicting results.

6.9 CONTRIBUTION TO KNOWLEDGE

The study makes four distinct contributions:

- i) It is the first investigation into IJV firm value creation for South African partners.
- ii) It provides a disaggregated model of firm value creation based on established models to help organise future investigations of the impact of IJV characteristics on firm value creation. Moreover, while not the first to identify the potential complementarity of the different IJV value creation theories, the model did show why disciplinary and theoretical biases may influence conclusions on firm value creation through IJVs.

⁸⁶ As stated in Chapter 2, Tsang (2000) had already noted potential complementarity of TCE and RBT

- iii) It informs policy makers that the promotion of “look east” or “South-South” collaboration, while potentially holding merit for other reasons, does not confer distinctly superior/advantageous firm value creation effects through IJVs.
- iv) For IJV participants in South Africa, the study provides evidence that IJVs can be value enhancing. However, it also shows that some IJVs are detrimental to firm value and so the virtues of collaboration (e.g. knowledge acquisition) need to be tempered by the fact that regardless of sentiment, IJVs are not necessarily be value enhancing and could be quite clearly, on the contrary, value diminishing despite their growing popularity and strong theoretical support.

6.10 CHAPTER CONCLUSION

This chapter extended the empirical results of Chapter 5 to the objectives and hypotheses of this study as set out in Chapter 1. It showed that empirical evidence largely refutes the impact of IJV formation on firm value creation and the explanatory power of four of the most contentious formation characteristics is limited. It does present a possible reason for conflicting evidence in previous work and a way to better consolidate research findings to revise and build IJV firm value creation theory. Chapter 7 now summaries the work covered by the study, the conclusions drawn and areas for future research.

CHAPTER 7

SUMMARY AND CONCLUSIONS

7.1 MAIN AIMS AND OUTLINE OF THE STUDY

This study explored the wealth effects of international equity joint ventures (IJVs) for South African firms and investigated the impact of four potential explanatory variables, namely, the geographical origin of the venture partner, the level of economic development in the venture partner's home country, the amount of IJV equity the South African firm held and the industry of the South African partner firm.

The motivation to explore IJV firm value creation stemmed from the business mode's ability to stimulate private and international investment that would assist in allowing South Africa to meet its stubborn post-apartheid economic inequalities, high unemployment and inadequate infrastructure development. As a potentially invaluable source of critical investment, the IJV is an important investment tool in developing countries. However, despite having macroeconomic and social value, the IJVs are decided by individual firm decisions to create them, hence the need to explore the value that firms gain from them to improve understanding of what could motivate the creation of these potentially important IJVs. To this end, the study set five hypotheses to determine the IJV wealth effects for South African firms and to explain them. These hypotheses are reproduced below:

Hypothesis 1: IJVs result in positive firm value creation for South African firms.

Hypothesis 2: Positive and negative firm value creation can be explained by the differences in the geographical origins of the non-South African IJV partner.

Hypothesis 3: IJVs with partners from developed countries will be superior to those with firms from developing countries.

Hypothesis 4: Higher equity holdings result in positive IJV firm value creation for South African firms.

Hypothesis 5: Positive IJV firm value effects will vary by the industry of their South African participant.

The rest of the chapter summarises the critical elements of the study noting whether the hypotheses were supported or not as well as highlighting its contribution to the knowledge of South African IJVs.

7.2 SUMMARY OF LITERATURE REVIEWED

The theoretical and existing empirical literature was divided into two chapters (Chapters 2 and 3) with Chapter 2 designed to identify the link between the formation of IJVs and firm value creation for their partners and Chapter 3 to explain the positive and negative firm value creation through their formation characteristics.

7.2.1 Chapter 2: IJV and firm value creation

The first chapter of the literature review identified the key elements of the IJV that distinguish it from other collaborative business modes. It then explored the evolution of the IJV through the motives for their formation from the perspective of multi-national enterprises (MNEs) and local firms. By chronicling the motives for IJV formation the chapter identified the key theories used to explain their popularity and persistence in the face of conflicting evidence on their merits as a business mode. For MNEs, the IJV offered an avenue for internationalisation that was aided by the assistance of a local firm acting to reduce the costs and risks of its expansion. For local firms, the IJV also provided an important opportunity for business expansion with the added benefit of the skills, resources and knowledge of its often more experienced and larger MNE partner. These motives led to the popularity of the IJV and formed the initial ideas for IJV firm value creation theory.

Three theories emerged to explain why IJVs could be expected to enhance South African firm value and thereby promote firms to pursue them and allow the economy to enjoy their attendant benefits. The first was Transaction Cost Economics (TCE) that suggested that firms faced costs for every transaction they carried out and that these costs were sufficiently large enough to encourage some business modes at the expense of others. In the realm of firm value creation the ability of IJVs to lower transaction costs meant that the net returns of the investment into business expansion was enhanced by the lower transaction costs. The second was Resource Based Theory (RBT) that suggested that firms were a collection of resources and that to enhance its value a firm had to acquire or develop new and existing resources. The IJV offered the benefit

of not only providing new resources within the shared IJV but also an opportunity to fully exploit existing resources through their use with complementary resources from an IJV partner. The third was Real Options Theory (ROT) which identified that the temporary nature of the IJV meant that at termination the IJV provided growth and expansion opportunities that would not have otherwise been available to the partner firms.

However, despite considerable support for the theories, in the context of IJV firm value creation, their impact was predicated on the validity of the link between their benefits and the perception of greater firm worth by current and prospective shareholders. Moreover, the theories, despite holding some similarities and being largely complementary according to Tsang (2000), still had conflicting views that potentially made the understanding of IJV firm value creation difficult. In the case of TCE and RBT, the desire to lower costs could be at odds with the pursuit of resources creating difficulty in anticipating whether the sacrifice of lower transaction costs could be justified by the resources gained allowing an IJV to still enhance firm value even when transaction costs were not lowered. The chapter then presents a disaggregated model of IJV firm value creation based on Tong *et al.*'s (2008) model to incorporate the theories. The model highlighted their complementarity and an alternative approach to IJV firm value investigations as later explained in Chapter 6.

On the matter of empirical evidence, the research on IJV firm value creation was conflicting with evidence supporting three distinct conclusions. The first, that the IJVs were value enhancing (as found by Lummer and McConnell, 1990), the second that they were not value enhancing (as found by Lee and Wyatt, 1990) and the third, that they had no effect of firm value if they were measured at formation (as found Finnerty *et al.* 1986).

The conflicting evidence necessitated the progression of the research question beyond determining the firm value effects of IJVs to explaining firm value creation through IJV characteristics and in so doing explain the conflicting evidence on their relationship. Following the inconclusive evidence in Chapter 2, Chapter 3 was dedicated to analysing these IJV characteristics as determinants of IJV firm value creation and presenting a case for the study's empirical analysis.

7.2.2 Chapter 3: Firm value creation and IJV formation characteristics

Chapter 3 began by explaining the progression of IJV research beyond asking the question of whether they were value enhancing or not to explaining the cases of positive and negative firm value creation through observable IJV characteristics. These characteristics were organised into five groups as suggested by Merchant (2000) principally because the groupings would help organise the litany of variables/IJV characteristics that had been associated with IJV performance and firm value creation.

Theorists and researchers argued in favour and against the explanatory power of these various characteristics that were organised as follows: Task Relatedness (TR), Partner Related Factors (PRFs), Alliance Characteristics (ACs), Country Specific Factors (CSFs) and Institutional Factors (IFs). However, despite their potential value in explaining the conflict in IJV firm value creation they also had conflicting hypotheses and empirical support. For example, Gong's (2007) contrasting observations on the influence of the number of IJV partners to its performance and, ultimately, firm value creation where the author observes that higher numbers impede venture operation but concedes that from a resource based view of the firm greater numbers mean greater resources that are accessible to a partner firm. In this way a high number of partners is both detrimental and beneficial to the IJV which is a conclusion that limits the ability of subsequent researchers to form rules on IJVs⁸⁷ or in the case of this study, to apply results in one test area to the South African case.

The chapter moved on to select four contentious formation characteristics in the litany of variables available for study based on their potential ability to explain IJV firm value creation in South Africa and their relevance in the context of political and economic debate in the country. In this way the Pan-African promotion of African collaboration in South Africa was investigated against its alternatives, as were South-South collaborative agreements and equity and industry effects. The selected characteristics were the geographical origin of the IJV partner, the economic development of the IJV partner's home country, the amount of equity held by the South African firm and the industry in which the South African firm operated.

⁸⁷ For example, that high partner numbers impede venture performance and firm value.

With the conflicting evidence on IJV firm value creation in Chapter 2 not sufficiently resolved by the analysis of literature on IJV characteristics in Chapter 3 the study now performed an empirical analysis of South African data to answer the important question of IJV firm value creation in the specific South African context.

Chapter 4 detailed the methods that the study used to firstly, identify the wealth effects of IJVs for their South African partners and, secondly, to determine if they could be explained by the four selected formation characteristics.

7.3 OVERVIEW OF RESEARCH METHODS

The study used the established Event Study methodology as presented in the leading work of Brown and Warner (1985) with revisions of the method to incorporate Coutts *et al.*'s (1994) criticisms and De Jong's (2007) adjustments.

195 event studies were conducted on 65 IJV announcements for South African firms with regularly traded shares over a three day event window. Of this sample 63 IJVs could be examined for wealth effects reducing the event studies used to 189. Each study had an estimation window of 120 days which was 30 days removed from the event under study. The normal returns were then computed by a market model of returns based on the relationship between the South African partner's share return and the Johannesburg Securities Exchange's All Share Index.

Based on the normal returns the event induced abnormal returns for a three day event window were computed and standardised. Once the standardised and cumulative abnormal returns were identified, the study tested whether they statistically significantly deviated from zero. Thereafter the investigation organised the abnormal returns into varying groupings depending on the characteristic under investigation in order to determine if particular groupings exhibited greater/lesser and positive/negative significant wealth effects than others.

After the investigation of formation characteristics through the grouping of IJVs of similar traits, the research conducted a multivariate analysis of the variance in abnormal returns in order to collectively assess the IJV characteristics under investigation and confirm the findings of the initial method of grouping IJV announcements. Very importantly, throughout the discussion of

methods, the study was careful to note the limitations of its choices, the current alternatives and the justification for the decisions it took.

7.3.1 Data

The daily share price data from South African firms was obtained from Thomson DataStream™. Data on the IJV announcement was taken from company and press releases between 1998 and 2011 with strict criteria for qualification into the sample as explained in Chapter 4. The data on SIC codes to classify the industries of the South African partners was taken from the Companies and Intellectual Property Commission (CIPC, 2011), the classifications for the partner's country's economic status was taken from the International Trade Centre's Trade Map (2012).

7.4 SUMMARY OF RESEARCH FINDINGS

With Chapter 4 detailing the methods, Chapter 5 and 6 now presented the results of the study. In Chapter 5 the statistical interpretation of the econometric results were presented noting differences in the statistical and substantive significance of the impact of the formation characteristics. Chapter 6 then interpreted those results according to the five hypotheses drawn from the principal objective of the study as set out in Chapter 1 and the empirical literature of Chapters 2 and 3.

Chapter 5 began by breaking down the sample to present the study's data in varying forms to establish that it represented a variety of companies without the domination of one company in the sample and representation of different years to avoid being unduly influenced by transient phenomenon (as might be the case if the sample window was very narrow). It then presented the calculations of normal returns and explanations for why some of the samples observations needed to be dropped from the sample despite otherwise fulfilling the strict requirements for inclusion in the event studies.

Following the identification of normal returns, the abnormal returns were then presented. These were discovered to not be statistically significant, on average. When the sample was split into positive and negative IJVs by the sign of the abnormal returns the IJVs now exhibited statistically significant firm value effects pointing to the fact that while IJVs *did* have wealth

effects. However, they were not distinctly positive or negative enough to influence the average IJV firm value effect.

When the sample was put into the four groupings according to formation characteristics, the results are largely not statistically significant. The exceptions were Australian partner IJVs and IJVs in which the South African partner was in the wholesale and retail industry. For these two subsets IJVs were statistically significantly positively firm value enhancing. However, when the characteristics were investigated in the multivariate analysis only the impact of the Australian partner IJV persists suggesting that the result for the wholesale and retail industry were not robust and needed to be cautiously accepted as evidence that such IJVs are distinctly more value enhancing than other industry ventures.

The results of Chapter 5 revealed that the impact of the selected formation characteristics was largely statistically non-significant. However, the results presented important information for IJV participants, researchers, policy makers and IJV firm value creation theory. The review of the results for these stakeholders and the response to the five hypotheses of Chapter 1 were then presented in Chapter 6.

7.5 HYPOTHESES

In Chapter 6 the evidence of Chapter 5 was found to not support three of the five hypotheses of Chapter 1. The evidence could not support the view that IJVs would, on average, positively change IJV firm value (Hypothesis 1) or that developed country partners were superior IJV partners to developing country partners (Hypothesis 3) or that higher equity holdings were superior to lower equity holdings for IJV partners (Hypothesis 4). In relation to the hypothesis that positive and negative firm value effects for IJVs could be explained by geographical origins (Hypothesis 2) there is some evidence that supports the view as well as evidence to support the view that differences in the industry of the South African partner could explain firm value creation (Hypothesis 5). The study finds no support to Hypotheses 1, 3 and 4 and some limited support for Hypotheses 2 and 5.

In terms of the implication for IJV stakeholders, the results suggested that IJV participants and policy makers must be warned that IJVs are not intrinsically value enhancing nor do they show a bias towards such. Promoting them without restriction might endear a cavalier approach to IJV

partner selection and management (see Rahman's, 2008 *Guanxi* and Rajan's, 2004 identification of a bias in developing country assessment of the value of IJVs with developed country partners). The results showed that the IJV can be a firm value enhancing business mode and that more research should be undertaken to identify what triggers its value enhancing power and what leads it to firm value reduction.

For IJV theory and researchers the value of the result was to show two things, firstly, that as with previous research South African IJVs find themselves allied to a camp of research where some see IJVs as value enhancing, others as value diminishing and others as inconsequential, on average, to firm value. Put differently, its results did not definitively resolve contention on IJV firm value effects. However, in uncovering the effect of IJVs for South African partners the study revealed a potential improvement in future IJV research to enhance its "replicability" and comparability and to begin to resolve the conflict. The study proposed that future research questions needed to be more specific than determining whether higher equity holdings were associated with positive firm value creation through IJVs. The questions needed to stipulate the effect of the intended variable, through the established firm value creation theory, on the three components of firm value change when IJVs are formed. For example, investigating the impact of high equity holdings on net investment cash flows through Resource Based Theory where conclusions could be reviewed against an investigation of high equity holdings impact on net investment cash flows through Transaction Cost Theory.

Following the conclusions of Chapter 6 it is important to reiterate the contributions that the study has made.

7.6 CONTRIBUTION TO KNOWLEDGE

The study tests the firm value effects of IJVs on a sample of untested South African IJVs and find that IJVs do not have a statistically significant wealth effect at formation. In doing so it arrives at a disaggregated model of firm value creation from which to explain conflict in existing IJV literature and suggest a way to all their results to be more comparable to each other. It presents recommendations for IJV participants, economic policy makers, IJV researchers and the theories they develop.

7.7 LIMITATIONS OF THE STUDY

The study has one notable limitation that must be considered in the interpretation of its findings. This is the fact that despite the compelling arguments made by previous researchers (presented in Chapter 2 and 4) suggesting that the event study methodology sufficiently captures the firm value that an IJV provides its participating firms, it should be noted that the method provides an assessment of value creation at the *formation* of the IJV without the benefit of a consideration of the reassessment of the IJV once it is operational. For example, a ten year IJV that may only begin to reflect its merits after five years may not be accurately assessed at formation. Put differently the event study method is more accurately viewed as an assessment of the value of entering an IJV rather than strictly an infallible assessment of the value of the IJV.

However, while it is true that the method's focus on formation should temper sweeping statements on the value of the IJV as opposed to a more prudent conclusion on their formation's value creation, the support for the EMH when information is publically available and the popularity of the method (see Chapter 4) suggest that IJV assessment at formation remains a valid assessment of the value of the IJV to its partner firms. The fact that it is limited to an assessment at formation provides an argument for complementary research that tracks the subsequent benefits that individual firms enjoyed from their IJV once it was completed and evaluates them against the firm value the venture created at formation in order to support or augment their findings.

In addition, the study's results do not and cannot refute the influence of all formation characteristics on IJV firm value creation. However, they do show that as far as the four selected contentious variables are concerned there is little evidence of their influence as discussed above.

7.8 WHERE TO FROM HERE?

With regard to the future of IJV research the conclusion of this study is that it requires revision to ensure that future conflicts propel the theory and IJV firm value creation understanding forward rather than continue to find relevance in the narrow contexts in which they are undertaken while compounding conflict in the broader understanding of IJV firm value effects.

To this end the study proposes greater specificity in the investigation of the impact of selected IJV variables on IJV firm value creation as a way to begin to build research that can be clearly replicated, revised, meaningfully challenged and, ultimately, consolidated.

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APPENDIX

Table A1: IJV Announcements

DEAL NUMBER	VENTURE NAME	RSA COMPANY	FOREIGN PARTNER	INDUSTRY	INDUSTRY SIC	RSA FIRM EQUITY	ECONOMIC STATUS OF PARTNER	ANNOUNCEMENT DATE
1	MAN Financial Services South Africa	ABSA	MAN (Germany)	Financial Services	8		Developed	Tuesday, February 04, 2003
2	Virgin Money South Africa	ABSA	Virgin Money (UK)	Financial Services	8		Developed	Thursday, March 30, 2006
3	Detnet	AECI	Dyno Nobel (USA)	Explosives	3	50%	Developed	Wednesday, December 10, 2003
4	Ciba	AECI	Ciba (UK)	Chemicals	3		Developed	Friday, February 01, 2008
5	Nkomati	African Rainbow Minerals	Lionore (Canada)	Mining	2	50%	Developed	Wednesday, February 02, 2005
6	TEAL Exploration	African Rainbow Minerals	Vale (Brazil)	Mining	2	50%	Developing	Wednesday, December 17, 2008
7	TEAL Mining Incorporated	African Rainbow Minerals	Vale (Brazil)	Mining	2	50%	Developing	Wednesday, March 25, 2009
8	Konkola North Copper Mine	African Rainbow Minerals	Vale (Brazil)	Mining	2	50%	Developing	Friday, August 27, 2010
9	-	Aspen Pharmacare Holdings Limited	Matrix Laboratories Limited (India)	Pharmaceuticals	3	50%	Developing	Friday, September 23, 2005
10	-	Aspen Pharmacare Holdings Limited	Lupin (India)	Pharmaceuticals	3		Developing	Thursday, March 02, 2006
11	East Balt SA	Astral Foods	East Balt Inc. (US)	Baking/food/manufacturing	3	50%	Developed	Wednesday, July 02, 2008
12	KNM Grinaker-LTA (Proprietary) Ltd	Aveng (Africa) Ltd	KNM Group Bhd (Malaysia)	Infrastructure management	5	50.1%	Developing	Thursday, December 02, 2010
13	Vostochnaya Technica	Barloworld	Wagner International (UK)	Construction/sales	5		Developed	Friday, July 30, 2004

14	-	Business Connexion	Canon Europa (Netherlands)	IT services	8		Developed	Tuesday, August 24, 2010
15	NetekSiletisimÜrünleriDağitimAno nimŞirketi	Datatec	IndeksBilgisayarSistemleriMühendislikSanayi VeTicaretA.Ş (Turkey)	I.T.	8	50%	Developing	Tuesday, July 24, 2007
16	-	Discovery Holdings	Humana (US)	Health insurance	8	25%	Developed	Tuesday, February 22, 2011
17	-	Distell	Burn Stewart Distiller (UK)	Alcohol distribution and marketing	3		Developed	Monday, April 16, 2007
18	-	Distell	Allied Distillers (India), Distillers Pvt. Ltd (India)	Alcohol distribution and marketing	3	50%	Developing	Monday, July 04, 2011
19	Pogera Joint Venture (Papua New Guinea)	DRDGold	Oil Search (AUS)	Oil	2	20%	Developed	Tuesday, October 14, 2003
20	-	DRDGold	Mintails (AUS), Mineral & Mining Reclamation Services (RSA)	Mining	2	45%	Both (Multiple Partners)	Thursday, April 26, 2007
21	West Wits Mining	DRDGold	Mintails (AUS)	Mining (Environment restoration)	2		Developed	Friday, August 24, 2007
22	Chizim Gold.	DRDGold	Chizim Investments (ZIM)	Mining (Gold)	2	49%	Developing	Thursday, May 13, 2010
23	Sino-For J V	Goldfields	Fujian Zijin Mining Industry Co. (China)	Mining (Gold)	2		Developing	Wednesday, January 07, 2004
24	Talas	Goldfields	Orsu (UK)	Mining (Gold)	2	60%	Developed	Wednesday, December 03, 2008
25	El Paso, Lobo and Talahib porphyry copper-gold project	Goldfields	Oz Minerals (Aus) Mindoro (Phillipines)	Mining (Copper/Gold)	2	75%	Both (Multiple Partners)	Tuesday, May 05, 2009
26	Morobe	Harmony	NewCrest (AUS)	Mining (Gold)	2	50%	Developed	Tuesday, April 22, 2008
27	Morobe (Revised deal factoring in adjusted contributions by NewCrest)	Harmony	NewCrest (AUS)	Mining (Gold)	2	50%	Developed	Monday, August 11, 2008
28	-	Illovo Sugar	Maragra Community (Mozambique)	Manufacturing (sugar)	3		Developing	Thursday, April 09, 2009
29	Hartley Platinum Joint Venture Company	Impala Platinum	Zimplats (Zimbabwe)	Mining	2	30%	Developing	Monday, March 26, 2001
30	Ambodilafa	Impala Platinum	MRM Sarl (Madagascar)	Mining	2	51%	Developing	Thursday, April 06, 2006
31	-	Impala Platinum	Wallbridge Mining (Canada)	Mining	2	50%	Developed	Saturday, August 16, 2008
32	-	Investec	Windlab Systems (Australia)	Energy	8		Developed	Monday, October 17, 2005

33	-	MERAFA Resources	Xstrata (Germany)	Mining	2		Developed	Thursday, April 08, 2010
34	MTN Cyprus	MTN	Amaracos Holdings (Cyprus)	Telecommunication	7	51%	Developed	Monday, May 19, 2008
35	TowerCo Ghana	MTN	American Tower Company (US)	Telecommunication	7	49%	Developed	Monday, December 06, 2010
36	Africa Management Limited	Mvelaphanda Holdings	OZ Management LP (US), Palladino Holdings (UK)	Natural resources Investment	2		Developed	Tuesday, January 29, 2008
37	The Company of Wine People Europe Limited	Omnia	Ehrmanns (UK)	Wine distribution and marketing	6		Developed	Monday, March 27, 2006
38	-	Pick 'n' Pay	Kingdom Meikles Africa (Zimbabwe)	Retail	6	-	Developing	Friday, September 05, 2008
39	Société des Nouvelles Brasseries (Algeria)	SABMiller	Castel (France)	Alcohol sale and distribution	6	40%	Developed	Thursday, March 18, 2004
40	Marocain Investissements et de Services (Morocco)	SABMiller	Castel (France)	Alcohol sale and distribution	6	40%	Developed	Friday, March 19, 2004
41	MillerCoors,	SABMiller	Molson Coors (USA)	Brewing	3	58%	Developed	Thursday, June 05, 2008
42	Shandong Hupo Brewery	SABMiller	Shandong Brewery (China)	Brewing	3	90%	Developing	Friday, March 13, 2009
43	MillerCoors,	SABMiller	Molson Coors (USA)	Brewing	3	58%	Developed	Monday, September 10, 2007
44	China Resources Snow Breweries (Junyi) Limited	SABMiller	China Kweichow Moutai Distillery Co. Ltd (China)	Brewing	3	70%	Developing	Thursday, August 18, 2011
45	-	Sanlam	Citadel (US)	Financial Services	8		Developed	Wednesday, October 13, 2004
46	Shriram Life Insurance Company	Sanlam	Shriram Group (India)	Insurance	8	26%	Developing	Thursday, May 19, 2005
47	Wealth Management (India) USD 22.5 million	Sanlam	SMC (India)	Financial Services	8		Developing	Monday, September 15, 2008
48	FBN Insurance Company	Sanlam	First Bank of Nigeria (Nigeria)	Financial Services	8	35%	Developing	Thursday, May 20, 2010
49	Merisol	SASOL	Merichem Company (US)	Feedstock	3	50%	Developed	Wednesday, October 22, 1997
50	Ceraven CA	SASOL	Proesca (Venezuela)	Wax	3	51%	Developing	Monday, March 02, 1998
51	Nigeria Diesel Plant	SASOL	Chevron (US)	fuels/oil	3		Developed	Thursday, June 10, 1999
52	Petromoc E Sasol SARL	SASOL	Petromoc (Mozambique) -state owned	Fuel	2	49%	Developing	Wednesday, August 01, 2001
53	Uhambo Oil Limited	SASOL	Petronas (Malaysia), Tshwarisano (RSA)	Oil/Gas	3	37.50%	Developing	19 February 2004,

54	Sasol Dyno Nobel	SASOL	Dyno Nobel (Australia)	Chemical Explosives	3	50%	Developed	Thursday, May 03, 2007
55	GTL project	SASOL	Uzbekneftegaz (Uzbekistan), Petronas (Malaysia)	Oil/Gas	3		Developing	Monday, July 20, 2009
56	Orissa	SASOL	Tata Group (India)	Oil/Gas	3		Developing	Friday, June 04, 2010
57	-	SASOL	Chesapeake Energy Corporation (US) , Statoil ASA (Norway)	Oil/Gas	3		Developed	Monday, July 19, 2010
58	Cypress A Asset	SASOL	Talisman Energy (Canada)	Oil/Gas	3	50%	Developed	Wednesday, March 09, 2011
59	SPAR (Shanghai) Marketing Management Company	SPAR	Shanghai Wedone Marketing Consulting (China)	Marketing	8	51%	Developing	Thursday, July 29, 2010
60	SPAR Krognos Marketing India Private Ltd (India)	SPAR	Krognos Integrated Marketing Services (India)	Retail	6	51%	Developing	Tuesday, July 12, 2011
61	SPAR NDS (Turkey)	SPAR	NDS (Turkey)	Retail	6	51%	Developing	Tuesday, August 23, 2011
62	Credit Suisse Standard Securities	Standard Bank	Credit Suisse Group (Switzerland)	Financial Services	8	50%	Developed	Thursday, March 23, 2006
63	HPCjv (Ethiopia)	Tiger Brands	East African Group of Companies (Ethiopia)	Food processing	3	51%	Developing	Wednesday, November 24, 2010
64	-	Tiger Brands	UCAN (Nigeria)	Food	3	49%	Developing	Saturday, January 15, 2011
65	Woolworths (Tanzania)	Woolworths	Ali Mufuruki (Tanzania)	Retail	6		Developing	9 September 011

Table A2: Normal Returns

DEAL NUMBER	NORMAL RETURN			STANDARD DEVIATION OF NORMAL RETURNS	
	C	Prob.	β		
1	0.1192	0.30	0.7049	0.00	1.6977
2	-0.0035	0.92	0.9256	0.00	1.3607
3	0.1900	0.16	0.2298	0.06	1.5325
4	-0.0526	0.65	0.3036	0.00	1.3340
5	-0.1504	0.40	0.7407	0.00	2.0056
6	-0.2487	0.48	1.3450	0.00	3.9646
7	-0.1112	0.75	1.3456	0.00	4.1071
8	0.0837	0.49	1.3337	0.00	1.3514
9	0.2069	0.09	0.3064	0.07	1.3674
10	0.2682	0.04	0.3492	0.01	1.4885
11	-0.3266	0.07	0.2400	0.04	2.0186
12	0.1159	0.32	0.6305	0.00	1.3569
13	-0.0038	0.96	0.4928	0.00	0.9984
14	0.0195	0.89	0.2036	0.06	1.5363
15	0.0956	0.49	0.7089	0.00	1.5819
16	0.0464	0.51	0.4129	0.00	0.7942
17	0.1618	0.34	0.2191	0.24	1.9000
18	-0.0076	0.93	0.3408	0.00	1.0377
19	-0.0156	0.97	1.0233	0.00	4.5698
20	-0.7337	0.01	1.2345	0.00	3.1650
21	-0.1783	0.53	1.1125	0.00	3.1609
22	-0.2480	0.46	0.4918	0.21	3.7966
23	-0.1313	0.53	0.8242	0.00	2.3682
24	0.0054	0.99	0.7074	0.00	4.3216
25	0.4316	0.34	0.8762	0.00	5.1388
26	0.1777	0.45	0.6475	0.00	2.6871
27	0.8002	0.06	0.6111	0.00	4.8076
28	0.1176	0.53	0.2807	0.01	2.1311
29	0.1860	0.26	1.1500	0.00	1.8866
30	0.1414	0.42	1.3063	0.00	1.8809
31	0.1753	0.45	1.4766	0.00	2.6454
32	0.0050	0.97	1.0917	0.00	1.4764
33	-0.0196	0.91	1.5554	0.00	2.0012
34	0.1232	0.53	1.1811	0.00	2.2411

35	0.0604	0.63	1.0301	0.00	1.4553
36	-0.2023	0.06	0.2761	0.00	1.3093
37	0.0227	0.86	0.2616	0.02	1.4391
38	-0.0909	0.63	0.4528	0.00	2.1736
39	0.1227	0.23	0.6749	0.00	1.1482
40	0.1227	0.23	0.6749	0.00	1.1482
41	-0.0822	0.57	0.7058	0.00	0.9651
42	0.0914	0.64	0.6381	0.00	2.2205
43	-0.0484	0.61	0.6958	0.00	1.6490
44	0.0541	0.51	0.8793	0.00	0.9207
45	0.0587	0.65	0.6629	0.00	1.4599
46	-0.0532	0.68	0.7576	0.00	1.4218
47	0.0282	0.88	0.8218	0.00	2.1957
48	0.0339	0.73	0.6987	0.00	1.1193
49	0.2924	0.02	0.1254	0.54	1.4128
50	-0.2241	0.22	1.4150	0.00	1.7640
51	0.0383	0.88	1.4469	0.00	2.6734
52	0.2902	0.09	0.4943	0.00	1.9342
53	-0.0317	0.80	1.3628	0.00	1.4283
54	-0.2470	0.05	1.3806	0.00	1.3910
55	-0.0099	0.95	1.2369	0.00	1.9068
56	-0.0491	0.61	1.0020	0.00	1.0764
57	-0.0014	0.99	0.9203	0.00	1.0289
58	0.0659	0.45	0.9439	0.00	0.9889
59	0.1202	0.26	0.4823	0.00	1.1112
60	-0.0527	0.54	0.5947	0.00	0.9815
61	-0.0011	0.98	0.6648	0.00	0.9075
62	-0.0631	0.55	1.0684	0.00	1.2058
63	-0.0280	0.72	0.6013	0.00	0.9134
64	0.0572	0.46	0.6729	0.00	0.8713
65	0.2781	0.00	0.8968	0.00	1.1439

Table A3: Abnormal Returns

DEAL NUMBER		ABNORMAL RETURNS	CAR
1	AR1	-1.4507	2.5906
	AR2	1.6116	
	AR3	2.4297	
2	AR1	-1.3860	-0.3450
	AR2	0.9304	
	AR3	0.1106	
3	AR1	2.8495	3.6329
	AR2	1.5715	
	AR3	-0.7882	
4	AR1	0.4774	1.4706
	AR2	-1.7774	
	AR3	2.7706	
5	AR1	1.6069	3.5136
	AR2	1.6561	
	AR3	0.2506	
6	AR1	-3.6665	4.3387
	AR2	2.3154	
	AR3	5.6898	
7	AR1	0.4872	3.4816
	AR2	1.5816	
	AR3	1.4128	
8	AR1	0.9332	-0.5243
	AR2	-1.2617	
	AR3	-0.1958	
9	AR1	-3.0092	-5.0470
	AR2	-0.9067	
	AR3	-1.1310	
10	AR1	-0.0431	3.1323
	AR2	1.7191	
	AR3	1.4564	
11	AR1	-1.4235	-9.5336
	AR2	-3.9914	
	AR3	-4.1188	
12	AR1	0.1771	-2.5899
	AR2	-1.8073	
	AR3	-0.9597	

13	AR1	-0.2437	2.2506
	AR2	0.0128	
	AR3	2.4815	
14	AR1	-0.2818	0.2856
	AR2	0.3580	
	AR3	0.2094	
15	AR1	-0.1304	-2.2100
	AR2	-1.2549	
	AR3	-0.8248	
16	AR1	0.1221	-0.5547
	AR2	-0.4793	
	AR3	-0.1975	
17	AR1	-0.3623	-0.8964
	AR2	-0.3124	
	AR3	-0.2216	
18	AR1	-0.1631	-0.3328
	AR2	-0.0174	
	AR3	-0.1523	
19	AR1	-1.0016	5.6368
	AR2	7.8951	
	AR3	-1.2566	
20	AR1	-2.0295	1.4791
	AR2	2.9450	
	AR3	0.5636	
21	AR1	-1.9063	-0.9119
	AR2	-0.7563	
	AR3	1.7507	
22	AR1	-0.5673	-1.8745
	AR2	-1.2120	
	AR3	-0.0952	
23	AR1	0.6252	-1.2227
	AR2	-0.1608	
	AR3	-1.6872	
24	AR1	5.0916	2.9930
	AR2	0.9514	
	AR3	-3.0500	

25	AR1	0.3844	6.5168
	AR2	2.9634	
	AR3	3.1689	
26	AR1	-1.5359	-1.2742
	AR2	2.7567	
	AR3	-2.4950	
27	AR1	1.3213	9.0735
	AR2	3.1399	
	AR3	4.6123	
28	AR1	-0.2773	0.4718
	AR2	0.0250	
	AR3	0.7241	
29	AR1	-6.6223	-10.6011
	AR2	-0.2691	
	AR3	-3.7097	
30	AR1	-1.8272	-2.2208
	AR2	1.8430	
	AR3	-2.2366	
31	AR1	0.0160	2.4587
	AR2	1.7798	
	AR3	0.6629	
32	AR1	-1.0144	0.4927
	AR2	1.6240	
	AR3	-0.1169	
33	AR1	-1.2530	-1.9223
	AR2	-2.0979	
	AR3	1.4286	
34	AR1	-1.2983	2.4297
	AR2	1.5016	
	AR3	2.2265	
35	AR1	-0.4899	-1.2716
	AR2	0.7693	
	AR3	-1.5510	

36	AR1	-0.6688	-2.3046
	AR2	-1.1850	
	AR3	-0.4509	
37	AR1	-0.2098	2.3579
	AR2	3.4152	
	AR3	-0.8475	
38	AR1	-3.1591	8.5853
	AR2	4.0084	
	AR3	7.7359	
39	AR1	0.9694	1.5191
	AR2	0.7006	
	AR3	-0.1510	
40	AR1	0.9694	1.5191
	AR2	0.7006	
	AR3	-0.1510	
41	AR1	0.4315	-0.9562
	AR2	0.5195	
	AR3	-1.9072	
42	AR1	-0.3324	-1.3749
	AR2	-1.6565	
	AR3	0.6141	
43	AR1	-2.8681	1.1000
	AR2	1.8164	
	AR3	2.1518	
44	AR1	-2.6215	-1.6865
	AR2	1.4009	
	AR3	-0.4659	
45	AR1	0.5436	2.4219
	AR2	-0.1972	
	AR3	2.0755	
46	AR1	1.9815	4.5283
	AR2	0.0001	
	AR3	2.5466	
47	AR1	-0.0431	-1.8986
	AR2	-0.0445	
	AR3	-1.8110	

48	AR1	0.1127	-2.3735
	AR2	-1.0595	
	AR3	-1.4267	
49	AR1	-0.7653	-0.1215
	AR2	0.2031	
	AR3	0.4407	
50	AR1	-0.7203	0.7461
	AR2	-1.3744	
	AR3	2.8408	
51	AR1	-0.0416	3.4581
	AR2	3.6203	
	AR3	-0.1207	
52	AR1	1.1846	3.3265
	AR2	1.2535	
	AR3	0.8884	
53	AR1	2.0148	1.9745
	AR2	0.2150	
	AR3	-0.2553	
54	AR1	0.7546	3.3294
	AR2	3.5856	
	AR3	-1.0108	
55	AR1	-1.2327	-1.6224
	AR2	-0.1773	
	AR3	-0.2125	
56	AR1	1.0424	0.4406
	AR2	-0.7115	
	AR3	0.1098	
57	AR1	-2.2809	-1.5223
	AR2	0.7511	
	AR3	0.0075	
58	AR1	0.4737	-3.8860
	AR2	-3.0771	
	AR3	-1.2825	
59	AR1	0.1089	-0.9613
	AR2	-0.6790	
	AR3	-0.3911	

60	AR1	-0.4351	0.2629
	AR2	0.9453	
	AR3	-0.2473	
61	AR1	0.9035	-1.0781
	AR2	-1.2281	
	AR3	-0.7535	
62	AR1	1.8226	-2.3640
	AR2	-1.9499	
	AR3	-2.2367	
63	AR1	0.5116	0.9073
	AR2	0.6994	
	AR3	-0.3036	
64	AR1	-0.5070	-0.4224
	AR2	-0.1382	
	AR3	0.2228	
65	AR1	0.8576	0.7762
	AR2	1.8687	
	AR3	-1.9500	

Table A4: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for All IJV Announcements

DEAL NUMBER	CAR	SCARs
1	2.5906	1.5260
2	-0.3450	-0.2536
3	3.6329	2.3705
4	1.4706	1.1024
5	3.5136	1.7519
6	4.3387	1.0944
7	3.4816	0.8477
8	-0.5243	-0.3879
9	-5.0470	-3.6909
10	1.6760	1.1260
11	-9.5336	-4.7228
12	-2.5899	-1.9087
13	2.2506	2.2541
14	0.2856	0.1859
15	-2.2100	-1.3970
16	-0.5547	-0.6984
17	-0.8964	-0.4718
18	-0.3328	-0.3207
19	5.6368	1.2335
20	1.4791	0.4673
21	-0.9119	-0.2885
23	-1.2227	-0.5163
24	2.9930	0.6926
25	6.5168	1.2681
26	-1.2742	-0.4742
27	9.0735	1.8873
28	0.4718	0.2214
29	-10.6011	-5.6191
30	-2.2208	-1.1807
31	2.4587	0.9294
32	0.4927	0.3337
33	-0.6693	-0.3345
34	2.4297	1.0841
35	-1.2716	-0.8737

36	-2.3046	-1.7601
37	2.3579	1.6385
38	8.5853	3.9498
39	1.5191	1.3231
40	1.5191	1.3231
41	-0.9562	-0.9908
42	-1.3749	-0.6192
43	1.1000	0.6671
44	-1.6865	-1.8318
45	2.4219	1.6590
46	4.5283	3.1848
47	-1.8986	-0.8647
48	-0.9468	-0.8459
50	0.7461	0.4230
51	3.4581	1.2935
52	3.3265	1.7199
53	1.9745	1.3824
54	3.3294	2.3936
55	-1.6224	-0.8508
56	0.4406	0.4094
57	-1.5223	-1.4795
58	-3.8860	-3.9295
59	-0.9613	-0.8651
60	0.2629	0.2679
61	-1.0781	-1.1879
62	-2.3640	-1.9605
63	0.9073	0.9934
64	-0.4224	-0.4847
65	0.7762	0.6786
Σ	30.8163	2.8739
Average CAR	0.4891	0.0456
v(N)	7.9373	
St. Dev. (Cross-Sectional)	3.3272	1.7510
t-stat	0.2068	

Table A5: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for Positive IJV Announcements

DEAL NUMBER	CAR	SCARs
1	2.5906	1.5260
3	3.6329	2.3705
4	1.4706	1.1024
5	3.5136	1.7519
6	4.3387	1.0944
7	3.4816	0.8477
10	1.6760	1.1260
13	2.2506	2.2541
14	0.2856	0.1859
19	5.6368	1.2335
20	1.4791	0.4673
24	2.9930	0.6926
25	6.5168	1.2681
27	9.0735	1.8873
28	0.4718	0.2214
31	2.4587	0.9294
32	0.4927	0.3337
34	2.4297	1.0841
37	2.3579	1.6385
38	8.5853	3.9498
39	1.5191	1.3231
40	1.5191	1.3231
43	1.1000	0.6671
45	2.4219	1.6590
46	4.5283	3.1848
50	0.7461	0.4230
51	3.4581	1.2935
52	3.3265	1.7199
53	1.9745	1.3824
54	3.3294	2.3936
56	0.4406	0.4094
60	0.2629	0.2679
63	0.9073	0.9934
65	0.7762	0.6786
Σ	92.0455	43.6832
Average CAR	2.7072	1.2848

v(N)	5.8310	
St. Dev. (Cross-Sectional)	2.1741	0.8396
t-stat	8.9231	

Table A6: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for Negative IJV Announcements

DEAL NUMBER	CAR	SCARs
2	-0.3450	-0.2536
8	-0.5243	-0.3879
9	-5.0470	-3.6909
11	-9.5336	-4.7228
12	-2.5899	-1.9087
15	-2.2100	-1.3970
16	-0.5547	-0.6984
17	-0.8964	-0.4718
18	-0.3328	-0.3207
21	-0.9119	-0.2885
23	-1.2227	-0.5163
26	-1.2742	-0.4742
29	-10.6011	-5.6191
30	-2.2208	-1.1807
33	-0.6693	-0.3345
35	-1.2716	-0.8737
36	-2.3046	-1.7601
41	-0.9562	-0.9908
42	-1.3749	-0.6192
44	-1.6865	-1.8318
47	-1.8986	-0.8647
48	-0.9468	-0.8459
55	-1.6224	-0.8508
57	-1.5223	-1.4795
58	-3.8860	-3.9295
59	-0.9613	-0.8651
61	-1.0781	-1.1879
62	-2.3640	-1.9605
64	-0.4224	-0.4847
Σ	-61.2292	-40.8093
Average CAR	-2.1114	-1.4072
v(N)	5.5678	
St. Dev. (Cross-Sectional)	2.4421	1.3812
t-stat	-5.6727	

Table A7: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for European partner IJV Announcements

DEAL NUMBER	CAR	SCARs
1	2.5906	1.5260
2	-0.3450	-0.2536
4	1.4706	1.1024
13	2.2506	2.2541
14	0.2856	0.1859
15	-2.2100	-1.3970
17	-0.8964	-0.4718
24	2.9930	0.6926
33	-0.6693	-0.3345
34	2.4297	0.9042
36	-2.3046	-1.7601
37	2.3579	1.6385
39	1.5191	1.3231
40	1.5191	1.3231
55	-1.6224	-0.8508
57	-1.5223	-1.4795
61	-1.0781	-1.1879
62	-2.3640	-1.9605
Σ	4.4041	1.5072
Average CAR	0.2447	0.0837
v(N)	4.2426	
St. Dev. (Cross-Sectional)	1.8981	1.3295
t-stat	0.2672	

Table A8: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for North American partner IJV Announcements

DEAL NUMBER	CAR	SCARs
3	3.6329	2.3705
5	3.5136	1.7519
11	-9.5336	-4.7228
16	-0.5547	-0.6984
31	2.4587	0.7778
35	-1.2716	-0.8737
36	-2.3046	-1.1516
41	-0.9562	-0.9908
43	1.1	0.5848
45	2.4219	1.659
51	3.4581	1.2935
57	-1.5223	-1.4795
58	-3.886	-3.9295
Σ	-3.4438	-5.4088
Average CAR	-0.2649	-0.4161
\sqrt{N}	3.6056	
St. Dev. (Cross-Sectional)	3.7212	2.1468
t-stat	-0.6988	

**Table A9: Cumulative Average Abnormal Returns and Standardized
Cumulative Average Abnormal returns for Asian partner IJV
Announcements**

DEAL NUMBER	CAR	SCARs
9	-5.047	-3.6909
10	1.676	1.126
12	-2.5899	-1.9087
18	-0.3328	-0.3207
23	-1.2227	-0.5163
42	-1.3749	-0.6192
46	4.5283	2.4002
44	-1.6865	-1.8318
46	4.5283	3.1848
47	-1.8986	-0.8647
53	1.9745	1.3824
55	-1.6224	-0.8508
56	0.4406	0.4094
59	-0.9613	-0.8651
60	0.2629	0.2679
Σ	-3.3255	-2.6975
Average CAR	-0.2217	-0.1798
v(N)	3.8730	
St. Dev. (Cross-Sectional)	2.5763	1.7409
t-stat	-0.4000	

**Table A10: Cumulative Average Abnormal Returns and Standardized
Cumulative Average Abnormal returns for Australian partner IJV
Announcements**

DEAL NUMBER	CAR	SCARs
19	5.6368	1.2335
20	1.4791	0.4673
21	-0.9119	-0.2885
25	6.5168	1.2681
26	-1.2742	-0.4742
27	9.0735	1.8873
32	0.4927	0.3646
54	3.3294	2.3936
Σ	24.3422	6.8517
Average CAR	3.0428	0.8565
v(N)	2.8284	
St. Dev. (Cross-Sectional)	3.7507	1.0150
t-stat	2.3865	

**Table A11: Cumulative Average Abnormal Returns and Standardized
Cumulative Average Abnormal returns for African partner IJV
Announcements**

DEAL NUMBER	CAR	SCARs
20	1.4791	0.4673
28	0.4718	0.2214
29	-10.6011	-5.6191
30	-2.2208	-1.1807
38	8.5853	3.9498
48	-0.9468	-0.8459
52	3.3265	1.7199
63	0.9073	0.9934
64	-0.4224	-0.4847
65	0.7762	0.6786
Σ	1.3551	-0.1000
Average CAR	0.1355	-0.0100
v(N)	3.1622	
St. Dev. (Cross-Sectional)	4.7937	2.4538
t-stat	-0.0129	

Table A12: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements with Developed Country Partners

DEAL NUMBER	CAR	SCARs
1	2.5906	1.5260
2	-0.3450	-0.2536
3	3.6329	2.3705
4	1.4706	1.1024
5	3.5136	1.7519
11	-9.5336	-4.7228
13	2.2506	2.2541
14	0.2856	0.1859
16	-0.5547	-0.6984
17	-0.8964	-0.4718
19	5.6368	1.2335
20	1.4791	0.4673
21	-0.9119	-0.2885
24	2.9930	0.6926
26	-1.2742	-0.4742
27	9.0735	1.8873
31	2.4587	0.9294
32	0.4927	0.3337
33	-0.6693	-0.3345
34	2.4297	1.0841
35	-1.2716	-0.8737
36	-2.3046	-1.7601
37	2.3579	1.6385
39	1.5191	1.3231
40	1.5191	1.3231
41	-0.9562	-0.9908
43	1.1000	0.6671
44	-1.6865	-1.8318
45	2.4219	1.6590
51	3.4581	1.2935
54	3.3294	2.3936
57	-1.5223	-1.4795
58	-3.8860	-3.9295
62	-2.3640	-1.9605

Σ	25.8366	6.0470
Average CAR	0.7599	0.1779
$v(N)$	5.9161	
St. Dev. (Cross-Sectional)	3.1449	1.6892
t-stat	0.6229	

Table A13: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements with Developing Country Partners

DEAL NUMBER	CAR	SCARs
6	4.3387	1.0944
7	3.4816	0.8477
8	-0.5243	-0.3879
9	-5.0470	-3.6909
10	1.6760	1.1260
12	-2.5899	-1.9087
15	-2.2100	-1.3970
18	-0.3328	-0.3207
23	-1.2227	-0.5163
25	6.5168	1.2681
28	0.4718	0.2214
29	-10.6011	-5.6191
30	-2.2208	-1.1807
38	8.5853	3.9498
42	-1.3749	-0.6192
46	4.5283	3.1848
47	-1.8986	-0.8647
48	-0.9468	-0.8459
50	0.7461	0.4230
52	3.3265	1.7199
53	1.9745	1.3824
55	-1.6224	-0.8508
56	0.4406	0.4094
59	-0.9613	-0.8651
60	0.2629	0.2679
61	-1.0781	-1.1879
63	0.9073	0.9934
64	-0.4224	-0.4847
65	0.7762	0.6786
Σ	4.9797	-3.1731
Average CAR	0.1717	-0.1058
\sqrt{N}	5.3852	
St. Dev. (Cross-Sectional)	3.5585	1.8385
t-stat	-0.3098	

Table A14: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements in which South African firm holds at least 50% of the Equity

DEAL NUMBER	CAR	SCARs
3	3.6329	2.3705
5	3.5136	1.7519
6	4.3387	1.0944
7	3.4816	0.8477
8	-0.5243	-0.3879
9	-5.0470	-3.6909
11	-9.5336	-4.7228
12	-2.5899	-1.9087
15	-2.2100	-1.3970
18	-0.3328	-0.3207
24	2.9930	0.6926
25	6.5168	1.2681
26	-1.2742	-0.4742
27	9.0735	1.8873
30	-2.2208	-1.1807
31	2.4587	0.9294
34	2.4297	1.0841
41	-0.9562	-0.9908
42	-1.3749	-0.6192
43	1.1000	0.6671
44	-1.6865	-1.8318
50	0.7461	0.4230
54	3.3294	2.3936
58	-3.8860	-3.9295
59	-0.9613	-0.8651
60	0.2629	0.2679
61	-1.0781	-1.1879
62	-2.3640	-1.9605
63	0.9073	0.9934
Σ	8.7448	-8.7967
Average CAR	0.3015	-0.3033
v(N)	5.3852	
St. Dev. (Cross-Sectional)	3.6675	1.8185
t-stat	-0.8983	

Table A15: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements in which South African firm holds 50% of the Equity

DEAL NUMBER	CAR	SCARs
3	3.6329	2.3705
5	3.5136	1.7519
6	4.3387	1.0944
7	3.4816	0.8477
8	-0.5243	-0.3879
9	-5.047	-3.6909
11	-9.5336	-4.7228
15	-2.21	-1.397
18	-0.3328	-0.3207
26	-1.2742	-0.4742
27	9.0735	1.8873
31	2.4587	0.9294
54	3.3294	2.3936
58	-3.886	-3.9295
62	-2.364	-1.9605
Σ	4.6565	-5.6087
Average CAR	0.3104	-0.3739
v(N)	3.8730	
St. Dev. (Cross-Sectional)	4.6171	2.3346
t-stat	-0.6203	

Table A16: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements in which South African firm holds less than 50% of the Equity

DEAL NUMBER	CAR	SCARs
16	-0.5547	-0.6984
19	5.6368	1.2335
20	1.4791	0.4673
29	-10.6011	-5.6191
35	-1.2716	-0.8737
39	1.5191	1.3231
40	1.5191	1.3231
46	4.5283	3.1848
48	-0.9468	-0.8459
64	-0.4224	-0.3692
52	3.3265	1.7199
Σ	4.2123	0.8454
Average CAR	0.3829	0.0769
v(N)	3.3166	
St. Dev. (Cross-Sectional)	4.2886	2.2794
t-stat	0.1119	

Table A17: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements in which the South African Partner is in the Manufacturing Industry (SIC 3)

DEAL NUMBER	CAR	SCARs
3	3.6329	2.3705
4	1.4706	1.1024
9	-5.0470	-3.6909
10	1.6760	1.1260
11	-9.5336	-4.7228
17	-0.8964	-0.4718
18	-0.3328	-0.3207
19	5.6368	1.2335
28	0.4718	0.2214
41	-0.9562	-0.9908
42	-1.3749	-0.6192
43	1.1000	0.6671
44	-1.6865	-1.8318
50	0.7461	0.4230
51	3.4581	1.2935
52	3.3265	1.7199
53	1.9745	1.3824
54	3.3294	2.3936
55	-1.6224	-0.8508
56	0.4406	0.4094
57	-1.5223	-1.4795
58	-3.8860	-3.9295
63	0.9073	0.9934
64	-0.4224	-0.4847
Σ	0.8904	-4.0566
Average CAR	0.0371	-0.1690
\sqrt{N}	4.8990	
St. Dev. (Cross-Sectional)	3.1902	1.8951
t-stat	-0.4370	

Table A18: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements in which the South African Partner is in the Financial Services Industry (SIC 8)

DEAL NUMBER	CAR	SCARs
1	2.5906	1.5260
2	-0.3450	-0.2536
14	0.2856	0.1859
15	-2.2100	-1.3970
16	-0.5547	-0.6984
33	-0.6693	-0.3345
45	2.4219	1.6590
46	4.5283	3.1848
47	-1.8986	-0.8647
48	-0.9468	-0.8459
59	-0.9613	-0.8651
62	-2.3640	-1.9605
Σ	-0.1233	-0.6639
Average CAR	-0.0020	-0.0105
v(N)	3.4641	
St. Dev. (Cross-Sectional)	2.1306	1.4738
t-stat	-0.0248	

Table A19: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements in which the South African Partner is in the Mining Industry (SIC 2)

DEAL NUMBER	CAR	SCARs
5	3.5136	1.7519
6	4.3387	1.0944
7	3.4816	0.8477
8	-0.5243	-0.3879
19	5.6368	1.2335
20	1.4791	0.4673
21	-0.9119	-0.2885
23	-1.2227	-0.5163
24	2.9930	0.6926
25	6.5168	1.2681
26	-1.2742	-0.4742
27	9.0735	1.8873
29	-10.6011	-5.6191
30	-2.2208	-1.1807
31	2.4587	0.9294
33	-0.6693	-0.3345
36	-2.3046	-1.7601
Σ	19.7628	-0.3890
Average CAR	1.1625	-0.0229
v(N)	4.1231	
St. Dev. (Cross-Sectional)	4.4818	1.7701
t-stat	-0.0533	

Table A20: Cumulative Average Abnormal Returns and Standardized Cumulative Average Abnormal returns for IJV Announcements in which the South African Partner is in the Wholesale and Retail Industry (SIC 6)

DEAL NUMBER	CAR	SCARs
37	2.3579	1.6385
38	8.5853	3.9498
39	1.5191	1.3231
40	1.5191	1.3231
60	0.2629	0.2679
61	-1.0781	-1.1879
65	0.7762	0.6786
Σ	13.9424	7.9930
Average CAR	1.9918	1.1419
v(N)	2.6458	
St. Dev. (Cross-Sectional)	3.1077	1.5601
t-stat	1.9365	

Table A21: Sources for IJV announcements

DEAL NUMBER	SOURCE	LINK
1	allafrica.com	http://allafrica.com/stories/200303040460.html
2	allafrica.com	http://allafrica.com/stories/200603300171.html
3	JSESENS	http://www.aeci.co.za/ir_sens_101203.asp
4	JSESENS	http://www.whoswhosa.co.za/SENS/291404/AFE
5	ARM Press release	http://www.arm.co.za/im/press_display.php?id=2005/02feb05
6	ARM Press release	http://www.arm.co.za/im/press_display.php?id=2008/17dec08
7	ARM Press release	http://www.arm.co.za/im/press_display.php?id=2009/25mar09
8	ARM Press release	http://www.arm.co.za/im/press.php?yr=2010
9	Aspen News	http://www.aspenpharma.com/southafrica/news/05092301.htm
10	Aspen News	http://www.aspenpharma.com/southafrica/news/06030201.htm
11	SENS	http://www.astralfoods.co.za/Sens_Details.aspx?FileNumber=57
12	The Edge	http://www.theedgemalaysia.com/in-the-financial-daily/177992-knm-to-form-joint-venture-company-with-south-africas-aveng.html
13	WorkSmart	http://www.worksmart.org.uk/company/company.php?id=05193513
14	GraphiX	http://graphixmag.imix.co.za/?q=node/94177
15	Datatec CEO (Jens Montanana)	http://www.datatec.co.za/datatec/content/en/group-news?oid=5530&sn=Detail&pid=478
16	Bloomberg	http://www.businessweek.com/news/2011-02-22/humana-discovery-holdings-agree-health-plan-joint-venture.html
17	Distell Brand News	http://www.distell.co.za/runtime/popcontentrun.aspx?pageidref=2066
18	Reuters	http://www.reuters.com/finance/stocks/DSTJ.J/key-developments/article/2357532
19	DRDGold press release	http://www.drd.co.za/im/press_display.asp?id=97&yr=2003
20	DRDGold press release	http://www.drd.co.za/im/press_display.asp?id=215&yr=2007
21	Mining Weekly	http://www.miningweekly.com/article/joint-venture-to-focus-on-exploration-dump-retreatment-and-water-management-2007-08-24
22	allafrica.com	http://allafrica.com/stories/201005200542.html
23	Gold fields media	http://www.goldfields.co.za/news_article.php?articleID=30

	release	
24	Orsu operations	http://www.orsumetals.com/GoldFieldsJointVenture.aspx
25	Mindoro	http://www.mindoro.com/ss/GoldFieldJV.asp
26	Mineprocessing	http://www.mineprocessing.com/News/detail-a301-b0-c-d-e-f.html
27	Mineprocessing	http://www.mineprocessing.com/News/detail-a301-b0-c-d-e-f.html
28	Bloomberg	http://www.clubofmozambique.com/solutions1/sectionnews.php?secao=business&id=14718&tipo=one
29	Impala Platinum press releases	http://www.implats.co.za/implats/pr_26032001.asp
30	Impala Platinum press releases	http://www.implats.co.za/implats/pr-20060406.asp
31	Wallbridge Mining press releases	http://www.wallbridgeminig.com/s/NewsReleases.asp?ReportID=316618&_Type=News-Releases&_Title=Wallbridge-Mining-Signs-5M-Joint-Venture-with-Impala-Platinum-on-Parkin-Off...
32	Windlab news	http://windlab.com/node/149
33	AllAfrica	http://allafrica.com/stories/201008040497.html
34	Cellular_news	http://www.cellular-news.com/story/31239.php
35	Business Report	http://www.iol.co.za/business/companies/mtn-in-joint-venture-with-american-tower-1.981714
36	Goliath Business Knowledge	http://goliath.ecnext.com/coms2/gi_0199-7436170/Mvelaphanda-Holdings-Och-Ziff-and.html
37	Just-drinks.com	http://www.just-drinks.com/news/south-africas-omnia-and-ehrmanns-form-joint-venture_id85985.aspx
38	Townshipvibes	http://www.townshipvibes.com/zimbabwe-meikles-in-joint-venture-with-pick-n-pay-to-procure-products-from-south-africa/
39	SABMiller	http://www.sabmiller.com/index.asp?pageid=149&newsid=543
40	SABMiller	http://www.sabmiller.com/index.asp?pageid=149&newsid=544
41	SABMiller	http://www.sabmiller.com/index.asp?pageid=149&newsid=365
42	SABMiller	http://www.sabmiller.com/index.asp?pageid=149&newsid=888
43	The New York Times	http://www.nytimes.com/2007/10/10/business/worldbusiness/10beer.html
44	Dow Jones Newswires	http://www.foxbusiness.com/industries/2011/08/18/sabmiller-joint-venture-in-pact-to-invest-in-guizhou-moutai-beer/
45	Sanlam	http://www.sanlam.co.za/wps/wcm/connect/Sanlam_EN/sanlam/investor+relations/news+releases+archive/sanlam+and+citadel+announce+joint+venture+in+high+net+worth+market
46	Sanlam news releases	http://www.sanlam.co.za/wps/wcm/connect/Sanlam_EN/sanlam/investor+relations/news+releases+archive/sanlam+enter+s+the+indian+insurance+market
47	Moneyweb	http://moneyweb.co.za/mw/view/mw/en/page295023?oid=225077&sn=2009+Detail&pid=292681

48	How we made it in Africa	http://www.howwemadeitinafrica.com/south-african-firm-moves-into-nigerias-insurance-market/1365/
49	ICIS	http://www.icis.com/Articles/1997/10/22/40719/sasol-and-us-merichem-in-phenolics-jv.html
50	Oil and Gas Journal	http://www.ogj.com/articles/print/volume-96/issue-9/in-this-issue/production/pdvs-wax-firm-form-specialty-waxes-joint-venture.html
51	Mandla.co.za	http://mandla.co.za/daily_report_100699.htm
52	News24	http://www.news24.com/xArchive/Archive/Sasol-Petromoc-in-joint-venture-20010731
53	SASOL	http://www.sasol.com/sasol_internet/downloads/SENS_Sasol_LFB_JV2Nov04_1099380701439.pdf
54	SASOL news	http://www.sasol.com/sasol_internet/frontend/navigation.jsp;jsessionid=BTPCKMYKKHBUVG5N4EZFSEQ?articleTypeID=2&articleId=17600001&navid=4&rootid=4
55	SouthAfrica.info	http://www.southafrica.info/news/international/sasol-200709.htm
56	Reuters	http://www.dnaindia.com/money/report_tata-sasol-joint-venture-to-invest-10-billion-in-orissa_1391921
57	Mail and Guardian	http://mg.co.za/article/2010-07-19-sasol-in-joint-venture-to-explore-shale-gas-sa
58	SouthAfrica.info	http://www.southafrica.info/business/success/sasoltalisman-090311.htm
59	China Shenzhen University	http://cnszu.com/2010/07/
60	Wall Street Journal	http://www.marketwatch.com/story/spar-group-signs-joint-venture-in-india-2011-07-12
61	Wall Street Journal	http://www.marketwatch.com/story/spar-group-signs-joint-venture-in-turkey-2011-08-23
62	AFX News	http://www.forbes.com/feeds/afx/2006/03/23/afx2616049.html
63	How we made it in Africa	http://www.howwemadeitinafrica.com/south-african-consumer-goods-company-invests-in-ethiopia-nigeria/5786/
64	How we made it in Africa	http://www.howwemadeitinafrica.com/uac-and-tiger-brands-conclude-joint-venture-deal/6443/
65	Business Live	http://www.businesslive.co.za/africa/africa_markets/2011/09/09/woolworths-opens-stores-in-uganda-tanzania