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The impact of participating in an international joint venture on the economic performance of domestic firms in an emerging economy: a study of the Indian business service industry

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Abstract

This thesis investigates the impact of international joint ventures (IJVs) on the economic performance of domestic firms in an emerging economy. Using two-way fixed estimations and two matching techniques, the study compares Indian firms from the business service industry that started an IJV during 2015-2017 to Indian firms that did never participate in an IJV. No significant empirical evidence is found that IJV firms have higher operating revenues in the period after IJV formation. However, IJV firms have a significant lower ROA compared to non-IJV firms in the post-IJV years. Moderate empirical evidence is found for lower profit margins of IJV firms post-IJV. Although the results must be interpreted with caution, this study offers potential explanations of the results based on characteristics of IJVs in an emerging economy like India.

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1. Introduction

Independent of its position in the value chain, every firm has to decide whether to buy or make a product. These strategic make or buy decisions define the vertical boundaries of a firm. However, within these strategic decisions there are all kind of intermediate structures that firms can use in strategically positioning itself in the market. One of those structures are international joint ventures (IJVs). According to Nippa and Reuer (2019), IJVs are international alliances formed out of two or more independent organizations who work together in order to achieve mutual strategic goals. The partners in IJVs keep their main operations independent from the joint venture (JV) and at least one of the partners in the IJV has to be located in a different country. In the remainder of this thesis I will use the terms JV and IJV interchangeably, assuming that a JV has the same definition as an IJV. The rationale for participating in IJVs has been studied from different strategic perspectives, often through transaction cost economics, real options theory and internalization theory (Nippa & Reuer, 2019). Foreign partners often form IJVs to expand to new geographic markets, but how do domestic partners benefit from IJVs, especially in emerging economies (Makino et al., 2007)? Several studies investigated the phenomenon IJV in emerging economies, although the amount of research on this topic has decreased over the last ten years (Luo et al., 2019). One of those emerging economies is India, which was opened up for foreign firms since the last decade of the twentieth century (Supra & Kushwaha, 2019). From that moment on, the Indian economy experienced fast growth in terms of foreign investors. The World Investment Report of 2020 by the United Nations stated that India accounted for 51 billion dollar of foreign direct investment (FDI) in 2019, taking the ninth spot on the list of largest FDI recipients (UNCTAD, 2020). IJVs are popular structures among these foreign investors, who usually seek for local market knowledge (Lu & Beamish, 2006). Famous examples of IJVs in India are Vistara, an airline formed out of Tata Sons and Singapore Airlines and the IJV Mahindra-Renault. Although often cited reasons for IJV formation for local firms are access to new technologies and knowledge (Shenkar & Li, 1999; Tatoglu & Glaister, 2000), little is known about how these emerging economy firms perform after they have entered an IJV. The main research question of this thesis shall therefore be the following:

What is the impact of participating in an international joint venture on the economic performance of domestic firms in the emerging economy India?

The scientific relevance of this thesis is threefold. First, the literature on IJVs contains little empirical research specifically aimed at exploring the economic implications of IJVs for domestic partner firms. Most of the empirical studies focus on the foreign partners and their role in IJVs. Furthermore, the studies that do tackle domestic partners in IJVs are mainly focused on China as an emerging economy. By investigating India, this thesis contributes to a broader picture of the role of IJVs in emerging

economy research. Second, this thesis aims to provide a more recent picture of IJVs by taking 2013-2020 as the research period. This recent perspective could complement the predominantly older empirical studies about IJVs. Third, the most influential papers about IJVs take IJVs as the center of their analysis (Nippa & Reuer, 2019). It could therefore be interesting to explore IJVs as independent variable rather than dependent variable. Focusing on IJVs as a channel for local firm upgrading, definitely contributes to broaden this research area. Additionally, getting insight into the potential positive or negative consequences of being a partner in an IJV can be of great value to domestic firms in emerging economies. It is interesting from an economic point of view to look to which extent IJVs are positive for domestic firms in terms of growth, profitability and efficiency. IJVs can also be important from the perspective of governments or other public institutions. Should they facilitate the formation of organizational arrangements between foreign and local firms in their country or is it better to invest directly in the development of local firms?

This thesis is organized as follows. Section 2 discusses literature about IJVs. Section 3 presents the data. Section 4 shows the methodology used in this thesis. Section 5 presents the main results. Section 6 discusses the results and limitations. Finally, section 7 concludes.

2. Literature review

2.1 Main economic theories about IJV formation

The motives for starting an IJV have been studied from different economic theories and perspectives. One of the most dominant theoretical frameworks within IJV literature is transactions cost economics. Hennart (1988) stated that transaction costs play an important role in why IJVs exist. The problems and costs firms face in failing markets can lead to two types of JVs. On the one hand, firms participate in scale JVs when full ownership is not efficient due to significant economies of scale or scope that can only be achieved in a JV. On the other hand, firms form link JVs when the position of parties is asymmetrical and the use of the market is inefficient due to different objectives of the firms. Although the author highlights that JVs are created from multiple factors, he finds empirical evidence of transaction cost theory at Japanese firms who form JVs with US firms (Hennart, 1991). Japanese firms decide to form a JV when their key inputs experience high market transaction costs. While transaction costs economics emphasizes the cost side in forming IJVs, resource-based theory tries to explain IJVs from the benefit side. According to Tsang (2000), JVs exploit their parents resources to pursue profit opportunities in other countries. The JV can create a synergy in which the pooled resources generate higher rents than each firm would generate separately. Moreover, firms may start JVs to develop their resources, whether through learning skills from their partners or obtaining critical assets for strengthening long-term competitiveness. Das and Teng (2000) note that firms particularly prefer to

form equity joint ventures if the primary resources partners contribute are based on knowledge. However, firms prefer to contribute mainly property-based resources in JVs, because of the fear of losing their knowledge-based resources. A study by Hennart and Kay (1997) supported these findings by showing that Japanese investors in the US mainly use JVs to acquire resources which are present in US firms. Another dominant stream of literature in IJV research is internalization theory, from which three main research streams can be identified (Narula et al., 2019). First, Buckley and Cason (1998) show how international business behavior by multinational enterprises (MNEs) is influenced by inefficient markets. In line with Hennart (1988), the authors state that MNEs face transaction costs in intermediate product markets, which explains why MNEs prefer to organize their value-adding activities in other countries through an IJV rather than using the market. Second, the Rugman stream takes the MNE as the center of the analysis and focusses more on firm specific advantages (FSAs) to explain why MNEs may organize its operations abroad (Narula & Verbeke, 2015). These unique firm capabilities combined with country specific advantages are the prominent drivers in the MNE choice models of Rugman (Rugman & Verbeke, 2003). Third, Dunning (2000) developed the eclectic paradigm to analyze internalization theory. MNEs will participate in more foreign operations when they have more ownership, location and internalization advantages. Ownership advantages mean that firms are able to transfer firm-specific capabilities across borders. Location advantages indicate that firms can benefit more from these capabilities in a foreign market than in their domestic market. The strength of internalization advantages then determines how the foreign activities are organized, for example in an IJV.

More recent literature about the economic foundations of entering an IJV focusses on real options theory, information economics and property rights. First, Kogut (1991) investigates whether JVs are formed as real options to expand in markets with potential profit opportunities. He indicates that firms initially share the risks and the investments in a JV, which can be followed by an acquisition of the JV when favorable market developments occur or the venture's value increases. His sample of manufacturing JVs confirms this real options theory: JVs can be used as a conservative investment to expand while mitigating the risks of adverse conditions. Apart from the potential value that lays in acquiring the JV, Kumar (2005) shows that the divesting of JVs can also lead to significant value creation. This further strengthens the evidence that JVs can serve as a relatively inexpensive and flexible alternative to explore new markets. Although Tong et al. (2008) also find that IJVs serve as growth options, they challenge the traditional real options view by stating that the theory holds under two particular circumstances: minority IJVs and diversifying IJVs. The first form is an example of an IJV where one firm holds less than 50% of the shares. The latter represents an IJV where the main operational activities of the partners are not related. These types of IJVs are found to be more valuable

in terms of growth than other IJVs structures and therefore fit better in the IJV real options framework. Second, Reuer et al. (2013) investigate IJV formation in China through information economics. They look specifically at the information asymmetries associated with different entry or governance choices, namely acquisition versus IJVs. Foreign firms prefer IJVs over acquisitions in the Chinese market in four situations: there is less product-market overlap between the firms, foreign partners have difficulties in assessing the value of the intangible assets of the Chinese firms, they are less familiar with their partners resources, capabilities and affiliations and finally IJVs are preferred when there are remedies to reduce the information asymmetries between the partners. Thirdly, Hagedoorn et al. (2005) also study the choice between equity joint ventures and contractual relationships but this time from the view of property rights protection. They focus on R&D JVs and conclude that differences in intellectual property rights protection significantly influence the choice between IJVs or partnerships. In environments with less property right protection, more IJVs emerge as opposed to contractual partnerships. In this case, JVs ensure better protection of the knowledge of the partner firms. However, firms favor contractual partnerships in industries with high levels of technological change as these partnerships are more flexible to react on new technologies and innovations than JVs.

2.2 Partner selection in IJVs

How do firms select their partners in IJVs? The first major contribution in this research field was made by Geringer (1991). Geringer defines two categories of partner selection criteria: task-related criteria and partner-related criteria. Task-related criteria refer to the operational skills and resources needed for IJV success. Examples are (financial) resources, technical knowledge, patents and skilled managers. Existing profitable operations also serve as task-related criteria (Wang et al., 1999). On the other hand, partner-related criteria refer to how efficient and effective partners cooperate. Think of the national or corporate culture of partners, the organizational size of partners and trust or any favorable past relationships between partners. These variables are usually only relevant in a structure with multiple partners, so in IJVs with more than two players. Geringer also emphasizes that each IJV is unique, stating that his study rather shows a broader conceptual framework instead of highlighting specific selection criteria. A study from Dong and Glaister (2006) about Chinese partners in IJVs investigates whether the strategic motives underlying IJV formation have a strong influence on either task-related or partner-related selection criteria. The study reveals that motives like international expansion and technology exchange clearly determine task-related criteria, whereas limited support is found for the link between these strategic motives and partner-related criteria. The authors conclude that task-related criteria are more specific to IJV formation, which is in line with the earlier findings of Glaister (1996) that task-related selection criteria ultimately represent the strategic motives behind successful JV formation. Contrastingly, partner-related criteria are more general to IJV formation. Glaister and

Buckley (1997) build on Geringer's findings, investigating selection criteria of UK firms in IJVs. Local knowledge of the market and culture are found to be important task-related criteria, as well as relationships with major buyers and access to distribution channels. Trust between management teams is the most important partner-related criteria. Tatoglu (2000) also finds trust to be an important partner-related criteria in Western IJVs in Turkey and he finds similar task-related criteria. Additionally, the ability to negotiate with the government is also said to be an important selection criteria by Tatoglu. Similar empirical evidence on government negotiating skills is found by Islam et al. (2011) who studied partner selection in developing countries.

Furthermore, differences in cross-country institutional environments influences partner selection. Roy and Oliver (2009) found that a country's legal environment is an important determinant when Canadian firms choose partners. The results show that legal concerns in host countries like appropriation concerns and coordination concerns influence partner-related criteria. In addition, Roy (2012) finds that the quality of the host country governance influences how effective certain partner selection criteria are when firms form an IJV. Based on empirical evidence from six Asian countries, he states that stable, consistent and predictable institutions strengthen partner selection. Hitt et al. (2004) show that the difference between the Chinese and Russian institutional environments leads to different partner selection criteria by Chinese and Russian managers. Whereas Chinese managers placed more value on long-term partner qualities like managerial capabilities, intangible resources and previous alliance experience, Russian managers focused more on partner selection criteria that facilitate short term survival. According to the authors, this difference is due to the more stable and supportive institutional environment of China compared to less supportive Russian institutional environment. Moreover, within-country institutional variation can also have an effect on partner selection. Shi et al. (2012) note that in Chinese regions with a high degree of marketization, centrally positioned firms are more attractive as IJV partners. On the contrary, in regions with low levels of marketization foreign partners favor brokerage firms. The reason behind this is that regions in emerging economies with a high degree of marketization usually display significant improvements in raw material and factor markets, combined with legal frameworks comparable to developed countries (Peng, 2003).

2.3 The economic performance of IJVs

One of the major challenges in IJV performance research is how to measure IJV performance (Ariño, 2003). Ren et al. (2009) identified five main dimensions of performance present in IJV literature: survival, financial output, overall satisfaction, goal achievement and learning. Survival indicates that the longevity of an IJV is a measure of an efficient organizational form (Inkpen & Beamish, 1997). This measure has been used frequently in IJV performance literature. Examples are Makino et al. (2007)

who studied intended and unintended IJV termination and Meschi and Riccio (2008) who investigated survival of Brazilian IJVs. However, two main points of critique stem from the use of survival as measure of IJV performance. First, survival alone does not have to signal performance: an IJV that existed twice as long as another IJV does not have a better performance per se (Lyles & Baird, 1994). Second, based on the already discussed real options theory, termination of an IJV may imply that an IJV has fulfilled its objectives and termination could create value (Kumar, 2005). Frequently used measures of financial output in IJV performance include return on assets (ROA), return on investment (ROI) and market share (Luo, 1995; Zhang et al., 2007). Although financial measures have been criticized for being unavailable or difficult to isolate, Choi and Beamish (2004) show that objective financial measures like ROA are also used to justify subjective IJV performance measures like satisfaction. They found that ROA was highly correlated with the satisfaction of Japanese managers with their IJVs. These subjective evaluations of managers, often called overall satisfaction, also play an important role in studies about IJV performance. Typically, these studies rely on survey data. Two examples include Isobe et al. (2000), who measured overall IJV satisfaction on five-point scale at Japanese managers and Boateng and Glaister (2002) who asked managers of African partners in IJVs about their satisfaction on seven performance objectives. Satisfaction can however be subject to sampling error, which threatens validity (Ren et al., 2009). In line with overall satisfaction as performance measure lies the achievement of partners' goals in the IJV. This measure focusses more on the subjective assessment of managers from the partner firms: if the goals of the parents are clearly specified and satisfied, this leads to goal achievement (Yan & Gray, 2001). Goal achievement has been studied by Brouthers and Bamossy (2006) in a setting of Eastern and Western European IJVs and by Robson et al. (2008), who focused on joint goal achievement and trust between IJV partners. Lastly, partner learning in terms of knowledge or skill transfer can be key to IJV success. This is shown for instance by Tsang (2002), who finds that firms from Singapore and Hon Kong acquire knowledge through management involvement from their IJVs in China. Additionally, Lane et al. (2001) study the importance of learning from foreign partners in Hungarian IJVs. They find that the absorptive capacity of Hungarian IJVs in terms of understanding, assimilating and applying knowledge is a critical aspect of IJV performance.

The next step is to look how IJVs perform in practice and what drives their performance. A widely held impression about IJVs is that they can be subject to high levels of instability (Jiang et al., 2008). Examples of explanations are the cultural differences in IJVs (Killing, 1982; Gill & Butler, 2003), shifts in partner bargaining power (Inkpen & Beamish, 1997; Nakamura, 2005) and short- versus long-term orientation (Das & Teng, 2000). As a consequence, the performance of IJVs may be disappointing. Park and Russo (1996) argue that IJV survival chances are low due to competition between partners outside the IJV agreement. Competitive home industries and concurrent agreements in the investigated

electronics industry explained why JVs failed. Moreover, Chowdhury (1992) shows that wholly-owned subsidiaries (WOS) are more efficient than JVs in dimensions as intra-system sales and export level. Konwar et al. (2017) also find interesting results regarding IJVs as entry mode India. They find that wholly owned foreign affiliates perform better than IJVs by looking at sales level. However, Delios and Beamish (2004) analyzed approximately 28,000 Japanese foreign subsidiaries between 1986-1999 and revealed that JVs had similar financial performance as WOS. Also, the survival rate of the Japanese JVs was only marginally lower and this leads the authors to conclude that JVs do not perform worse compared to other entry modes. Additionally, Hennart et al. (1998) do find higher termination rates of JVs compared to WOS but this is mainly due to the higher probability of selling the JVs instead of liquidating them.

So, what are the drivers behind these variances in IJV performance? What drives successful IJVs? The focus here will be on relationship- or firm-specific drivers and not on environmental factors. Three key subjective variables are control, trust and commitment. First, control is often cited as valuable aspect of IJV performance and refers to the division of power between partners who determine JV decision making (Killing, 1982). Despite the fact that the relationship between control and performance has been extensively discussed in the literature, there appears to be no direct answer as to how exactly this relationship works. On the one hand, Steensma and Lyles (2000) show that parents who hold different equity stakes in their IJV are more subject to conflict and this negatively affects survival. On the other hand, Choi and Beamish (2004) find that IJVs that use split control, so who split the management of each activity according to firm-specific strengths, performed better than shared- or dominant management. However, these two studies contradict with Yan and Gray (1994) who showed that shared control leads to superior performance in JVs between US and Chinese firms. Ramaswamy et al. (1998) find that unequal ownership is positively related to performance, exploring a setting of US and European MNEs who form JVs with local Indian firms. These findings indicate that management control or ownership do affect performance but the sign is ambiguous. Second, trust between partners is found to be important for multiple levels of JV performance because it facilitates to overcome the complexity of IJVs (Robson et al., 2008). Luo (2008) combines trust with procedural fairness in IJVs and finds that this leads to improved financial outcomes. Furthermore, Nakos and Brouthers (2008) state that trust directly affects commitment in IJVs and as a consequence influences how partners view the financial outcomes of their partnership. Commitment as a driver of performance is also highlighted by Isobe et al. (2000). Resource commitment to technology transfer is associated with higher levels of economic performance of JVs. Lastly, Kapoor and Aggarwal (2021) show which factors drive knowledge transfer and therefore innovation performance at IJVs in India. The most important factor is the organizational design of JVs, which refers to the division of tasks and coordination among employees.

Also significantly influencing knowledge transfer are the technological resources and systems of partners, a JV environment characterized by collaborative trust and co-learning strategies.

More practical drivers regarding IJV performance include the quality of resources partners contribute to IJVs and the international experience partners have prior to the IJV (Child & Yan, 2003). With these resources, Child and Yan (2003) mean the operational inputs, capital investments and new facilities that partners bring in. However, Mahmood and Zheng (2009) argue that firms should also consider the amount of resources they spend on IJVs. The authors found that if domestic emerging economy firms spend more resources during IJV formation and during IJV operations, this can come at the expense of their own innovative capabilities and organizational mechanisms. With international experience, Child and Yan (2003) refer to past international business relationships or JVs. The importance of international experience or general experience is also found by Delios and Beamish (2004), who suggest that especially host-country experience is key to JV survival. Ainuddin et al. (2007) find that four resource attributes of firms are key to JV success: product reputation, technical expertise, local business network and marketing skills. Luo (2002) adds products relatedness of partners to this list: this is positively related to performance measures as profitability, sales, competitiveness and satisfaction. As much as cultural distance affects IJV instability, it affects IJV performance. Like control, the literature on cultural distance influencing performance is mixed. Yehekel et al. (2001) finds positive as well as negative effects of national culture distance on IJV effectiveness. The impact of different organizational cultures is also a frequently studied topic among IJVs in India. Damanpour et al. (2012) found that culture differences can have a negative impact on IJV performance measured by satisfaction. However, partner interaction like communication, conflict resolution and pursuing an acculturation strategy in which both partners invest in their own and partner organizational values, can significantly decrease the negative effects of cultural distance. Pothukuchi et al. (2002) also found that culture distance is negatively associated with Indian IJV performance but the authors make a clear distinction between differences in national culture and organizational culture. National culture differences between partners dominate the negative effect of culture distance on IJV performance compared to organization culture differences. Furthermore, national culture distance has a stronger effect on performance measures related to efficiency and competitiveness whereas organizational distance relates more to measures of satisfaction. Finally, Pan et al. (1999) found interesting results about early-mover advantages at IJVs in China. IJVs who entered their respective market earlier had higher market shares in the end.

2.4 IJVs in emerging economies

This section takes a closer look at IJVs in emerging economies. First, I will have a closer look at the specific underlying motives of starting an IJV from the viewpoint of foreign firms as well as domestic

firms. This is additional to the already discussed economic theories about IJV formation. When deciding to start an IJV in an emerging economy, foreign firms are often driven by geographic expansion (Makino et al., 2007). This finding does not only apply to MNEs. Small- and medium-sized enterprises (SMEs) often see IJVs as a good first step to expand internationally and increase their geographic sales area (Lu & Beamish, 2006). Furthermore, these foreign partners or MNEs usually seek local knowledge of the market. Lee and Beamish (1995) for example find that Korean partners in developing countries predominately look for partners who know the local market or business practices. Yan and Gray (1994) support these findings with a study of multinational firm partners in China: their main goal is to increase profitability and market share by penetrating the local market. Additionally, foreign firms look for local partners which help them to learn about the institutional knowledge of their new geographic market (Hitt et al., 2004). Besides international expansion and obtaining local knowledge, IJVs help foreign partners to reduce their investments and the risks associated with doing business in developing economies (Meschi, 2005). Boateng and Glaister (2003) found empirical evidence for risk and cost sharing as motivation from foreign partners to form IJVs in Ghana.

From the perspective of the domestic firms in emerging economies, knowledge transfer is often cited as an important determinant of IJV formation (Shenkar & Li, 1999). The authors in this study show that Chinese partner-seeking firms see a JV as an opportunity to absorb tacit knowledge, usually knowledge that is complementary to their own knowledge base. Furthermore, domestic firms try to learn from the management practices and international experience of their foreign partners (Park, 2010; Tsang et al., 2004). However, not all IJVs may ultimately be intended to actually facilitate knowledge transfer to emerging economy partners (Gomes-Casseres et al., 2006). The priority of foreign partners might be cheaper manufacturing and distribution costs which could come at the expense of supporting knowledge spillovers (Mamhmoood & Zheng, 2009). In line with knowledge transfer lies the possibility for domestic firms to get access to new technologies (Tatoglu & Glaister, 2000). Likewise, domestic firms in developing countries use IJVs to foster innovation at their parent firm (Sun & Lee, 2013). Apart from knowledge accumulation and innovation, access to financial assets in order to facilitate firm growth is also cited to be important for domestic firms to engage in IJVs (Hitt et al., 2000). An IJV can offer these otherwise unavailable financial resources to firms in developing countries. Parameswar et al. (2018) found four motives underlying IJV formation specific to IJVs in India. Resource, capital, market and strategic asset seeking are highlighted as the most important purposes of starting an IJV for the Indian and foreign firms. However, domestic partners believe that IJVs are used by their foreign partners to enter an emerging market in exchange for learning whereas foreign partners see an IJV mainly as a way to explore this emerging market. Finally, domestic firms may use IJVs as a way of

signaling (Reuer & Ragozzino, 2014). Participating in an IJVs might lead to follow-on opportunities or it might signal quality towards future partners and business relationships.

Second, I will highlight important characteristics of IJVs in developing economies. What makes them different from for example IJVs in developed economies? IJVs in emerging economies tend to be less stable and relatively short-lived compared to IJVs in developed countries (Luo et al., 2019; Meschi & Wassmer, 2013). Reasons behind this instability are less favorable institutional frameworks and political and economic conditions in developing countries (Xu & Meyer, 2013). These uncertainties regarding the environment in developing countries also lead foreign partners to choose different ownership stakes (Luo et al., 2019). An example is shown by Lee and Beamish (1995) who find that Korean partners in IJVs in developing countries prefer minority equity stakes instead of equal ownership in developed countries. Increased environmental volatility is also found to be particularly influential on partner opportunism in emerging economies (Luo, 2007). Partner opportunism refers to rent-seeking self-interested behavior from one partner, which can damage IJV performance and can come at the expense of the other partner. However, Meyer et al. (2009) show empirical evidence that JVs are preferred over greenfield and acquisition in terms of entry mode in emerging economies with weaker institutional frameworks. According to Kwok et al. (2019), this is due to the cost- and risk-sharing advantages that IJVs offer. These advantages can be of particular importance in volatile emerging economies. Apart from the environmental conditions which shape the most important differences between IJVs in developed and developing countries, Acquaah (2009) finds interesting evidence on the different strategic choices that partners from developing and developed countries make in IJVs in Ghana. Partners in IJVs from advanced industrialized nations pursue a differentiation strategy, whereas partners from emerging economies rely on cost leadership. In addition to drivers discussed in section 2.3, Sim and Ali (1998) highlight some important drivers of IJV performance specifically to emerging economies. Past JV experience of parent firms, complementarity between the resources partner contribute in the JV and cooperation in terms of the frequency of disagreements were found to be critical to JV satisfaction. Boateng and Glaister (2002) add capital adequacy and equal goals and motives of partners to this list in their study of IJVs in a West-African context. Luo (2002) confirms the importance of goal congruity and resource complementary for IJV performance in China.

2.5 The economic performance of domestic partners in emerging economies

With the underlying economic theories, motives, partner selection criteria, performance measures and more detailed view of IJVs in emerging economies in mind, it is time to look whether domestic partners benefit from being a partner in an IJV as this is the main research theme of this thesis. However, literature specifically focused on the impact of IJVs on the economic performance of domestic firms in emerging economies is rather scarce. A reason could be that domestic partners and therefore

researchers are more interested in knowledge transfer than direct economic performance. Luo et al. (2001) show for example that Chinese partners value knowledge and skills acquisition from their foreign partners instead of controlling IJV operations. The most important study in my thesis research field is the study of Djankov and Hoekman (2000), who investigate domestic firms in the Czech Republic. They found that domestic firms who form a JV with a foreign firm benefit in terms of their total-factor-productivity (TFP) growth compared to firms that did not partner with foreign partners. Partner firms absorb new technologies and knowledge from their foreign affiliates and this effect is statistically significant across industries. Interestingly, the authors found that this effect is larger at FDI relationships than IJVs. Nakamura and Nakamura (2004) also find a positive effect of participating in an IJV on TFP, but this stems from an old sample of Japanese firms in the 1980s. Although studied from the perspective of US IJVs, Reuer (2000) looks at the effects of IJVs formation and termination on individual firm valuation. He finds that IJVs are associated with positive shareholder value creation. Formation has positive abnormal returns and termination does not lead to negative abnormal returns. Furthermore, two recent working papers addressed the effects of IJVs on firms in emerging economies. Jiang et al. (2018) investigated Chinese firms that engaged in IJVs and found that these local firms experienced increased performance afterwards. Bai et al. (2020) studied the Chinese auto industry in which IJVs have been formed and concluded that foreign automakers facilitated knowledge spillovers and quality upgrading to their domestic JV partners. Although these papers provide us with interesting insights regarding the role IJVs can play for domestic firms, these papers state that JV formation could be endogenous and that further research is necessary. These findings about TFP growth, increased performance and quality upgrading seem to indicate that participating in an IJV has a positive impact on domestic firm output and performance. Especially in combination with the findings on domestic partners in literature sections 2.3 and 2.4, which stated benefits as innovation, learning, new technologies and access to financial capital. Therefore, these findings lead me to propose the following three hypotheses:

H1: Indian firms that participate in an IJV during 2015-2017 have higher operating revenues after joining the IJV compared to Indian firms that do not participate in an IJV

H2: Indian firms that participate in an IJV during 2015-2017 have higher ROA after joining the IJV compared to Indian firms that do not participate in an IJV

H3: Indian firms that participate in an IJV during 2015-2017 have higher profit margins after joining the IJV compared to Indian firms that do not participate in an IJV

3. Data and descriptive statistics

3.1 Country, time period, industry and IJV structure

This thesis focuses on India as emerging economy. As described in the introduction, most of the studies on domestic firms in IJVs focus on China as emerging economy which makes it interesting to choose an alternative research country. Moreover, India is an interesting emerging economy where FDI and IJVs gain popularity. One of the objectives of this thesis is to provide a more recent picture of the impact of IJVs. This is the reason to investigate the period 2013 to 2020. Furthermore, I will focus on the Indian business service industry as indicated by the one-digit industry code US SIC 73. Specifically, the firms are from the 737 industry, as this is the industry that attracts the highest amount of FDI inflow in India (IBEF, 2022). Lastly, the thesis investigates equity IJVs which are organized as dual structures. Equity IJVs rule out alliances and make sure that the foreign as well as domestic firms share the gains and losses (Nippa & Reuer, 2019). Dual structures consists of two partners, in this case an Indian and foreign partner, which allows to focus on task-related selection criteria (Geringer, 1991).

3.2 Data collection procedure

The data collection procedure consisted of three main stages. In the first stage, data is collected from all equity JVs in India during the period 1985-2020. The database that is used for this process is SDC Platinum. SDC Platinum contains data from more than 200,000 joint ventures and strategic alliances worldwide, categorized through country and industry. From SDC platinum, the following variables are derived: JV venture name and industry, start and possible end dates of the JV and partner name, nation and industry. From this dataset followed a selection process based on the following criteria: the JV must be an IJV, a dual structure, started between 2015-2017, formed by Indian partners from the business service industry and the Indian partner had never participated in an IJV before 2015. Additionally, the Indian partner did not participate in more than one IJV after 2015. The second stage consisted of matching the domestic partners in the identified IJVs to their (financial) data. This data is provided by the Orbis database, which provides financial data on more than 79 million companies from all over the world. It is important to note that many firms dropped from the sample in this stage due to insufficient data. Only firms that have enough pre- and post-IJV data have been selected. Another important note is that this sample of IJV firms consists only of firms that remained in the IJV during the investigated period. So there are no firms in the sample which left their IJV. In the third stage, the sample of domestic firms that participated in an IJV is expanded with Indian firms that did never participate in an IJV. This was verified by SDC Platinum. These Indian firms are from the same industry (US SIC 73 code), with similar characteristics as the domestic firms that did participate in an IJV. Only firms from the same peer group as the treated subjects – a variable that is explained in section 3.4 – stay in the sample to compare similar size firms. Again, Orbis was used to select these firms and get

their (financial) data. Only firms that had sufficient data in Orbis were added to the sample, in order to make useful comparisons with IJV firms. So only non-IJV firms which have enough data on variables for the pre-IJV as well as the post-IJV period.

3.3 Economic performance variables and IJV variables

The three economic performance variables used in this thesis are operating revenue, ROA and profit margin. Operating revenue is given in US dollars and measures the revenue that a firm earns from its main business activities. It is a measure of the scale at which firms conduct their operations and therefore an interesting indicator of the size of the firms in my sample. Increased operating revenues of IJV firms compared to non-IJV firms may indicate firm growth for these firms. In order to make useful comparisons between firms, operating revenue is transformed to its natural logarithm. The variable name is *Rev*. Moreover, I will look at the changes in ROA. ROA is defined as net income divided by average total assets, expressed in percentages. ROA measures how effective firms are in converting their assets into profits and is a widely used measure of performance in strategic management literature as well as performance of IJVs (Zhang et al., 2007). If firms that participate in IJVs increase their ROA compared to firms that did not participate in an IJV, this measure could indicate that participating in an IJV increases firm efficiency in operations. Lastly, profit margin is expressed in percentages and calculated by dividing the profit or loss after tax by operating revenue. It is a measure of firm profitability and its relative nature enables to compare small, medium and large companies. It is interesting to see if firms that engage in an IJV benefit in terms of their profit margin compared to firms that did not. ROA and profit margin are given by the variables names *ROA* and *Pm*. The first main independent variable is a binary variable that indicates whether a firm was in an IJV in the year of interest. This variable is defined as *IJV* and equal to 1 when a firm was in an IJV in the respective year and 0 otherwise. Lastly, the variable *in_IJV* is a dummy variable, indicating whether a firm formed an IJV during 2015-2017. This takes value 1 if the firms joined an IJV and is 0 for firms that did not join an IJV. Therefore, *in_IJV* is time invariant within the firm. From now on when IJV is in italics, I am referring to the variable IJV. So *IJV* or *in_IJV* are the variables used in the analyses and IJV refers to the concept of IJV.

3.4 Partner selection variables

The dataset includes additional firm variables in order to make useful comparisons between IJV firms and non-IJV firms. These variables are based on the financial measures and characteristics of firms that have been identified by partner selection literature described in section 2.2. It is important to note that only the pre-IJV values of these variables from the IJV firms are used. As measurers of firm resources and size, the natural logarithm of operating revenue is also included as independent variable (*LnRev*). Moreover, *ROA* and *Pm* are used as the second and third explanatory variables. These global

ratios serve as operational and profitability measures which signal existing profitable operations. In addition to operating revenue, the number of employees can also be seen as a measure of firm size. Due to insufficient data, cost of employees was chosen as a rough proxy of the number of employees. This is given in US dollars and indicated by the variable *CoEmpl*. To include a measure of firm capital, the variable *Capital* is added. This represents the capital of a firm on their balance sheet. Although intangible resources were identified as important partner selection criteria, they are hard to measure. I chose to proxy these intangible resources by the intangible assets of firms on their balance sheet. This is the stock of reported intangible fixed assets and given by the variable *Intang*. Again, to facilitate useful comparisons all currency variables are transformed to their natural logarithms. This means that *CoEmpl*, *Capital* and *Intang* are transformed to their natural logarithms. Furthermore, firm age is included and represents the year of incorporation. Firm age can be a measure of firm experience and is indicated by the variable *Age*. Lastly, to control for industry specific effects the variable *PeerGroupSize* is added. This variable contains information about the size of the industry in which firms are located and thus categorizes firms in their respective industry. Firms from the same peer group have the same peer group size. The value is based on a more detailed industry description than US SIC 73 and is calculated by Orbis based on NACE Rev. 2 industry classification. Peer group size enables more reliable comparisons between companies.

3.5 Descriptive statistics

Figures 1, 2 and 3 show the evolution of the economic performance variables of non-IJV and IJV firms over time. Figure 1 shows that IJV firms have considerably higher operating revenues than non-IJV firms and this difference increases over time. Where in 2015 the IJV firms have operating revenues around twice as large as non-IJV firms, in 2020 this difference is almost three times as large. Moreover, Figure 2 reveals that the ROA of Indian firms that participated in an IJV turns from positive to negative values during the investigated period. For non-IJV firms, the ROA stays relatively stable during 2013-2020. Figure 3 shows that the profit margins of IJV firms fluctuate over time, whereas non-IJV firms have relatively stable and steadily increasing profit margins. Important to note is that there are only 30 IJV firms in this sample and over 1,500 non-IJV firms. This large difference in treated and non-treated firms definitely influences the means observed in Figures 1 to 3. Table 1 and 2 of the appendix give a more detailed picture of the characteristics of IJV firms and non-IJV firms. Figure 1 of the appendix shows the nationalities of the foreign partners: there are 14 different countries in total but almost half of the foreign partners is a firm from the United States.

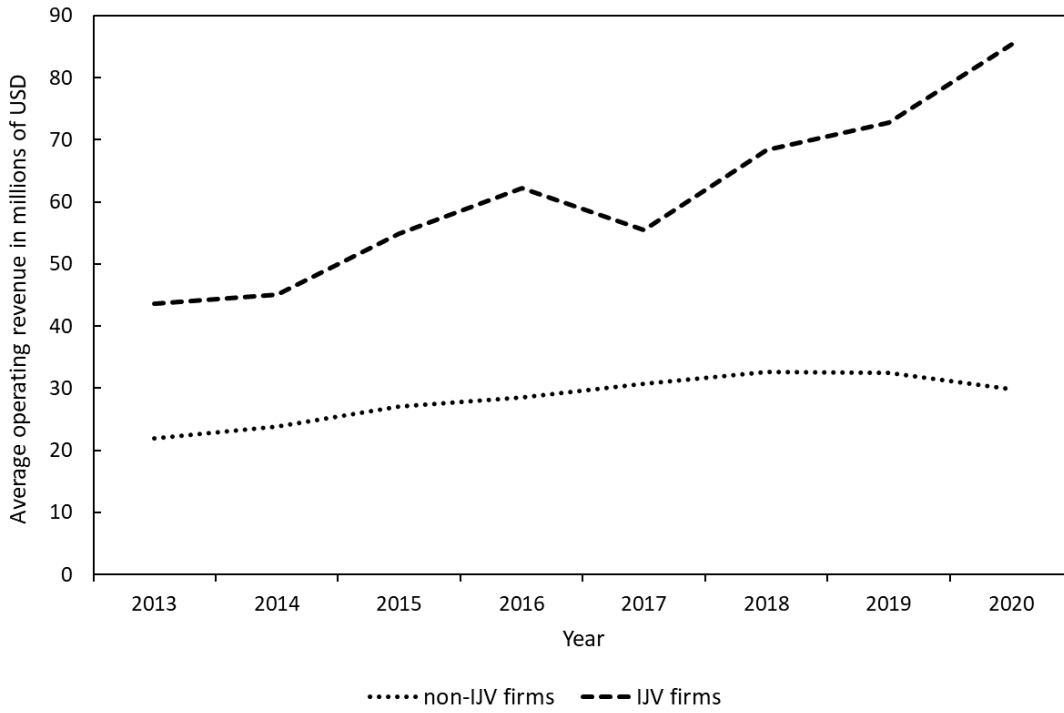


Figure 1: Average operating revenues of Indian IJV firms and non-IJV firms during 2013-2020

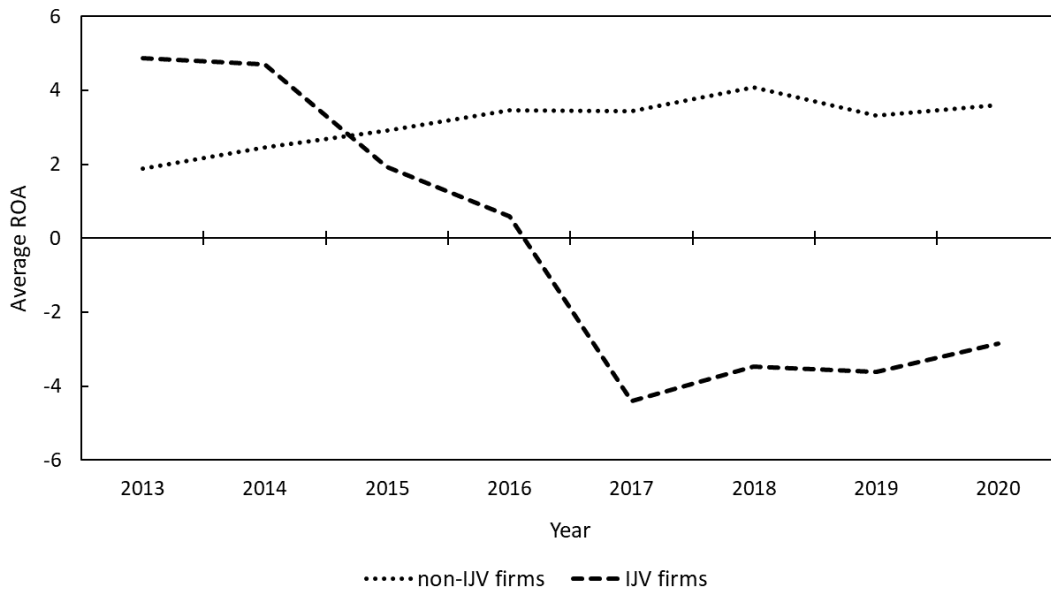


Figure 2: Average ROA of Indian IJV firms and non-IJV firms during 2013-2020

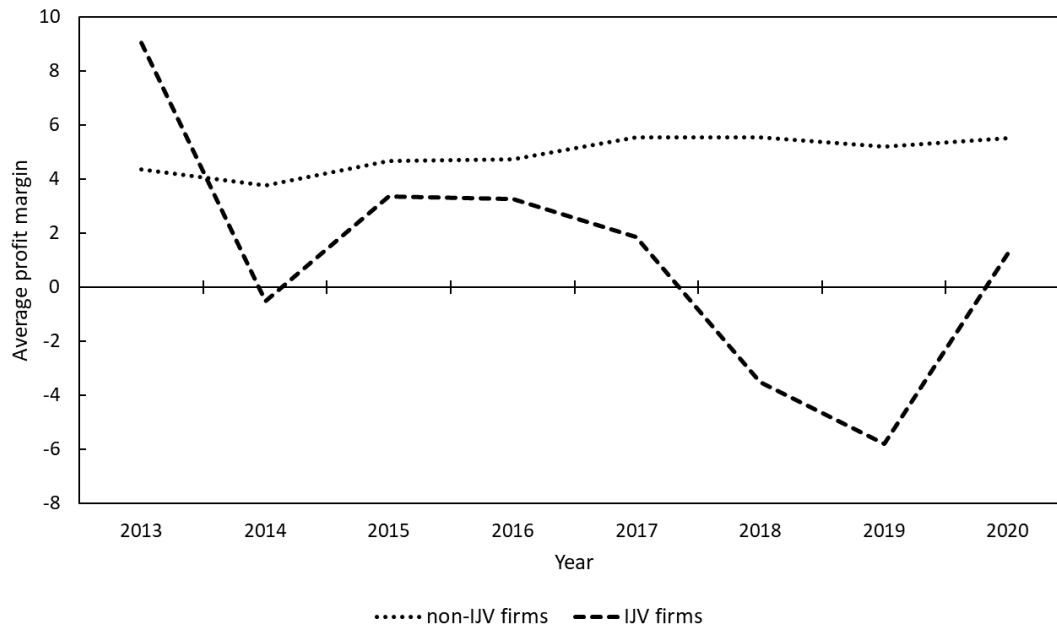


Figure 3: Average profit margins of Indian IJV firms and non-IJV firms during 2013-2020

4. Methodology

This section describes the methodology used in this thesis. Section 4.1 focusses on the two-way fixed effects estimation. Section 4.2 outlines two matching techniques. The two-way fixed effects estimation and the two matching techniques will estimate the aggregate impact of IJVs on the economic performance measures during the whole period after IJV formation, being 2017 to 2020. Additionally, the two matching methods estimate the impact of IJVs on economic outcomes in every individual year after IJV formation.

4.1 Two-way fixed effects estimation

The first method of the analysis consists of estimating a staggered difference-in-difference model using two-way fixed effects. This method estimates the general impact of entering an IJV on the economic performance of firms conditional on firm and time fixed effects. It does so by comparing the post-IJV performance variables of the treated and non-treated firms. It therefore rather serves as a first step in showing whether IJVs have some effect on the economic performance of partner firms compared to firms that did not start an IJV. This is a staggered difference-in-difference model, as the firms are treated in multiple time periods. Standard errors will be clustered based on industry.

$$y_{it} = a_i + \beta_1 * IJV * + \lambda_t + \varepsilon_{it}$$

In this equation, y_{it} indicates the relevant economic performance variable from firm i in year t . The variable a_i indicates individual unit fixed effects and λ_t are time period fixed effects. The variable IJV is the main independent variable. It indicates the treated individuals in the treated time periods, so firms that joined an IJV in the period after IJV formation. The variable IJV is equal to 1 if the individual firm was in an IJV in the respective year and 0 otherwise. Therefore, the coefficient β_1 estimates the impact of entering an IJV on the economic performance of Indian firms after IJV formation compared to Indian non-IJV firms. Finally, ε_{it} represents the error term.

4.2 Matching techniques

To check whether the results hold and make comparisons between firms that are more closely related, I will use two matching techniques that investigate the same hypotheses. I will match Indian firms who started an IJV to Indian firms that did never start an IJV based on their individual variables. The variables on which the firms are matched are eight pre-IJV variables, being \ln operating revenue, ROA, profit margin, \ln cost of employees, \ln capital, \ln intangible assets, firm age and peer group size. This matching process tries to simulate that companies in the period before IJV formation had similar characteristics and therefore had similar chances of being selected as IJV partner. Subsequently, the estimated coefficient should reflect the difference in outcome variables after IJV formation, where being in an IJV is the only variable responsible for this difference. The treatment variable in the matching techniques is in_IJV . The number of years that firms are ultimately matched on differs per treated firm due to different treatment years and insufficient data. For example, firms that started an IJV in 2015 are matched on pre-IJV variables from 2013 and 2014 if enough data from these years is available. Likewise, firms that started an IJV in 2017 can be matched on pre-IJV variables from 2013 to 2016. Ultimately, every IJV is matched to a non-IJV firm based on at least one pre-IJV year. The large difference in IJV and non-IJV firms makes it possible to match the IJV firms to more than one non-IJV firm. Every IJV firm is matched to five different non-IJV firms.

Nearest neighbor matching

The first matching technique is nearest neighbor matching. Nearest neighbor matching relies on matching individual observations to their closest individual observations, based on the eight specified individual characteristics. IJV firms are thus matched to non-IJV firms that are most comparable based on pre-IJV variables. After each IJV firm is matched to non-IJV firms, firms are compared on the three economic performance variables in the period after the IJV firm joined an IJV. The first estimation compares the economic performance variables after 2017. The second part of the nearest neighbor matching compares the performance measures of the individual years.

Propensity score matching

The second matching technique is propensity score matching. With propensity score matching, individuals are not matched on the individual characteristics itself but on the probability that they are in the treatment group. In my case, Indian firms are matched on the estimated propensity score that they end up in an IJV. This propensity score is calculated from the eight observed pre-IJV variables: it is the likelihood that a firm enters or ends up in an IJV based on its pre-IJV variables. The first stage of propensity score matching consists of computing this propensity score for the firms, by estimating a logit model where in_IJV is the dependent variable and the eight pre-IJV variables are the independent variables. In the second stage, firms are matched based on this propensity score and compared on the three economic performance variables after IJV formation. This is the aggregate impact of IJVs on economic performance. Furthermore, these performance measures are also investigated separately for each post-IJV year.

5. Results

This section presents the results of the three statistical methods. Section 5.1 shows the results of the two-way fixed effects estimation. Section 5.2 shows the outcomes of the implementation of the matching techniques. The results of the year-by-year analyses are in the appendix.

5.1 Results of two-way fixed effects estimation

Table 1 presents the results of the two-way fixed effects estimation applied to a staggered difference-in-difference. The coefficient $\beta_1 * IJV$ on $Ln(Rev)$ is positive but insignificant. Additionally, the coefficient $\beta_1 * IJV$ is negative for profit margin but also insignificant. However, the coefficient $\beta_1 * IJV$ is negative and significant when ROA is the dependent variable. This means that the ROA is lower for Indian firms that participate in an IJV during 2015-2017 compared to Indian non-IJV firms. To be precise, Indian IJV firms have ROA that are 5.35% lower than Indian non-IJV firms in the period after IJV formation. The R_2 in the ROA model is 0.007, suggesting that 0.7% of the variation in ROA can be explained by the $\beta_1 * IJV$ coefficient.

Table 1: Estimated impact of participating in an IJV on the economic performance of Indian firms compared to Indian non-IJV firms using two-way fixed effects

	Ln(Rev)	ROA	Profit margin
$\beta_1 * IJV$	0.077	-5.352**	-4.363
	(0.173)	(2.160)	(6.127)
Firm fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
R^2	0.099	0.007	0.004
N	12,879	12,778	12,537

Notes: this table presents the results of the two-way fixed effects estimation, estimating the impact of Indian firms participating in an IJV during 2015-2017 on their economic performance after IJV formation compared to Indian non-IJV firms. The coefficient $\beta_1 * IJV$ displays the impact of participating in an IJV in the period after IJV formation. Ln(Rev) represents the percentage difference in operating revenue; ROA and profit margin are given in percentages. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.

5.2 Results of matching techniques

Table 2 shows the results of the nearest neighbor matching analysis. Being in an IJV during 2015-2017 has a positive and significant impact on the operating revenues of IJV firms compared to firms that did not participate in an IJV. Firms that are in an IJV have operating revenues that are 24.1% higher in the period after IJV formation compared to non-IJV firms. Table 3 of the appendix reveals that this difference in operating revenue stays relatively stable over time, also with significant coefficients. Column 2 displays a negative and highly significant coefficient of in_IJV on ROA. This means that IJV firms have ROA that are 4.86% lower on average than non-IJV firms in the period after IJV formation. Lastly, the coefficient in_IJV in column 3 is also highly significant and negative with profit margin as dependent variable. Firms in IJVs have profit margins which are 12.56% lower on average in the period after IJV formation compared to non-IJV firms. Table 4 and Table 5 of the appendix show also negative significant in_IJV coefficients with ROA and profit margin inspecting year-by-year. These differences between IJV firms and non-IJV firms become larger from 2017 to 2019 but decrease substantially in the last year of investigation 2020. The negative differences in 2020 are half the value of the differences in 2019.

Table 2: Estimated impact of participating in an IJV on the economic performance of Indian firms compared to Indian non-IJV firms using nearest neighbor matching

	Ln(Rev)	ROA	Profit margin
<i>in_IJV</i>	0.241**	-4.856***	-12.555***
	(0.071)	(1.242)	(2.634)
N	3,784	3,770	3,719

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their economic performance after IJV formation compared to Indian non-IJV firms using nearest neighbor matching. The coefficient *in_IJV* displays the impact of participating in an IJV. Ln(Rev) represents the percentage difference in operating revenue; ROA and profit margin are given in percentages. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.

Table 3 gives the results of the propensity score matching analysis. This time the *in_IJV* coefficient is positive for operating revenue but insignificant. Table 6 of the appendix even shows negative results in the years 2017 and 2020. However, the *in_IJV* coefficient is negative and highly significant with ROA as dependent variable. Using propensity score matching, firms that participate in an IJV have ROA which are 3.23% lower on average in the period after IJV formation compared to firms that did not participate in an IJV. Similar results are found with profit margin as dependent variable. The *in_IJV* coefficient is negative and highly significant, indicating that IJV firms have on average 4.75% lower profit margins in the period after joining the IJV compared to non-IJV firms. The results of Table 7 and Table 8 in the appendix from the year-by-year analysis indicate negative significant coefficients for *in_IJV* with ROA and profit margin as dependent variables. Similar as the nearest neighbor matching specification, these differences grow over time. However, with propensity score matching the differences become smaller from 2019 instead of 2020.

Table 3: Estimated impact of participating in an IJV on the economic performance of Indian firms compared to Indian non-IJV firms using propensity score matching

	Ln(Rev)	ROA	Profit margin
<i>in_IJV</i>	0.069	-3.226***	-4.750***
	(0.069)	(0.952)	(1.946)
N	3,784	3,770	3,719

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their economic performance after IJV formation compared to Indian non-IJV firms using propensity score matching. The coefficient *in_IJV* displays the impact of participating in an IJV. Ln(Rev) represents the percentage difference in operating revenue; ROA and profit margin are given in percentages. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

6. Discussion

In this section, I will discuss the results obtained in section 5. In section 6.1 I will interpret the findings, relate them to the hypotheses and compare them with findings from IJV literature. Section 6.2 presents the limitations of the research design and the analysis. Finally, I will indicate directions for future research.

6.1 Discussion of results

This thesis' empirical analysis on the impact of IJVs on the economic performance of domestic partners in an emerging economy has several implications. First, the findings provide no clear empirical evidence for hypothesis 1, which states that Indian firms in IJVs have higher operating revenues in the period after IJV formation compared to Indian firms not in IJVs. Although the *in_IJV* coefficient has a positive and highly significant impact on operating revenue in the nearest neighbor matching specification, the coefficients in the two-way fixed effects estimation and propensity score matching analysis are insignificant. Furthermore, the year-by-year analyses shows positive significant coefficients with nearest neighbor matching but also negative coefficients with propensity score matching. These findings are not in line with the previous findings that partners of IJVs in emerging economies have higher TFP compared to non-IJV firms (Djankov & Hoekman, 2000; Nakamura & Nakamura, 2004). Even though these papers use TFP which is a different measure than operating revenue, both measures indirectly reflect firm output and growth. The empirical results show no support for hypothesis 2, which states that Indian IJV firms have higher ROA after joining an IJV compared to Indian non-IJV firms. On the contrary, the results provide empirical evidence for the opposite relationship. Being in an IJV is significantly associated with lower ROA compared to Indian

non-IJV firms. This significant negative relationship is found consistently across all three specifications, whereby the coefficients have relatively equal size ranging from -3.23% to -5.35%. Furthermore, moderate empirical evidence is found for the negative impact of IJVs on profit margins. This rejects hypothesis 3 which states that IJV firms have higher profit margins after IJV formation compared to Indian non-IJV firms. Two out of three analyses show significant coefficients and all three find negative relationships. Additionally, the year-by-year analyses of ROA and profit margin show solely negative results. These results contrast with the earlier findings of Jiang et al. (2018) who found increased performance of IJV firms compared to non-IJV firms and with the insights of Bai et al. (2020) who found increased quality upgrading at IJV firms. Moreover, the results do not match the findings that IJVs can facilitate processes which could lead to increased performance, like knowledge spillovers and access to financial capital and new customers (Lane et al., 2001; Reuer & Ragozzino, 2014; Tatoglu & Glaister, 2000). However, it must be said that there is some inconsistency in the size of the coefficients. Although the coefficients are relatively close to each other in terms of size in the estimations with ROA as dependent variable, there is much more inconsistency in the estimates of operating revenue and profit margin across the three models. The coefficients in the nearest neighbor matching estimation are systematically higher compared to the coefficients of the two-way fixed effects and propensity score matching estimation. It is therefore difficult to assess how big the impact of IJVs on economic performance really is.

What could be reasons behind these negative outcomes? The literature contains few findings that confirm and explain these negative results but I offer five possible explanations. IJV instability which is often found to be present in emerging economies (Luo et al., 2019; Xu & Meyer, 2013), could serve as an explanation of why the domestic partners perform worse compared to non-partner firms in the first years of IJV operations. It could take considerable time and resources for a firm to set up and maintain an IJV for the first time, which could translate to its own financial performance. Mahmood and Zheng (2009) stated for example that emerging economy firms should think about the amount of resources they spend during the IJV, as this could come at the expense of their own organizational processes. In addition, the fact that emerging economies are characterized by fast changing market conditions and usually have IJVs which are relatively short-lived compared to IJVs in developed economies (Meschi & Wassmer, 2013), could be reasons that IJV firms face additional external challenges after IJV formation. Keeping in mind that the IJV firms in this sample started an IJV for the first time ever could also be an explanation for finding predominantly negative results. After all, past IJV experience was found to be of particular importance for performance in emerging economies (Sim & Ali 1998). Having no experience with setting up an JV could also lead to increased partner opportunism of foreign partners, which was especially present in emerging economies (Luo, 2007). Moreover, domestic partners do not

always end up with reaping the benefits of IJVs. IJVs can be motivated by and primarily focused on cheaper manufacturing or distribution costs for foreign partners instead of facilitating knowledge transfer (Gomes-Casseres et al., 2006; Mahmood & Zheng; 2009). In addition to this, Parameswar et al. (2018) found that although Indian firms believe that entering an IJV provides them with the possibility to learn from their foreign partners, these foreign partners mainly focus on exploring the market when starting an IJV. Partner interaction or the potential positive influences of foreign partners may therefore be missing in the IJV, which could have a negative impact on the performance of the domestic partner firms.

The results indicate that Indian firms that participated in an IJV have significant lower ROA and lower profit margins in the first years after IJV formation compared to non-IJV firms. Although these are interesting findings for the managements of domestic IJV parent firms, these findings must be interpreted with caution. This has to do with the fact that apart from financial outcomes, there could be other factors that managers of partner firms care about when deciding to form an IJV with a foreign firm. As described in section 2.3, section 2.4 and section 2.5, domestic firms could strive for learning technical or management knowledge, new technologies or follow on opportunities (Luo et al., 2001; Park, 2010; Reuer & Ragozzino, 2014; Shenkar & Li, 1999; Tatoglu & Glaister, 2000). These are all valuable processes which are not directly reflected by the chosen economic performance variables. So to conclude that IJVs have a solely negative impact on domestic partners in emerging economies is too short-sighted. Especially when you think that this analysis looked at the performance three or five years after IJV formation and as was found in the year-by-year analysis, the negative differences decreased in the last post-IJV years. This could indicate that the benefits of IJVs in terms of financial performance take some time to develop. Nevertheless, it is interesting to see that firms that are in an IJV have lower financial results in the first years after formation compared to non-IJV firms. As Choi and Beamish (2004) indicated, financial outcomes as ROA could be correlated to manager satisfaction with the JV.

6.2 Limitations and suggestions for future research

The results of this thesis need to be interpreted with caution as the analysis is subject to several limitations. First, the number of Indian IJV firms in this sample is small, especially compared to the number of non-IJV firms. This means that the calculated coefficients are computed on 30 firms only. A reason for this small sample size is the research design, which investigates only Indian business service firms who entered an IJV for the first time during 2015-2017. However, the main reason is that only firms with significant (financial) data from Orbis were included in the sample in order to conduct an useful analysis. 2015-2017 was also the most complete recent period available. The consequence is that many firms who were identified as treated firm in the first stage of the data collection procedure

were eventually removed from the sample in the second stage. If future researchers are able to get data on these firms, perhaps with a different database than Orbis, this would improve the analysis. Additionally, limited data caused inconsistency in the number of pre-IJV years that treated firms were matched on. Some firms are only matched based on variables from one pre-IJV year, other firms are matched on four pre-IJV years. If it had been possible to match each treated firm to an equal number of pre-IJV years, this would have strengthened the validity of the results. Moreover, the fact that only the US SIC 73 industry firms are used in the analysis decreases the sample size. The 73-industry was deliberately chosen as the 737-industry accounted for to the highest amount of FDI inflow in India. Nevertheless, it would be interesting for further research to take different industries in India or include multiple industries in the analysis. This would not only increase the sample size and the validity of the results but also present a broader picture of the impact of IJVs on economic performance. Another consequence of limited data is that my sample only includes firms which are in an IJV that remained active during the investigated period. Although JV survival does not indicate either good or bad firm performance (Kumar, 2005; Lyles & Barid, 1994), having no firms in my sample that started as well as ended their IJV during the investigated period could bias the results. Again, including these firms when data is available would help to improve the validity of the results. Lastly, Figure 1 of the appendix revealed that almost half of the foreign partners were US firms. This imbalance is another reason to argue that the results should be interpreted with caution and not generalized, as the high percentage of US partners could bias the results. Literature showed that differences in partner culture has a significant influence on IJV performance, especially in India (Damanpour et al., 2012; Pothukuchi et al., 2002; Yeheskel et al., 2001). Future researchers could therefore look if the nationality of foreign partners can also explain differences in the performance of domestic firms. In line with this new area of research lies the possibility to dive deeper in the possible variation in economic performance within IJV firms by examining the different characteristics of IJV relationships. Apart from investigating foreign partner origin, there are other interesting subjects like how multiple partners affect performance, if different geographic locations influence performance or if the equity division between partners has an effect on the economic outcomes. Literature suggests that different equity stakes of partners influence the performance of the IJV (Choi & Beamish, 2004; Ramaswamy et al., 1998; Steensma & Lyles, 2000; Yan & Gray, 1994). Do different equity stakes also influence the economic performance of the partner firms?

A major limitation of this research has to do with the selection of the partner selection criteria. The analysis relied on matching on or controlling for observable (financial) characteristics who serve as partner selection variables before the IJV period. However, it is still very difficult to compare firms without having endogeneity concerns. The eight chosen variables are far from complete in controlling

for the fact that the IJV and non-IJV firms could be inherently different from each other before IJV formation. Based on these variables only, it is difficult to assume that the two groups are similar in their chances to end up in an IJV and only different in terms of IJV status afterwards. For example, what to think about the more intangible partner selected variables like trust, skilled managers and technical, local market or institutional knowledge? Firms could differ in this difficult to observe variables in the pre-IJV period that shape the observed differences in economic performance. Moreover, this thesis took the perspective of Indian firms most likely to be selected by foreign firms. This partially neglect the fact that Indian firms can also be on the other side of the table, seeking for foreign firms as partners. Domestic firms could inherit specific characteristics which make them more likely to seek an foreign partner and end up in an IJV. This different perspective was not part of this thesis and therefore the characteristics associated with foreign partner selection are not included in this thesis. I would like to highlight the statement from Geringer (1991) from section 2.2 again that every IJV relationship is unique and that it is difficult to identify all specific selection criteria. The fact is that IJV selection is a non-random process, in which partner choice is determined by many factors. However, this study attempted to compare the two groups based on eight factors that are important pre-IJV. Conclusions may therefore only be drawn on this basis and this setting of Indian business services firms. In line with these endogeneity concerns that characterize studies about IJV partner selection, is the limitation that the three statistical methods all have their own endogeneity concerns because they rely on selection on observable variables only or cannot account for time-varying characteristics (Baker et al., 2022; Hill et al., 2020; Schleicher et al., 2020). An additional problem of propensity score matching is that firms with similar propensity could still be very different in terms of their underlying characteristics (King & Nielsen, 2019). The two-way fixed effects estimation and two different matching techniques provide at least consistent results based on the eight chosen variables. These methods do not provide an actual unbiased (causal) coefficient for IJVs. So again and to summarize, the estimated coefficients in this study must be interpreted with caution as the results might be a product of the research design rather than reflecting the true impact of IJVs.

In line with the notion that financial outcomes are not the only measures that count, future research could add different performance measures to the model. This new line of research could test if other firm outcome variables like satisfaction or learning complement the negative results found in this thesis. This could be done by survey data, where questionnaires are send to the board or managers of the IJV partner firms in which they indicate firm performance on other dimensions than financial variables. Survey data could also be used to gain more insight into the intangible aspects around partner selection. For example, this thesis proxied intangible assets by intangible fixed assets on the balance sheet of firms, but a subjective measure of intangible resources might be more valuable and

realistic in this case. Another suggestion for measuring different performance dimensions is to include proxies for technical knowledge or learning like patent data or R&D expenditures. This would give a more complete picture of the performance of IJV partners. Finally, this study focused on short term economic performance, observing financial variables three to five years after IJV formation. It would be interesting to look if the negative results also hold over a longer time period say ten to fifteen years, or that the results turn positive over time. After all, the year-by-year analysis indicated that the differences became smaller over time. Future studies could investigate this long- versus short-term impact of IJV on domestic firms by taking an earlier time period or by extending the post-IJV years.

7. Conclusion

The aim of this thesis was to determine the impact of IJVs on the economic performance of domestic partner firms in an emerging economy. This research investigated the Indian business service industry, selecting domestic firms who started an IJV for the first time during 2015-2017. The firms were compared to Indian firms that did never participated in an IJV based on eight pre-IJV variables. Using a two-way fixed effects estimation and two matching techniques, the results were the following. Although Indian IJV firms have higher operating revenues after IJV formation than Indian non-IJV firms, no significant empirical evidence is found for this positive relationship. Additionally, Indian IJV firms have lower ROA and profit margins than Indian non-IJV firms in the first four years following IJV formation. These findings were significant for ROA in all specifications and moderately significant for profit margins in two specifications. Moreover, these negative differences hold when analyzing each individual post-IJV year separately. Despite the fact that the results of this thesis should be interpreted with caution, the impact of IJVs on domestic partner firms compared to non-IJV firms thus appears to be negative for at least two economic performance measures. Possible explanations are characteristics of IJVs in emerging economies: IJV instability, fast changing market conditions, no previous IJV experience, foreign partner opportunism and failed partner interaction in terms of knowledge transfer. Setting up and maintaining an IJV could cost partner firms considerable time and resources in the first years of operations which could translate to their own financial results. It could also represent processes of learning, acquiring new technologies and accessing new markets. Processes that could lead to initial financial disadvantages compared to non-IJV firms but could ultimately facilitate long-term improved economic performance of IJV firms.

Bibliography

- Acquaah, M. (2009). International joint venture partner origin, strategic choice, and performance: a comparative analysis in an emerging economy in Africa. *Journal of International Management*, 15(1), 46-60.
- Ainuddin, R.A., Beamish, P.W., Hulland, J.S. & Rouse, M.J. (2007). Resource attributes and firm performance in international joint ventures. *Journal of World Business*, 42(1), 47-60.
- Ariño, A. (2003). Measures of strategic alliance performance: an analysis of construct validity. *Journal of International Business Studies*, 34(1), 66-79.
- Bai, J., Barwick, P.J., Cao, S. & Li, S. (2020). Quid pro quo, knowledge spillover, and industrial quality upgrading: evidence from the Chinese auto industry (No. w27644). National Bureau of Economic Research.
- Baker, A.C., Larcker, D.F. & Wang, C.C. (2022). How much should we trust staggered difference-in-differences estimates? *Journal of Financial Economics*, 144(2), 370-395.
- Boateng, A. & Glaister, K.W. (2002). Performance of international joint ventures: evidence for West Africa. *International Business Review*, 11(5), 523-541.
- Boateng, A. & Glaister, K.W. (2003). Strategic motives for international joint venture formation in Ghana. *MIR: Management International Review*, 43(2), 107-128.
- Brouthers, K.D. & Bamossy, G.J. (2006). Post-formation processes in Eastern and Western European joint ventures. *Journal of Management Studies*, 43(2), 203-229.
- Buckley, P.J. & Casson, M.C. (1998). Analyzing foreign market entry strategies: extending the internalization approach. *Journal of International Business Studies*, 29(3), 539-561.
- Child, J. & Yan, Y. (2003). Predicting the performance of international joint ventures: an investigation in China. *Journal of Management Studies*, 40(2), 283-320.
- Choi, C.B. & Beamish, P.W. (2004). Split management control and international joint venture performance. *Journal of International Business Studies*, 35(3), 201-215.
- Chowdhury, J. (1992). Performance of international joint ventures and wholly owned foreign subsidiaries: a comparative perspective. *MIR: Management International Review*, 32(2), 115-133.

- Damanpour, F., Devece, C., Chen, C.C. & Pothukuchi, V. (2012). Organizational culture and partner interaction in the management of international joint ventures in India. *Asia Pacific Journal of Management*, 29(2), 453-478.
- Das, T.K. & Teng, B.S. (2000). A resource-based theory of strategic alliances. *Journal of Management*, 26(1), 31-61.
- Delios, A. & Beamish, P.W. (2004). Joint venture performance revisited: Japanese foreign subsidiaries worldwide. *MIR: Management International Review*, 44(1), 69-91.
- Djankov, S. & Hoekman, B. (2000). Foreign investment and productivity growth in Czech enterprises. *The World Bank Economic Review*, 14(1), 49-64.
- Dong, L. & Glaister, K.W. (2006). Motives and partner selection criteria in international strategic alliances: perspectives of Chinese firms. *International Business Review*, 15(6), 577-600.
- Dunning, J.H. (2000). The eclectic paradigm as an envelope for economic and business theories of MNE activity. *International Business Review*, 9(2), 163-190.
- Geringer, J.M. (1991). Strategic determinants of partner selection criteria in international joint ventures. *Journal of International Business studies*, 22(1), 41-62.
- Gill, J. & Butler, R.J. (2003). Managing instability in cross-cultural alliances. *Long Range Planning*, 36(6), 543-563.
- Glaister, K.W. (1996). UK-Western European strategic alliances: motives and selection criteria. *Journal of Euromarketing*, 5(4), 5-35.
- Glaister, K.W. & Buckley, P.J. (1997). Task-related and partner-related selection criteria in UK international joint ventures. *British Journal of Management*, 8(3), 199-222.
- Gomes-Casseres, B., Hagedoorn, J. & Jaffe, A.B. (2006). Do alliances promote knowledge flows? *Journal of Financial Economics*, 80(1), 5-33.
- Hagedoorn, J., Cloudt, D. & Van Kranenburg, H. (2005). Intellectual property rights and the governance of international R&D partnerships. *Journal of International Business Studies*, 36(2), 175-186.
- Hennart, J.F. (1988). A transaction costs theory of equity joint ventures. *Strategic Management Journal*, 9(4), 361-374.
- Hennart, J.F. (1991). The transaction costs theory of joint ventures: an empirical study of Japanese subsidiaries in the United States. *Management Science*, 37(4), 483-497.

- Hennart, J.F., Kim, D.J. & Zeng, M. (1998). The impact of joint venture status on the longevity of Japanese stakes in US manufacturing affiliates. *Organization Science*, 9(3), 382-395.
- Hennart, J.F. & Reddy, S. (1997). The choice between mergers/acquisitions and joint ventures: the case of Japanese investors in the United States. *Strategic Management Journal*, 18(1), 1-12.
- Hill, T.D., Davis, A.P., Roos, J.M. & French, M.T. (2020). Limitations of fixed-effects models for panel data. *Sociological Perspectives*, 63(3), 357-369.
- Hitt, M.A., Ahlstrom, D., Dacin, M.T., Levitas, E. & Svobodina, L. (2004). The institutional effects on strategic alliance partner selection in transition economies: China vs. Russia. *Organization Science*, 15(2), 173-185
- Hitt, M.A., Dacin, M.T., Levitas, E., Arregle, J.L. & Borza, A. (2000). Partner selection in emerging and developed market contexts: resource-based and organizational learning perspectives. *The Academy of Management Journal*, 43(3), 449–467.
- India Brand Equity Foundation. Foreign Direct Investment (2022). Retrieved from <https://www.ibef.org/economy/foreign-direct-investment>
- Inkpen, A.C. & Beamish, P.W. (1997). Knowledge, bargaining power, and the instability of international joint ventures. *Academy of Management Review*, 22(1), 177-202.
- Islam, S., Ali, M.Y. & Sandhu, M.S. (2011). Partner selection criteria in international joint ventures: perspectives of foreign investors from Asian NIEs of Malaysia and India. *Asia Pacific Business Review*, 17(1), 25-43.
- Isobe, T., Makino, S. & Montgomery, D.B. (2000). Resource commitment, entry timing, and market performance of foreign direct investments in emerging economies: the case of Japanese international joint ventures in China. *Academy of Management Journal*, 43(3), 468-484.
- Jiang, K., Keller, W., Qiu, L.D. & Ridley, W. (2018). International joint ventures and internal vs. external technology transfer: evidence from China (No. w24455). National Bureau of Economic Research.
- Jiang, X., Li, Y. & Gao, S. (2008). The stability of strategic alliances: characteristics, factors and stages. *Journal of International Management*, 14(2), 173-189.
- Kapoor, M. & Aggarwal, V. (2021). Comprehending a knowledge framework as a source of dynamic capabilities in IJVs through PLS-SEM. *Journal of Knowledge Management*, 25(4), 920–942.
- Killing, J.P. (1982). How to make a global joint venture work. *Harvard Business Review*, 60(3).

- King, G. & Nielsen, R. (2019). Why propensity scores should not be used for matching. *Political Analysis*, 27(4), 435-454.
- Kogut, B. (1991). Joint ventures and the option to expand and acquire. *Management Science*, 37(1), 19-33.
- Konwar, Z., Ahammad, M.F., Tian, Y., Papageorgiadis, N., McDonald, F. & Wang, C. (2017). Dynamic marketing capabilities, foreign ownership modes, sub-national locations and the performance of foreign affiliates in developing economies. *International Marketing Review*, 34(5), 674–704.
- Kumar, M.S. (2005). The value from acquiring and divesting a joint venture: a real options approach. *Strategic Management Journal*, 26(4), 321-331.
- Kwok, F., Sharma, P., Gaur, S.S. & Ueno, A. (2019). Interactive effects of information exchange, relationship capital and environmental uncertainty on international joint venture (IJV) performance: an emerging markets perspective. *International Business Review*, 28(5), 101481.
- Lane, P.J., Salk, J.E. & Lyles, M.A. (2001). Absorptive capacity, learning, and performance in international joint ventures. *Strategic Management Journal*, 22(12), 1139-1161.
- Lee, C. & Beamish, P.W. (1995). The characteristics and performance of Korean joint ventures in LDCs. *Journal of International Business Studies*, 26(3), 637-654.
- Lu, J.W. & Beamish, P.W. (2006). Partnering strategies and performance of SMEs' international joint ventures. *Journal of Business Venturing*, 21(4), 461-486.
- Luo, Y. (1995). Business strategy, market structure, and performance of international joint ventures: the case of joint ventures in China. *MIR: Management International Review*, 35(3), 241-264.
- Luo, Y. (2002). Product diversification in international joint ventures: performance implications in an emerging market. *Strategic Management Journal*, 23(1), 1-20.
- Luo, Y. (2007). Are joint venture partners more opportunistic in a more volatile environment? *Strategic Management Journal*, 28(1), 39-60.
- Luo, Y. (2008). Procedural fairness and interfirm cooperation in strategic alliances. *Strategic Management Journal*, 29(1), 27-46.
- Luo, Y., Shenkar, O. & Nyaw, M.K. (2001). A dual parent perspective on control and performance in international joint ventures: lessons from a developing economy. *Journal of International Business Studies*, 32(1), 41–58.

- Luo, Y., Zhang, H. & Bu, J. (2019). Developed country MNEs investing in developing economies: progress and prospect. *Journal of International Business Studies*, 50(4), 633-667.
- Lyles, M.A. & Baird, I.S. (1994). Performance of international joint ventures in two Eastern European countries: the case of Hungary and Poland. *MIR: Management International Review*, 34(4), 313-329.
- Mahmood, I.P. & Zheng, W. (2009). Whether and how: effects of international joint ventures on local innovation in an emerging economy. *Research Policy*, 38(9), 1489-1503.
- Makino, S., Chan, C.M., Isobe, T. & Beamish, P.W. (2007). Intended and unintended termination of international joint ventures. *Strategic Management Journal*, 28(11), 1113-1132.
- Meschi, P.X. (2005). Environmental uncertainty and survival of international joint ventures: the case of political and economic risk in emerging countries. *European Management Review*, 2(2), 143-152.
- Meschi, P.X. & Riccio, E.L. (2008). Country risk, national cultural differences between partners and survival of international joint ventures in Brazil. *International Business Review*, 17(3), 250-266.
- Meschi, P.X. & Wassmer, U. (2013). The effect of foreign partner network embeddedness on international joint venture failure: evidence from European firms' investments in emerging economies. *International Business Review*, 22(4), 713-724.
- Meyer, K.E., Estrin, S., Bhaumik, S.K. & Peng, M.W. (2009). Institutions, resources, and entry strategies in emerging economies. *Strategic Management Journal*, 30(1), 61-80.
- Nakamura, M. (2005). Joint venture instability, learning and the relative bargaining power of the parent firms. *International Business Review*, 14(4), 465-493.
- Nakamura, A. & Nakamura, M. (2004). Firm performance, knowledge transfer and international joint ventures. *International Journal of Technology Management*, 27(8), 731-731.
- Nakos, G. & Brouthers, K.D. (2008). International alliance commitment and performance of small and medium-size enterprises: the mediating role of process control. *Journal of International Management*, 14(2), 124-137.
- Narula, R., Asmussen, C.G., Chi, T. & Kundu, S.K. (2019). Applying and advancing internalization theory: the multinational enterprise in the twenty-first century. *Journal of International Business Studies*, 50(8), 1231-1252.

- Narula, R. & Verbeke, A. (2015). Making internalization theory good for practice: the essence of Alan Rugman's contributions to international business. *Journal of World Business*, 50(4), 612–622.
- Nippa, M. & Reuer, J.J. (2019). On the future of international joint venture research. *Journal of International Business Studies*, 50(4), 555-597.
- Pan, Y., Li, S. & Tse, D.K. (1999). The impact of order and mode of market entry on profitability and market share. *Journal of International Business Studies*, 30(1), 81-103.
- Parameswar, N., Dhir, S. & Ongsakul, V. (2018). Purpose of international joint venture and interaction post termination. *Journal for Global Business Advancement*, 11(6), 687-705.
- Park, B.I. (2010). What matters to managerial knowledge acquisition in international joint ventures? High knowledge acquirers versus low knowledge acquirers. *Asia Pacific Journal of Management*, 27(1), 55-79.
- Park, S.H. & Russo, M.V. (1996). When competition eclipses cooperation: an event history analysis of joint venture failure. *Management Science*, 42(6), 875-890.
- Peng, M.W. (2003). Institutional transitions and strategic choices. *Academy of Management Review*, 28(2), 275-296.
- Pothukuchi, V., Damanpour, F., Choi, J., Chen, C.C. & Ho Park, S. (2002). National and organizational culture differences and international joint venture performance. *Journal of International Business Studies*, 33(2), 243-265.
- Ramaswamy, K., Gomes, L. & Veliyath, R. (1998). The performance correlates of ownership control: a study of US and European MNE joint ventures in India. *International Business Review*, 7(4), 423-441.
- Ren, H., Gray, B. & Kim, K. (2009). Performance of international joint ventures: what factors really make a difference and how? *Journal of Management*, 35(3), 805-832.
- Reuer, J.J. (2000). Parent firm performance across international joint venture life-cycle stages. *Journal of International Business Studies*, 31(1), 1-20.
- Reuer, J.J. & Ragozzino, R. (2014). Signals and international alliance formation: the roles of affiliations and international activities. *Journal of International Business Studies*, 45(3), 321-337.
- Reuer, J.J., Tong, T.W., Tyler, B.B. & Ariño, A. (2013). Executive preferences for governance modes and exchange partners: an information economics perspective. *Strategic Management Journal*, 34(9), 1104-1122.

- Robson, M.J., Katsikeas, C.S. & Bello, D.C. (2008). Drivers and performance outcomes of trust in international strategic alliances: the role of organizational complexity. *Organization Science*, 19(4), 647–665.
- Roy, J.P. (2012). IJV partner trustworthy behaviour: the role of host country governance and partner selection criteria. *Journal of Management Studies*, 49(2), 332-355.
- Roy, J.P. & Oliver, C. (2009). International joint venture partner selection: the role of the host-country legal environment. *Journal of International Business Studies*, 40(5), 779-801.
- Rugman, A.M. & Verbeke, A. (2003). Extending the theory of the multinational enterprise: internalization and strategic management perspectives. *Journal of International Business Studies*, 34(2), 125-137.
- Schleicher, J., Eklund, J., Barnes, M.D, Geldmann, J., Oldekop, J.A. & Jones, J.P. (2020). Statistical matching for conservation science. *Conservation Biology*, 34(3), 538-549.
- Shenkar, O. & Li, J. (1999). Knowledge search in international cooperative ventures. *Organization Science*, 10(2), 134-143.
- Shi, W., Sun, S.L. & Peng, M.W. (2012). Sub-national institutional contingencies, network positions, and IJV partner selection. *Journal of Management Studies*, 49(7), 1221-1245.
- Sim, A.B. & Ali, Y. (1998). Performance of international joint ventures from developing and developed countries: an empirical study in a developing country context. *Journal of World Business*, 33(4), 357-377.
- Steensma, H.K. & Lyles, M.A. (2000). Explaining IJV survival in a transitional economy through social exchange and knowledge-based perspectives. *Strategic Management Journal*, 21(8), 831-851.
- Sun, S.L. & Lee, R.P. (2013). Enhancing innovation through international joint venture portfolios: from the emerging firm perspective. *Journal of International Marketing*, 21(3), 1-21.
- Supra, B. & Kushwaha, S. (2019). An empirical study of the impact of FDI, JVs and trade on domestic technology stock of india. *Theoretical Economics Letters*, 9(7), 2314-2323.
- Tatoglu, E. (2000). Western joint ventures in Turkey: strategic motives and partner selection criteria. *European Business Review*, 12(3), 137–147.
- Tatoglu, E. & Glaister, K.W. (2000). Strategic motives and partner selection criteria in international joint ventures in Turkey: perspectives of Western firms and Turkish firms. *Journal of Global Marketing*, 13(3), 53-92.

- Tong, T.W., Reuer, J.J. & Peng, M.W. (2008). International joint ventures and the value of growth options. *Academy of Management Journal*, 51(5), 1014-1029.
- Tsang, E.W. (2000). Transaction cost and resource-based explanations of joint ventures: a comparison and synthesis. *Organization Studies*, 21(1), 215-242.
- Tsang, E.W. (2002). Acquiring knowledge by foreign partners from international joint ventures in a transition economy: learning-by-doing and learning myopia. *Strategic Management Journal*, 23(9), 835-854.
- Tsang, E.W., Nguyen, D.T. & Erramilli, M.K. (2004). Knowledge acquisition and performance of international joint ventures in the transition economy of Vietnam. *Journal of International Marketing*, 12(2), 82-103.
- United Nations Conference on Trade and Development (2020). World Investment Report 2020. Retrieved from https://unctad.org/system/files/official-document/wir2020_en.pdf
- Wang, P., Wee, C.H. & Koh, P.H. (1999). Establishing a successful Sino-foreign equity joint venture: the Singapore experience. *Journal of World Business*, 34(3), 287-305.
- Xu, D. & Meyer, K.E. (2013). Linking theory and context: 'Strategy research in emerging economies' after Wright et al. (2005). *Journal of Management Studies*, 50(7), 1322-1346.
- Yan, A. & Gray, B. (1994). Bargaining power, management control, and performance in United States–China joint ventures: a comparative case study. *Academy of Management Journal*, 37(6), 1478-1517.
- Yan, A. & Gray, B. (2001). Antecedents and effects of parent control in international joint ventures. *Journal of Management Studies*, 38(3), 393-416.
- Yehekel, O., Zeira, Y., Shenkar, O. & Newburry, W. (2001). Parent company dissimilarity and equity international joint venture effectiveness. *Journal of International Management*, 7(2), 81-104.
- Zhang, Y., Li, H., Hitt, M.A. & Cui, G. (2007). R&D intensity and international joint venture performance in an emerging market: moderating effects of market focus and ownership structure. *Journal of International Business Studies*, 38(6), 944-960.

Appendix

Table A1: Descriptive statistics of Indian firms participating in an IJV during 2015-2017

	2013	2014	2015	2016	2017	2018	2019	2020
Rev	43,677	45,140	54,969	62,193	55,538	68,422	72,733	85,446
ROA	4.88	4.71	1.93	0.60	-4.39	-3.46	-3.62	-2.84
Pm	9.06	-0.53	3.35	3.27	1.85	-3.51	-5.82	1.24
CoEmpl	20,898	19,631	22,288	21,279	18,434	20,368	22,982	25,975
Capital	6,603	5,440	4,863	4,724	5,122	5,585	5,323	5,633
Intang	6,204	6,347	17,518	7,718	7,447	30,827	33,664	38,268
Obs	13	20	25	27	28	29	28	27

Notes: this table displays the means of the pre- and post-IJV variables of Indian firms that participated in an IJV during 2015-2017. Revenue, cost of employees, capital and intangible assets are given in thousands of US dollars. ROA and profit margin are given in percentages. Observations represent the minimum number of observations in the given year. The average year of incorporation is 2001.

Table A2: Descriptive statistics of Indian non-IJV firms

	2013	2014	2015	2016	2017	2018	2019	2020
Rev	21,928	23,861	27,113	28,502	30,776	32,655	32,444	29,865
ROA	1.87	2.45	2.92	3.45	3.44	4.09	3.33	3.59
Pm	4.37	3.75	4.66	4.74	5.55	5.56	5.19	5.53
CoEmpl	3,610	4,367	5,049	5,787	6,425	6,767	7,236	7,646
Capital	3,337	3,636	3,469	3,761	3,937	3,900	4,791	3,849
Intang	1,437	1,349	1,222	1,310	1,419	1,384	1,525	1,566
Obs	1,404	1,541	1,542	1,548	1,548	1,550	1,558	1,548

Notes: this table displays the means of the pre- and post-IJV variables of Indian non-IJV firms. Revenue, cost of employees, capital and intangible assets are given in thousands of US dollars. ROA and profit margin are given in percentages. Observations represent the minimum number of observations in the given year. The average year of incorporation is 1999.

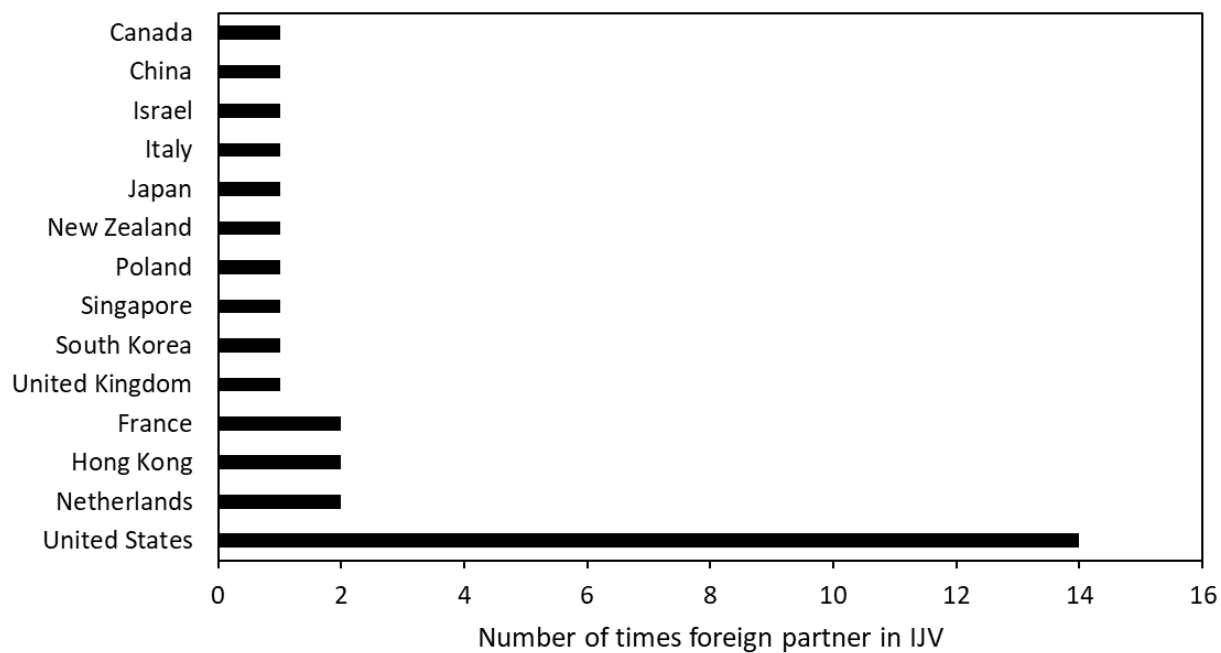


Figure A1: Division of the countries of foreign partners in the IJVs with Indian IJV firms

Table A3: Estimated impact of participating in an IJV on the operating revenues of Indian IJV firms compared to Indian non-IJV firms in the years following IJV formation using nearest neighbor matching

	Ln(Rev)			
	2017	2018	2019	2020
<i>in_IJV</i>	0.258***	0.215***	0.236***	0.274***
	(0.021)	(0.023)	(0.025)	(0.028)
N	3,784	3,780	3,788	3,784

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their operating revenues of the first years after IJV formation compared to Indian non-IJV firms using nearest neighbor matching. The coefficient *in_IJV* displays the impact of participating in an IJV. Ln(Rev) represents the percentage difference in operating revenue. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.

Table A4: Estimated impact of participating in an IJV on the ROA of Indian IJV firms compared to Indian non-IJV firms in the years following IJV formation using nearest neighbor matching

	ROA			
	2017	2018	2019	2020
<i>in_IJV</i>	-3.335***	-5.721***	-7.194***	-3.212***
	(0.232)	(0.251)	(0.316)	(0.240)
N	3,764	3,768	3,776	3,772

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their ROA of the first years after IJV formation compared to Indian non-IJV firms using nearest neighbor matching. The coefficient *in_IJV* displays the impact of participating in an IJV. ROA is given in percentages. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.

Table A5: Estimated impact of participating in an IJV on the profit margins of Indian IJV firms compared to Indian non-IJV firms in the years following IJV formation using nearest neighbor matching

	Profit margin			
	2017	2018	2019	2020
<i>in_IJV</i>	-5.789***	-16.857***	-18.237***	-7.145***
	(0.302)	(0.415)	(0.452)	(0.376)
N	3,712	3,732	3,736	3,696

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their profit margins of the first years after IJV formation compared to Indian non-IJV firms using nearest neighbor matching. The coefficient *in_IJV* displays the impact of participating in an IJV. Profit margin is given in percentages. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.

Table A6: Estimated impact of participating in an IJV on the operating revenues of Indian IJV firms compared to Indian non-IJV firms in the years following IJV formation using propensity score matching

	Ln(Rev)			
	2017	2018	2019	2020
<i>in_IJV</i>	-0.087***	0.083***	0.184***	-0.585***
	(0.027)	(0.023)	(0.027)	(0.028)
N	3,784	3,780	3,788	3,784

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their operating revenues of the first years after IJV formation compared to Indian non-IJV firms using propensity score matching. The coefficient *in_IJV* displays the impact of participating in an IJV. Ln(Rev) represents the percentage difference in operating revenue. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.

Table A7: Estimated impact of participating in an IJV on the ROA of Indian IJV firms compared to Indian non-IJV firms in the years following IJV formation using propensity score matching

	ROA			
	2017	2018	2019	2020
<i>in_IJV</i>	-3.240***	-4.245***	-1.878***	-1.767***
	(0.257)	(0.251)	(0.269)	(0.247)
N	3,764	3,768	3,776	3,772

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their ROA of the first years after IJV formation compared to Indian non-IJV firms using propensity score matching. The coefficient *in_IJV* displays the impact of participating in an IJV. ROA is given in percentages. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.

Table A8: Estimated impact of participating in an IJV on the profit margins of Indian IJV firms compared to Indian non-IJV firms in the years following IJV formation using propensity score matching

	Profit margin			
	2017	2018	2019	2020
<i>in_IJV</i>	-5.159***	-6.691***	-5.668***	-2.157***
	(0.308)	(0.348)	(0.376)	(0.368)
N	3,712	3,732	3,736	3,696

Notes: this table presents the results of the impact of Indian firms participating in an IJV during 2015-2017 on their profit margins of the first years after IJV formation compared to Indian non-IJV firms using propensity score matching. The coefficient *in_IJV* displays the impact of participating in an IJV. Profit margin is given in percentages. The IJV firms are matched to 5 non-IJV firms. Standard errors between brackets, *p < 0.10, **p < 0.05, ***p < 0.01.