PAPER TO BE PRESENTED AT THE 36th EIBA ANNUAL CONFERENCE IN PORTO,

PORTUGAL DECEMBER 9-11, 2011

TRACK: nr 3 CORPORATE STRATEGIES IN INTERNATIONAL BUSINESS

PAPER TYPE: COMPETITIVE PAPER

THE IMPACT OF CULTURAL DISTANCE ON OWNERSHIP MODE IN INTERNATIONAL INVESTMENTS: HOFSTEDE, SCHWARTZ VS. GLOBE

04.10.2010 VERSION

Abstract

The impact of cultural distance on the foreign ownership mode (joint venture vs. wholly-owned subsidiary) has been analyzed so far almost solely using the cultural distance (CD) framework by Hofstede (1980, 2001). During the years there has been increasingly criticism against the use of Hofstede's scores in the measurement of CD (e.g. Shenkar, 2001; Harzing, 2004; Kirkman, Lowe, & Gibson, 2006) and that alternative measures for CD should be used as well as in addition to the total CD more detailed analysis based on single dimensions of culture should be done. The main goal of the study is to analyze the impact of CD on the ownership mode applying three different cultural frameworks: Hofstede, Schwartz, and GLOBE. The additional goal is to analyze the impact of various single dimensions of three frameworks on ownership mode decisions. The empirical part of the study will be based on a sample of over 3 700 FDIs made by firms from three Nordic countries (Denmark, Finland, and Sweden) in 40 countries over 1970-2007. The results indicate that whether the CD has significant impact on ownership structure decisions depends on the cultural framework used. Furthermore, the results indicate that there is great variation in the impact of single dimensions of culture on the ownership mode decisions in all reviewed cultural frameworks. Thus, in addition or instead of total CD the distance along single dimensions of culture should definitely also be included to the future studies.

Keyword: joint venture, wholly-owned subsidiary, ownership mode, cultural distance, Hofstede, Schwarz, GLOBE

1. Introduction

Strategic decisions related to foreign direct investment (FDI) behavior and FDI performance has been of great interest in IB research during the last 20 years. One key variable included to several studies has been cultural distance (CD). The definitely most commonly used measure for CD has been the one based on the cultural dimensions by Hofstede (1980) combined with the use of the formula developed by Kogut and Singh (1988). However, during the years there has been increasingly criticism against the use of Hofstede's scores in the measurement of CD and proposals that alternative measures should be used (Shenkar, 2001; Hartzing, 2004; Kirkman, Lowe, & Gibson, 2006). Furthermore, there has been also been criticism that instead or in addition to the composite CD there should be more analysis about the impact of single dimensions of culture on strategic FDI decisions (ibid).

In studies focusing on the impact of cultural CD on strategic FDI decisions, the use of other measures than those by Hofstede is still, however, extremely limited (see e.g. the review by Harzing, 2004, & Magnusson, Wilson, Zdravkovic, Staub & Amine, 2008a). In fact the only study analyzing the impact of CD on entry mode decisions based also by other framework than that by Hofstede seems to be the study by Kim and Gray (2009) where the impact of cultural frameworks by Schwartz and GLOBE were also used. The limitation of the study is, however, that the sample size was relatively small (ca. 200 FDIs) and it concerned ownership mode decisions in FDIs made in one single country – in South Korea.

The main goal of the study is to analyze the impact of total cultural distance on the ownership mode decisions of investing firms applying three different cultural frameworks: Hofstede, Schwartz, and GLOBE. In addition to the goal is to analyze also the impact of single dimensions of culture in the analyzed three cultural frameworks on the establishment mode decisions. The empirical part of the study will be based on over 3700 FDIs made by Nordic firms in 39 target countries over 1970-2007. The contribution of the study is to be the first large scale analysis of the three cultural frameworks and the first study to analyze the impact of the single dimensions of those three frameworks on the ownership mode decisions.

In the second section we shall make an overview of the three cultural frameworks. In the third section the relationships between cultural distance and ownership strategy is discussed. The section four includes review of the methodology, sample, and operationalization of the variables. In section five the results of the study are presented and discussed. The section six summarizes the key results and conclusions and presents some avenues for future research. The results of the study will show that there are differences in the impact of total cultural distance on ownership strategy behavior between the three frameworks as well as in the impacts of various single dimensions in the analyzed three cultural frameworks.

2. Cultural frameworks

2.1. Hofstede's dimensions of national culture

Hofstede (1980, 25) has defined culture as "the collective programming of the mind which distinguishes the members of one human group from another". He conducted two large international surveys in the divisions of one multinational company – IBM – first from 1967 to 1969 and later between 1971 and 1973, related to 32 value statements. He collected more than 116 000 answers from 72 countries providing more than 50 answers from 40 countries. Based on a country-level factor analysis, he classified the original 40 countries along four country culture dimensions: power distance (PDI), individualism-collectivism (IND), uncertainty avoidance (UAI), and masculinity-feminism (MAS). All the results were presented in detail in the book "Culture's Consequences" published in 1980. Later on Hofstede expanded the database with 10 additional countries and three regions, then with a fifth dimension – time orientation (short term vs. long term)

sometimes also called Confucian dynamism, and finally with further new countries (Hofstede, 2001 carries scores for 81 countries).

So far the cultural framework by Hofstede has clearly been the most commonly used framework in studies focusing on various sectors of international business, including studies focusing on strategic foreign direct investment decisions (see e.g. Sondergaard, 1994; and Tihanyi et al., 2005). Although the Hofstede framework has been widely used, there has also been substantial criticism of it. The criticism has been directed against the lack of comprehensiveness, inattention to the conceptual equivalence of question items across cultures, the single company focus, and outdated data (see e.g. Chow, Kato & Shields, 1994; Shenkar, 2001; McSweeney 2002; Williamson, 2002; and Harzing, 2004). In defense of the Hofstede framework, it has been argued that the focus on a single company may also be a positive factor, and that cultural values are very stable, changing only slowly over time (see Hofstede, 2001),

In response to the preceding criticisms, several alternative frameworks have been developed in the 1990s and 2000s (see e.g. Hofstede, 2006; and Magnusson, Wilson, Zhravkovic, Zhou & Westjohn, 2008b) of which we shall focus on the two most prominent.

2.2. Schwartz's dimensions of national culture

Schwartz's value types were derived from a set of items "developed to measure the content of individual values recognized across cultures" (Schwartz, 1994: 88). Between 1988 and 1992 a total of 56 values items were developed and distributed to 87 teacher and student samples from 41 cultural groups in 38 nations. Respondents were asked to rate the importance of each value as a guiding principle in their lives. Since individual values reflect an individual's unique experience as well as a normative cultural influence, they can be analyzed both at individual and cultural levels (Schwartz, 1994). The results showed that only 45 of the value items had consistent meanings across cultures at the individual level and, thus, only those 45 items were used in the national level analysis. Based on multidimensional scaling procedures to examine the intercorrelations between the values dimensions, Schwartz found seven culture level value types: conservatism, intellectual autonomy, affective autonomy, hierarchy, mastery, egalitarian commitment, and harmony. These are summarized later by Schwartz (1999) into three bipolar dimensions: 1. embeddedness versus autonomy, 2. hierarchy versus egalitarianism, and 3. mastery versus harmony.

Schwartz has argued (1994: 117) that his value types are different to Hofstede dimensions but he has also suggested that his framework included Hofstede's dimensions: Hofstede's individualism positively correlates with Schwartz's affective autonomy, intellectual autonomy, and egalitarian dimensions, and negatively with conservatism and hierarchy. Power distance score positively correlates with conservatism and negatively with affective autonomy dimension. Further, Hofstede's uncertainty avoidance positively correlates with Schwartz' harmony dimension, and masculinity positively correlates with Schwartz's mastery dimension. Steenkamp (2001) subsequently analyzed the possible overlap between Hofstede's and Schwartz's frameworks, and found that three of the four factors were related to the dimensions of both frameworks. Smith et al. (2002) also found that Hofstede's individualism positively correlates with Schwartz's embeddedness–autonomy and hierarchy–egalitarianism dimensions, power distance negatively correlates with the embeddedness–autonomy, hierarchy–egalitarianism, and harmony–mastery dimensions, and uncertainty avoidance positively correlates with Schwartz's hierarchy–egalitarianism dimension.

Schwartz´s model has so far been applied in only a very limited fashion compared to the intense application of Hofstede's framework in international business. With regard to the ownership mode to our knowledge it is only used in the study by Kim and Gray (2009). This lack of empirical testing may be due to the non-orthogonal nature of the value dimensions, which makes it difficult to use multivariate statistical techniques (Steenkamp, 2001). Another limitation is the far more limited number of countries for which country scores

were available in the first version by Schwartz (38 countries). During 1988-2004 Schwartz and his colleagues extended their data to cover 55 countries. This study uses the more recent extended data releases (published in Siegel, Licht & Schwartz, 2008).

2.3. GLOBE´s dimensions of national culture

The third cultural distance framework to be applied in this study is that developed in the GLOBE (Global Leadership and Organizational Behavior Effectiveness) project. Inspired by the work of Hofstede, the GLOBE research program was designed to conceptualize, operationalize, test, and validate relationships between culture and leadership effectiveness (House, Javidan, Hanges & Dorfman, 2002; House et al., 2004). In more detail, the theoretical base of the GLOBE research program (see House et al., 2002) is an integration of implicit leadership theory (Lord & Maher, 1991), the value/belief theory of culture (Hofstede, 1980), implicit motivation theory (McClelland, 1985), and effectiveness (Donaldson, 1983; Hickson, Hinings, McMillan & Schwitter, 1974). It is a large-scale program involving over 160 researchers from 62 different cultures. There were focus groups and individual interviews in the mid-1990s in all these cultures, and data was collected in total from 17 370 middle managers of 951 organizations in three industries (food processing, finance, and telecommunications) in 62 countries. Based on the later analysis, the Group identified nine country-level dimensions: uncertainty avoidance, power distance, collectivism I: societal collectivism, collectivism II: in-group collectivism, gender egalitarianism, assertiveness, future orientation, performance orientation, and humane orientation. In contrast to the dimensions by Hofstede and Schwartz, the GLOBE project captures both a culture's *Values* — how members of a society believe that it *should be* — and current *Practices* in the society, known as the *as is* result (House et al., 2004). Interestingly, they found significant negative correlations between values and practices for seven of the nine dimensions. Gender egalitarianism is the only dimension with a significant positive correlation between values and practices.

Both Hofstede and GLOBE include the dimensions of uncertainty avoidance and power distance. Hofstede's masculinity dimension is measured in GLOBE with two dimensions – gender egalitarianism and assertiveness – and similarly Hofstede's collectivism is measured with institutional collectivism (collectivism I) and in-group collectivism (collectivism II). Furthermore, Hofstede's long-term orientation is similar to GLOBE's future orientation. The two additional dimensions by the GLOBE group – performance orientation and humane orientation – are not covered by Hofstede's dimensions. Performance orientation is derived from McClelland's (1961) work on the need for achievement and humane orientation has its roots in Kluckhohn and Strodtbeck's (1961) work on the Human Nature Is Good vs. Human Nature Is Bad dimension as well as Putnam's (1985) conceptualization of the affinitive motive (House et al. 2002).

Peterson (2004) suggests that the GLOBE framework may be best viewed as complementary to Hofstede's (1980, 2001) work, as its most closely linked predecessor. Also Hofstede (2006) has claimed that GLOBE is an expansion and replication of his five dimensions, yet this has been vigorously refuted by Javidan, House, Dorfman, Hanges and Deluquet (2006) in their re-analysis of the relationships between GLOBE and Hofstede's dimensions. They argued that the relatively weak correlation between the dimensions shows that GLOBE moves beyond Hofstede's work, with the nine dimensions showing strong construct validity (Javidan et al., 2006).

Venaik and Brewer (2008) have also analyzed the relationships between the five dimensions outlined by Hofstede and the seven dimensions of GLOBE which are related to Hofstede. The results indicated that only five of the fourteen correlations analyzed had the expected signs and were statistically significant. Hofstede's individualism had a significant negative correlation with in-group collectivism practices and institutional collectivism values; masculinity had a positive correlation with GLOBE's assertiveness practices; power distance had a positive correlation with GLOBE's power distance practices; and uncertainty avoidance shows a positive correlation with GLOBE's uncertainty values. In one case Venaik and Brewer found an

unexpected sign for a significant correlation – Hofstede's uncertainty avoidance negatively correlated with GLOBE's uncertainty avoidance practices - and in the remaining eight cases the correlations were not significant. The authors offer a plausible explanation for the unexpected finding, stating that some national cultures may have changed over the 25-year period between the two studies. Their data suggested that the number of countries with lower levels of uncertainty avoidance had increased from 1970 to 2005 coinciding with rising incomes and economic prosperity worldwide. Their result does not lend support to Leung et al's. (2005) conclusion that uncertainty avoidance is conceptually the same both in Hofstede and GLOBE, but that there are significant differences in the definition, operationalization and ultimately the country scores on uncertainty avoidance between the two frameworks (Venaik & Brewer 2008).

Table 1

The three cultural frameworks and the dimensions included within them are summarized in Table 1. As discussed above and in more detail in the next section, all the studies focusing on the relationship between cultural distance and ownership mode choice published in leading international journals so far have used Hofstede's cultural framework, except for that of Kim and Gray (2009).

3. Ownership mode and cultural distance

3.1. The impact of total cultural distance on ownership mode

One key strategic decision related to FDIs is the ownership mode choice, i.e. the decision whether the investment is made alone, i.e. in the mode of full ownership (WOS) or having one or more partners, i.e. having partial ownership (international joint venture, IJV). So far the clearly most often used theoretical approach to analyze ownership mode decisions has been the transaction cost analysis (TCA). Concerning relationship between CD and ownership mode there are two opposite views based on TCE. According to the first view cultural distance influences the investing firm's perception of costs and uncertainty (see Hartzing, 2004). This would lead MNCs to prefer low-commitment entry modes in countries that are culturally distant from their own, and hence JVs would be preferred over WOS, because they limit their exposure to risk and uncertainty. Furthermore, uncertainty with the local environment caused by CD might create the need for a local partner that can provide this knowledge. However, cultural distance increases the costs and uncertainty involved in working closely with foreign partners as is the case in JVs. In that case, WOS might be more appropriate to allow easy application of organizational routines developed in the home country. This would be particularly important for Japanese MNCs, given the importance they attach to transferring their unique system of management.

Studies investigating the impact of cultural distance on the choice between JVs and WOSs reflect the conflicting theoretical propositions identified above. E.g. in the review by Harzing (2004) majority of the studies supported a positive relationship between CD and preference for IJV ownership, but some studies indicated also insignificant relationship and opposite relationship. There are four meta-analyses focusing on the results in ownership mode choice studies published in leading IB-journals (Zhao et al. 2004; Tihanyi et al., 2005; Magnusson et al., 2008a, and Morschett, Schramm-Klein & Swoboda, 2010). The results in the three first ones indicate a slight negative relationship between CD and degree of equity ownership. Noteworthy is as Magnusson et al. (2008a) state in their analysis that although the correlation is statistically significant, guidelines for meta-analysis suggest that with a cumulative sample size exceeding 30 000, virtually any correlation will be statistically significant, meaning caution with interpreting the results. Furthermore, consistent with earlier findings Magnusson et al. found a slightly more negative correlation for

the US group compared with the non-US group. When they analyzed the results in more detail they found a relatively strong negative relationship between CD and ownership strategy for European firms whereas for American and Asian firms the relationship was significantly weaker. The results in the most recent meta-analysis (Morschett et al., 2010) based on 37 study results including CD did not provide support for a systematic, direct impact of CD on ownership mode decisions even when the combination of effect sizes based on 14 study results where analyzed.

The recent ownership mode studies have indicated very mixed results. Wang and Schaan (2008) found a negative relationship between CD and degree of ownership in their analysis of FDI behavior of Japanese and US based MNCs; Kim and Gray (2009) found a positive relationship in their analysis of FDI decisions by foreign firms into Korea, and Demirbag et al. (2009) found no relationship between CD and ownership mode in their analysis of FDI decisions by Emerging market MNCs. Although the above referred reviews seem to indicate somewhat more support to the negative relationship between CD and degree of ownership chosen in FDIs, two alternative hypotheses are presented for the empirical part of the study:

Hypothesis 1a: The larger the cultural distance between the home country of the investing firm and the target country of the investment, the more likely that the investment is made using an IJV ownership mode.

Hypothesis 1b: The larger the cultural distance between the home country of the investing firm and the target country of the investment, the more likely that the investment is made using WOS ownership mode.

3.2. The impact of single dimensions of culture on ownership mode

Shenkar (2001) and Harzing (2004) set questionable to assume that all dimensions of culture have equivalent impacts on FDI decisions and Kirkman, Lowe, and Gibson (2006: 303) strongly encourage researchers to avoid further use of the total CD index, but to analyze the impact of single dimensions. Hofstede (2001) has regarded that power distance (PD) and uncertainty avoidance (UA) are particularly relevant for the functioning of organizations. PD is related to the preferences regarding the distribution of authority whereas UA is relevant for the preferences concerning rules and procedures (p. 375)., both of which may have important implications for the preference of certain type of entry modes (p. 447). In their empirical testing Barkema and Vermeulen (1997) expected in their study that firms would prefer WOS in countries that are very distant on UA (and LTO) dimension whereas differences in PD, MAS, and individualism (IDV) dimensions were expected to be less relevant. Their results supported the view that differences in UA (and LTO) were negatively related to the preference of IJV entry mode but against to their expectations the differences in other dimensions had a significant positive impact on the choice of IJV. Brouthers and Brouthers (2001) found that both a high composite cultural distance and high distance on all the four single dimensions increased the preference of IJV choice in the establishment mode analysis of 231 entries by firms from four Western Countries (Germany, the Netherlands, USA, and the UK) in CEE countries. In a later study by Brouthers, Brouthers and Naxos (2004) the authors expect oppositely to the earlier study that a high composite cultural distance leads to the preference of WOSs and that a high UA in the home country of the investors and a low UA in the target countries of investments and a high PD distance both in home country and target countries increase preference for WOSs. Their empirical results indicated that firms from high PD cultures and firms entering high PD cultures preferred IJVs whereas a high composite cultural distance and firms from high UA cultures and firms entering low UA countries preferred WOSs. As discussed earlier, the only previous study where all three cultural frameworks analyzed in this study is the study by Kim and Gray (2009). However, they did not analyze the impact of single dimensions in their study. However, the discussion above gives enough background to assume for the empirical part of the study that:

Hypothesis 2: There is variation in the impact of single dimensions of culture on the entry mode decisions.

4. Sample, operationalization of variables, and methodology

4.1. Method

Since the dependent variable in the study is dichotomous, logistic regression analysis are used to analyze the impact of the selected cultural distance measures and each dimension of the measures on the establishment mode. Each measure and dimensions related to it are presented in separate models. The regression coefficients estimate the impact of independent variables on the probability that the investment will be a joint venture investment, with a positive coefficient indicating that an independent variable increases the probability of a joint venture. In general, the terms of the model can be expressed as $P(y_i = 1) = 1 / (1 + exp (-a - X_iB))$, where y_i is the dependent variable, X_i is the vector of the independent variables for the ith observation, a is the intercept parameter and B is the is the vector of regression coefficients (Amemiya, 1981). We estimated our models with Intercooled STATA 7, using the maximum likelihood method.

4.2. Variables

Ownership mode: The dependent variable is the ownership mode selected for the foreign investment: IJV vs. WOS. The dummy variable is coded 1 for IJV investments and 0 for WOSs. The data for the variable was gathered from the published data on the investment (stock of exchange movements, other press releases, company websites, the annual report of the company, and/or direct contacts with the companies).

Cultural distance: In total, eight different measures for cultural distance were used in the models: four total distances (Hofstede, Schwartz, and two versions from GLOBE (practices and values versions) plus four versions including the various dimensions related to those four measures. The first is the traditional Kogut and Singh (1988) index, which uses the differences in the scores of Hofstede's (1980, 2001) dimensions of national culture for the four original dimensions of culture (power distance, individualism-collectivism, masculinity-feminity, and uncertainty avoidance) between the foreign country entered and the home country of the investor firm. These differences are corrected for differences in the variances of each dimension and then arithmetically averaged. Algebraically, this is represented as follows:

$$\mathrm{HCD}_j = \sum_{i=1}^{4} \left[(I_{ij} - I_{iK})^2 / V_i \right] \div 4$$

where CD_j is the cultural distance between country j and Denmark/Finland/Sweden, I_{ij} is country j's score on the ith cultural dimension, I_{iN} is the score of Denmark/Finland/Sweden on this dimension, and V_i is the variance of the score of the dimension. The fifth dimension by Hofstede – the long term orientation – was omitted because there is a limited number of countries for which the scores are available and it therefore would have limited the number of countries in the study. [1, 2]

The two other frameworks used in this study are based on the frameworks by Schwartz and GLOBE. In the case of Schwartz, the three dimensional version of his framework was used in order to have greater total target country coverage. In the case of GLOBE, there are nine dimensions included. The respective models for the analysis based on the Schwartz and GLOBE are as follows:

$$\text{SchCD}_j = \sum_{i=1}^{3}\left[(I_{ij} - I_{iK})^2 / V_i \right] \div 3 \quad \text{and} \quad \text{GCD}_j = \sum_{i=1}^{9}\left[(I_{ij} - I_{iK})^2 / V_i \right] \div 9$$

Control variables

In order to analyze in more detail the effects of the alternative cultural distance measures on the ownership mode choice we controlled for selected investing firm, investment, and target country specific variables potentially influencing the choice. The selected control variables have commonly been used in earlier ownership and establishment mode studies (see e.g. Slangen & Hennart, 2007; Dikova & Brouthers, 2009). The operationalizations of the variables, data sources, and examples of earlier studies where similar operationalizations have been used are presented in Table 2. [3]

Table 2

4.3. The sample

The empirical data for the study is based on data collected by one of the authors over several decades. The study is limited to Nordic manufacturing companies based in Denmark, Finland, and Sweden, because Norway and Iceland are not included to all three cultural frameworks analyzed in this study. The data is drawn mainly the annual reports and press releases of the investing firms, but also supplemented with the data gathered in FDI surveys and direct contact with several of the investing companies. The data for this study relates to 3 704 manufacturing investments made by 405 firms made in 1970-2007. The study is limited to manufacturing companies and their foreign manufacturing investment decisions. This provides a more homogenous sample than most previous studies, which have included both manufacturing and service investments (e.g. Demirbag et al., 2007)[4]. The Nordic countries belong to the same cultural cluster in the clustering of countries by Ronen and Shenkar (1985) and based on the almost solely so far used cultural framework by Hofstede (1980; 2001) each of the three countries belong to the three closest countries of Denmark, Finland, and Sweden within those 39 countries included into this study.

The sample was limited to the investments made in countries which are included in all three of the aforementioned cultural frameworks. For the Hofstede framework, the extended country list (see Hofstede, 2001) is utilized. In the case of Schwartz framework, the 2005 three dimension version (Siegel et al., 2008) is employed, and for GLOBE, the values published in 2004 (House et al., 2004) are adopted. Using these versions enables the greatest coverage of target countries - a total of 39 countries (see Appendix 1). The average number of investments by a single company in the sample was around nine. There was a great variation in the firm size, the degree of diversification of the firms, in their FDI experience, and their target country experience (see Appendix 2). A clear majority of FDIs were related types of investments; somewhat more than 70 % of the investments were made in the form of acquisitions, and made in developed countries. Almost half of the investments were in the 1990´s, somewhat more than 20% both in the 1980´s and 2000´s, and some 5 % in the 1970´s. The sample included investments made in all two digit manufacturing sectors (SIC 20-39), but almost half of the sample were investments made in SIC 26 (paper and paper related products), SIC 35 (machinery), SIC 28 (chemicals), and SIC 36 (electronics). The number of investments in single countries varies from 5 to 606 investments made in the USA. The other countries having 200 to 340 investments were Sweden, Germany, the UK, and China. The Finnish and Swedish samples included

investments made in 37 and the Danish sample of 35 of the 38 alternative target countries. (See Appendix 1).[5]

5. Results of the study

5.1. General remarks

The sample consists of 3 704 foreign investments, of which 1252 (33.8 %) are IJVs and 2452 (66.2 %) were WOSs. There are mild variations in proportions of each mode across the three home countries: the proportion of IJVs is lowest in the Swedish subsample (29.2%) and highest in the Finnish subsample (37.2 %). However, the results indicate that WOSs clearly dominate in all three subsamples.

Pairwise correlations amongst the dependent variable, the total cultural distances indices, and control variables are presented in Appendix 2. The results show that all four cultural distance indices are significantly correlated at $p<0.001$. Hofstede has the lowest correlation with Schwartz at 0.473, a moderate correlation with the GLOBE *Values* dimensions (0.517), and highest with the GLOBE P*ractices* dimensions (0.682). The correlation between Schwartz and GLOBE *Values* is moderately high (0.494), but very low against GLOBE *Practices* dimensions, at only 0.180. In addition, the correlation between the two GLOBE based dimensions is relatively low, at only 0.241. Thus, Hofstede and both versions of GLOBE dimensions overlap more than Hofstede does with Schwartz, or Schwartz does with GLOBE, especially the GLOBE *Practices* dimensions. When considering the findings for Schwartz, it should be remembered that this study uses the three bipolar dimensions rather than the seven dimension version so as to have more common countries in the sample.

In general, the correlations in Appendix 2 indicated relatively low levels of multicollinearity. The only exception is the correlation between firm size and general FDI experience. There is no formal cutoff value to use with VIF for determining the presence of multicollinearity; however, values over 10 are often regarded as indicating multicollinearity. However, in a weaker model, as is often the case in logistic regression, values above 2.5 may be cause for concern (Hair, Andersson, Tatham & Black, 1998). The VIF value for general FDI experience is 4.32. When the general FDI experience is excluded, the VIF values were clearly lower (2.0 and lower).

The logit models of this study clearly have a higher correct classification rate than the chance rate of 55.2 % (i.e. the baseline rate, equal to $a^2 + (1-a)^2$, where a is a proportion of IJVs investments (33.8 %) in the sample. Although there are no general guidelines on how high the classification accuracy should be relative to chance, the rule of thumb is at least a 25% improvement (Hair et al., 1998; Harzing, 2002). In earlier establishment mode studies e.g. results by Brouthers and Brouthers (2001) indicated 64.3 – 67.8%, those by Demirbag et al. (2009) 63.0 – 86.0% and the results by Kim and Gray (2009) 65.7 – 70.6 % rates of correctly classified cases. In some cases the 25 % improvement has been reached, but not in all. In this study the baseline rate was 55.2 % and various models indicate a correct classification rate of 70.1 to 71.2 %. The improvement (14.9 to 16 %) does not reach the 25 % rate, but the correctly classified ratios are very comparable to those in earlier studies. The explanatory power of all models is good, as their chi-squared values are all significant ($p=0.000$).

Model 1 in Table 3 presents the results of the logistic regression including the impact of control variables on the establishment mode. Of the nine control variables, six had a significant impact on the ownership mode choice (see model 1). Two of the variables have a positive sign, so indicate an increased probability of choosing the IJV ownership mode. The variables concerned are size of the investing firm and timing of investment. The four other variables – MNEs host country experience, related expansion, economic level of the target country (DC), and R&D intensity have a negative sign, so indicate an increased preference for the

WOS ownership mode. The results were in accordance with the results in several earlier studies. The most influential variables were the MNEs host country experience, economic level, and timing of the investment having all significance level of 0.001. The significance levels of these six variables were relatively similar in all nine models of the study. The rest three control variables – MNE's level of diversification, establishment mode, and economic growth in the target country did not have any significant influence except the economic growth variable which had – only very mild influence – in one of the nine models.

Table 3

Models 2 to 5 in Table 3 indicate the impact of cultural distance on ownership mode decisions. In models 2 and 3 – thus in cases of Hofstede and Schwartz frameworks – cultural distance has against expectations non-significant impact. Instead in models 4 and 5 based on the GLOBE cultural framework the cultural distance is significant; in model 4 based on GLOBE *Practices* version at the 0.05 level and in model 5 based on GLOBE *Values* version at the 0.001 level. Thus the explanatory power of the GLOBE *Values* cultural framework seems to be clearly better than that of the other frameworks. An additional interesting finding is that the two GLOBE versions indicate opposite impact on ownership mode decisions: based on *Practices* version a high CD increased probability of a WOS and based on the *Values* the opposite. Thus based on Hofstede and Schwartz frameworks neither hypotheses 1a nor 1b receive support whereas based on GLOBE *Practices* version hypothesis 1b receives support and 1a based on GLOBE *Values* version.

The models six to nine in Table 3 present the results concerning the impact of single dimensions of culture in various reviewed frameworks on the ownership mode decisions. Based on Hofstede (model 6) long distance along two dimensions – individualism and uncertainty avoidance against expectations had significantly increased probability of choosing the JV ownership mode whereas long distance along power distance dimension increased the probability of choosing a WOS ownership mode. The fourth dimension – masculinity – was the only one that had not significantly influenced the ownership mode decisions. Thus the results give clear support the hypothesis two that the there is variation in the impact of single dimensions on the ownership mode decision. The opposite sign of power distance variable also at least partly explain the insignificant influence of total CD on the ownership strategy decisions. Furthermore, the results indicate that the most significant dimensions based on Hofstede's framework are the individualism and uncertainty avoidance dimensions.

Model seven presents the impact of various dimensions in the Schwartz's framework. The results indicate that all three bipolar dimensions had significantly influenced the ownership mode decisions, but not towards same direction. In the case of hierarchy against expectations against expectations egalitarianism a positive relationship was found with preference for JV mode whereas in the case of embeddedness-autonomy and mastery-harmony dimensions a negative relationship was found. Also these results clearly support hypothesis two. Furthermore, the results indicate that the hierarchy-egalitarianism and mastery-harmony dimensions are the two most significant dimensions and their opposite impact explain at least partly the insignificant influence of total CD in the case of Schwartz's framework.

Based on the GLOBE framework the results indicated significant influence by four dimensions in the case *Practices* (model) and by six dimensions in the case of *Values* version (model). Three dimensions had significant influence in both GLOBE versions – InGroupCollectivism, assertiveness, and performance orientation – but only assertiveness dimension had the same sign in both versions. In the *Practices* version two of the four significant dimensions had positive and also two negative signs InGropCollectivism as the most influential variable (significant at the 0.001 level). Based on the *Practices* version even five of the nine dimensions did not significantly influence the ownership mode decision. In the case of *Values* version four of

the significant variables had positive signs and two negative signs and noteworthy is that all the four variables having positive sign were significant at the 0.001 level explaining also the differences in the signs of total CD on the ownership mode decisions based on the two GLOBE versions. In the case of *Values* version three of the dimensions did not significantly influence ownership mode. Noteworthy is that two of the insignificant dimensions are same as in the case of *Practices* version – namely power distance and future orientation. In total also the results based on GLOBE framework give clearly support to the hypothesis two.

Additionally the results show that the share of correctly classified cases is lowest in the Models 2 and 4 i.e. in the Hofstede and GLOBE *Practices* versions (70.5%) and highest in the Model 5 based on GLOBE *Values* version (70.9%). Models 2 to 5 also indicate that adding the CD variable to the control variables does not lead to any statistically significant change in Model chi square value in Models 2 to 4 whereas in the other Model 5 – GLOBE *Values* version - the change is clearly greater. Furthermore, results based on the Models 6 to 9 including single dimensions of culture indicate lowest correctly classified ratio in the case of Model 7 thus in the Schwartz based version (70.4%) and highest ratio in Model 6 i.e. in the Hofstede based version (71.2%). Noteworthy is that in the case of Schwartz based Models the correctly classified ratio is mildly higher in the total CD version than in the single dimensions version whereas the Models based on other cultural frameworks indicate higher classification ratios in the single dimensions based versions. The Model chi square values indicate clearly higher values in the single dimensions compared to total CD based Models. This is the case especially in the Hofstede and both GLOBE based Models.

5.4. Additional tests

As the Kogut and Singh (1988) index has limitations (e.g. Shenkar, 2001), the test related to the impact of total CD based on Hofstede, Schwartz, and the two GLOBE versions were replicated using an Euclidean distance version of the index. E.g. Kim and Gray (2009) also compared their results with the results based on the Euclidean versions, but no significant differences were found. The results of this study indicated respective situation when the alternative measures were used. [6]

Furthermore, in order to test the impact of the selected cut-off point between WOS and JVs, i.e. 95% (the most commonly used limit, see e.g. Hennart & Larimo, 1998; Wang & Schaan, 2008) as alternative limit the sometimes used 90 and 80% were adopted (see e.g. Demirbag et al., 2009)**.** However, the results did not indicate any significant differences when the alternative cut-off point was used.

6. Summary and discussion

The impact of cultural distance (CD) on various strategic FDI decisions, especially on the ownership mode decisions, has been of great interest in IB studies during the years. Shenkar (2001) raised already almost ten years ago criticism against the measurement of CD based only on Hofstede's cultural framework and against using of only total CD instead of the analysis of the impact of the single dimensions. However, even nowadays extremely few studies have tried to answer to these proposals. In order to answer to the above criticism the main goal of this study was to analyze the impact of both total cultural distance (CD) and the individual dimensions of culture on the ownership modes of firms in their FDIs comparing results between the three most prominent cultural frameworks: Hofstede, Schwartz, and GLOBE. The study is based on a sample of over 3 700 foreign manufacturing investments made by 405 firms from three Nordic countries (Denmark, Finland, and Sweden) in 39 countries from 1970-2007. To our knowledge, apart from Kim and Gray (2009), there are no studies which have analyzed the impact of cultural distance on the ownership mode behavior using several different cultural frameworks and even they did not include the analysis of single dimensions of culture to their study.

The transaction cost theory indicates support both for the negative and positive relationship between CD and degree of ownership in FDIs. Also the earlier results have been mixed although there seems to be more support to the negative relative relationship between CD and degree of ownership chosen. The results of this study indicate that in general total CD based on Hofstede's and Schwartz's dimensions did not significantly influence the ownership mode decisions by Nordic firms. Instead when the CD was measured using dimensions by the GLOBE framework, the results indicated based both on the *Practices* and *Values* dimensional scores. Noteworthy in the results is that based on the GLOBE *Practices* version the results indicated that high CD increased probability of a WOS arrangement whereas based on the GLOBE *Values* version high CD increased probability of a JV arrangement. Thus the results indicate that there is clearly variation in the impacts between various cultural frameworks. The results are clearly in contrast to the results by Kim and Gray (2009) who found that CD had a significant positive impact on the use of WOSs in the reviewed FDIs, when the Hofstede, Schwartz and GLOBE *Values* versions were used – only in the case of GLOBE *Practices* version CD did not significantly influence the ownership mode decisions made. The samples in the two studies are were different: the latter one focused on FDIs made into a single target country – Korea – and the sample included both manufacturing and service investments, the sample size was relatively limited – somewhat over 200 FDIs, and related to Schwartz's framework the original seven dimensional version was used whereas present study had almost 40 target countries, included only manufacturing FDIs, had much larger sample size, and used the bipolar three dimensional version from Schwartz's framework.

The impact of single dimensions of culture has been analyzed extremely limitedly so far and e.g. the only identified study so far reviewing the impact of the three cultural frameworks included into this study by Kim and Gray (2009) did not include analysis based on single dimensions. The results of this study indicated that based on the Schwartz's framework all three bipolar dimensions had significant impact whereas in the framework by Hofstede one dimension, in the GLOBE Values version three, and in the GLOBE Practices version even five dimensions did not significantly influence the ownership mode decision. An important finding is, too, that there was variation in the direction of impact by the single dimensions. Hofstede (2001) has presented that PD and UA dimensions could be expected to be especially influential in entry mode decisions. Barkema and Vermeulen (1997) found that differences in UA lead to the preference of WOSs whereas the differences in the other dimensions lead to the preference of IJVs. Brouthers and Brouthers (2001) found in their first study that differences in all four dimensions by Hofstede lead to the preference of IJVs whereas in a later study (Brouthers, Brouthers & Nakos, 2004) they found that firms from high PD cultures and firms entering high PD cultures preferred IJVs whereas firms from high UA cultures and firms entering low UA countries preferred WOSs (in both cases the studies focused on FDIs made by Western European investors in CEE), the impact of the two other dimensions was not analyzed in the latter study. The results of this study indicated that both PD and UA were had significant influence on entry mode selections – as expected by Hofstede – but the results indicated that also a third dimension – IND – was significant. In accordance to the results by Barkema and Vermeulen the results of this study indicated that high distance along UA lead to the preference of WOS and a high distance along PD and IND to a preference of IJV alternative. Opposite to the findings by Barkema and Vermeulen (1997) and Brouthers and Brouthers (2001) the masculinity dimension was insignificant.

Concerning other cultural frameworks, in the GLOBE framework an interesting result was that there were only relatively few similarities in the impacts based on the *Practices* and *Values* versions although the result is perhaps not so surprising taking into account the controversial negative correlations found between the GLOBE *Values* and *Practices* scales (Maseland & Van Hoorn, 2008; Venaik & Brewer, 2008). Furthermore, noteworthy in GLOBE framework is that the UA dimension was significant only in the *Values* version, not in the *Practices* version, and that PDI dimension was insignificant in both *Practices* and *Values* version. Instead the two GLOBE dimensions related to IDV dimension by Hofstede – InstColl and InGroupColl – were highly significant and in the former case the dimensions had also the same sign i.e. high distance along

InstColl increased probability of an IJV. In Hofstede's framework the only insignificant dimensions was MAS. In the GLOBE framework assertiveness and gender egalitarianism dimensions are related to the MAS dimension. The results indicated that the former dimension was significant both in the *Practices* and *Values* version of GLOBE (but with opposite signs) whereas the gender egalitarianism dimension was significant only in the *Values* version. The above results give clear support to the view that there is not so much overlap between the Hofstede and GLOBE dimensions.

The results of this study indicate clearly that the claims raised by Shenkar (2001), Harzing (2004) and Kirkman et al. (2006) have not been without basis and that there is definitely a need both to compare results using various cultural frameworks and not only to analyze the impact of total CD but also the impact of single dimensions of culture on the ownership mode decisions.

In terms of managerial implications, it is noteworthy that the total CD has a significant impact on the establishment mode decision but only based on the two GLOBE frameworks. Noteworthy, however, is that the direction of impact is the opposite in the two versions. The analysis based on the single dimensions of culture, revealed significant differences in the direction and level of impact. These differences are important to note in the ownership mode decision making. Furthermore, the results provide grounds for the requirement to analyze the performance, stability and/or longevity impacts of various cultural frameworks and the relationships between establishment mode decisions made and CD.

This study has several limitations that could be used as the basis of future research. The first limitation was that this study covered only those 39 target countries which are included in all three reviewed frameworks - Hofstede, Schwartz, and GLOBE. Thus, one avenue for further analysis will be an extension covering all target countries included in these cultural frameworks. Furthermore, in relation to Hofstede's framework, only the four dimensions originally developed by Hofstede were included in the analysis, not the later fifth dimension, because of the relatively limited amount of target countries for which the scores are available. Thus, a second potential extension would be to include the fifth dimension – long term orientation – in an analysis. The results of the study indicated clear differences in the impact of various dimensions of culture. Thus, a more detailed analysis related to the impact of single dimensions could also be one avenue to explore. To our knowledge this was the first large scale empirical study were all the three prominent cultural frameworks were tested in foreign ownership mode decisions made in a great number of target countries. An additional avenue to continue could also be to analyze the joint impact of various dimensions or to analyze in more detail the dimensional score values in home and host countries and the implications for the ownership mode decisions. Concerning included control variables a clear limitation was e.g. the missing information related to the potential restrictions for making WOSs. This limitation concerns mainly FDIs made into transition and developing countries. Furthermore, the there is a need for additional analysis of the potential moderating effect of the experience variables – total FDI, TC specific, and also ownership mode specific experience. Other interesting potential research avenues include the expansion of the analysis either into the realm of other strategic FDI decisions, namely establishment mode (Greenfield vs. acquisition) or analysis of the impact of CD on performance (e.g. longevity and/or probability of divestment) as discussed above. Finally, an interesting avenue could also be a detailed comparison between impacts of CD and psychic distance (see e.g. Dow & Karunaratna, 2006) and/or institutional distance (see e.g. Xu, Pan and Beamish, 2004).

Endnotes

1 Kim and Gray (2009) used in their study both the four and five dimensional versions based on Hofstede. The fifth dimension – LTO - was added by Hofstede mainly for the analysis of Asian

countries. The score values for the LTO are available for a limited number of countries, in our case for 27 of the 39 target countries of this study. Because Magnusson et al. (2008a:192) also found that "there may only be a limited statistical gain by creating the conceptually richer five-dimension CD construct", the fifth dimension was left out of this study.

2 In the case of Hofstede's cultural dimensions the values for Arab countries in the case of Egypt.

3 A better measure for R&D intensity would be firm level R&D intensity. However, this information was missing in several cases. Furthermore, there may be problems with firm level R&D in cases of multi-industry companies. For industry growth, a better gauge would be industry level growth rates, but because of the great number of industries, target countries, and years included in the study these figures were not available in several cases.

4 In some studies, as in Demirbag et al. (2007), the sample includes both manufacturing and service sector FDIs. In this study only manufacturing sector FDIs were included. Furthermore, the FDIs had to meet two conditions: the number of employees related to the investment had to be 20 or more and the size of the investment five million Euros or more (in acquisitions the total sales of the target firm had to be at least five million).

5 The main target countries in all three subsamples were very similar – USA, Germany, and the UK – in Danish sample relatively more FDIs in the UK and Poland, in the Finnish sample Sweden very important and relatively more in Russia, and in the Swedish sample relatively more in Finland and Denmark.

6 The Euclidean distance index does not assume that the differences in the scores on each dimension are equally important in determining the cultural distance between countries. Instead, in line with the concept of Euclidean distance, it computes the distance (for example the Hofstede's framework) in a four-dimensional space as the square root of the sum of the squared differences in the scores on each cultural dimension. This can be formally represented as:

$$\mathrm{HCD}_{Rj} = \sum_{1}^{4}\left[\left\{\left\langle I_{ij} - I_{ik}\right\rangle \Big/ \left\langle \left(I_{ij} + I_{ik}\right) \div 2\right\rangle\right\}^2 \Big/ V_i\right] \div 4$$

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Table 1. Cultural Dimensions by Hofstede, Schwartz and Globe.

Hofstede's dimensions
Power Distance Accepting an unequal distribution of power in institutions as legitimate or illegitimate. *Individualism/Collectivism* Valuing loosely knit social relations in which individuals are expected to care only for themselves and their immediate families versus tightly knit relations in which they can expect their wider in-group (e.g. extended family, clan) to look after them in exchange for unquestioning loyalty. *Masculinity/Feminity* Valuing achievement, heroism, assertiveness, and material success versus relationships, modesty, caring for the weak and interpersonal harmony. *Uncertainty Avoidance* Feeling uncomfortable or comfortable with uncertainty and ambiguity, and therefore, valuing or devaluing beliefs and institutions that provide certainty and conformity.
Schwartz's dimensions
Embeddedness/Autonomy Concerns the desirable relationship between the individual and the group. Embeddedness represents a cultural emphasis on maintenance of the status quo, propriety, and restraint of actions or inclinations that might disrupt group solidarity or the traditional order. Autonomy describes cultures in which the person is viewed as an autonomous, bounded entity who finds meaning in his or her own uniqueness. Intellectual Autonomy refers to a cultural emphasis on the desirability of individuals independently pursuing their own ideas and intellectual directions; Affective Autonomy to a cultural emphasis on the desirability of individuals independently pursuing affectively positive experience. *Hierarchy/Egalitarianism* Concerns guaranteeing responsible behavior that will preserve the social fabric. Hierarchy refers to a cultural emphasis on obeying role obligations within a legitimately unequal distribution of power, roles, and resources. Egalitarianism refers to an emphasis on transcendence of selfish interests in favor of voluntary commitment to promoting the welfare of others. *Mastery/Harmony* Concerns the relation of humankind to the natural and social world. Mastery refers to a cultural emphasis on getting ahead through active self-assertion. Harmony refers to an emphasis on fitting harmoniously into the social and natural environment.
GLOBE dimensions
Power Distance is defined as the degree to which members of an organization or society expect and agree that power should be unequally shared. *Uncertainty Avoidance* is defined as the extent to which members of an organization or society strive to avoid uncertainty by reliance on social norms, rituals, and bureaucratic practices to alleviate the unpredictability of future events. *Humane Orientation* is the degree to which individuals in organizations and societies encourage and rewards individuals for being fair, altruistic, friendly, generous, caring, and kind to others. This dimension is similar to the dimension labeled Kind Heartedness by Hofstede and Bond (1988). *Collectivism I*: *Societal Collectivism* reflects the degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action. *Collectivism II*: *In-Group Collectivism* reflects the degree to which individuals express pride, loyalty and cohesiveness in their organizations and families. *Assertiveness* is the degree to which individuals in organizations or societies are assertive, confrontational, and aggressive in social relationships. *Gender Egalitarianism* is the extent to which an organization or a society minimizes gender role differences and gender discrimination. *Future Orientation* is the degree to which individuals in organizations and societies engage in future-oriented behaviors such as planning, investing in the future, and delaying gratification. *Performance Orientation* refers to the extent to which an organization or a society encourages and rewards group members for performance improvement and excellence. This dimension includes the future oriented component of the dimension called Confucian Dynamism by Hofstede and Bond (1988).

Table 2. Control Variables Used in the Study

CONTROL VARIABLE	OPERATIONALIZATION	REFERENCE(S)
1. Size of the investing company	Worldwide annual sales of the company (in million euros) in the year preceding the investment.	Hennart and Larimo (1998); Vermeulen and Barkema (2001); Larimo (2003)
2. Degree of diversification of the investing company	The number of 4-digit SIC codes in which the company was operating based on the annual reports and websites of the companies.	Hennart and Larimo (1998); Vermeulen and Barkema (2001); Harzing (2002); Larimo (2003)
3. Research and development intensity	A classification of various 4-digit SIC industries into three categories based on their value added figures. [1]	Hennart and Larimo (1998); Larimo (2003)
4. International investment experience of the investing firm	The number of foreign manufacturing investments made by the company before the reviewed investment.	Gatignon and Andersson (1998); Andersson and Svensson (1994);
5. Target country experience of the investing company	The experience in years from the first manufacturing investment of the firm in the target country.	Hennart and Larimo (1998); Larimo (2003)
6. Level of development of the target country	Target countries are divided into two groups based on their level of development: developed and developing based on the categorization by United Nations. [1]	Padmanabhan and Cho (1995); Vermeulen and Barkema (2001); Larimo (2003)
7. Economic growth in the target country	The GNP growth (%) in the target country in the year preceding the investment. The United Nations' data for the variable were used.	Barkema and Vermeulen (1998); Larimo (2003)
8. Degree of relatedness of the investment (related)	A dummy variable where 1 means that the investment is made in a related industry (the 4-digit SIC code of the investment is the same as the industry where the firm already operates) and 0 which means that the investment was made in an industry that is new for the firm (=unrelated).	Barkema and Vermeulen (1998); Hennart and Larimo (1998)
9. Establishment mode	A dummy variable where 0 stands for Greenfield investments and 1 for acquisitions.	Cho & Padmanabhan (2005); Wang & Schaan (2008); Kim & Gray (2009)
10. Timing of the investment	Based on the year of the investment deducting the year of investment from 2008.	Harzing (2002) [2]

1 See endnote 4
2 The year of investment

Table 3. Logistic regression estimates of ownership mode choice

Variable	**Model 1**: Control variables	**Model 2**: Hofstede	**Model 3**: Schwartz	**Model 4**: GLOBE practices (as is)	**Model 5**: GLOBE values (should be)	**Model 6**: Hofstede	**Model 7**: Schwartz	**Model 8**: GLOBE practices (as is)	**Model 9**: GLOBE values (should be)
MNE size	0,069*	0,066*	0,068*	0,080**	0,060*	0,073*	0,092**	0,085**	0,091**
MNE's level of diversification	0,007	0,007	0,007	0,005	0,007	0,005	0,002	0,001	0,000
MNE's host-country experience	-0,014***	-0,014***	-0,014***	-0,013***	-0,013***	-0,001**	-0,011**	-0,009**	-0,010**
Related expansion	-0,332*	-0,336*	-0,328*	-0,315†	-0,337*	-0,355*	-0,334*	-0,378*	-0,399*
Form of investment	0,133	0,131	0,124	0,128	0,097	0,070	0,130	0,052	0,076
Economic level	-1,367***	-1,345***	-1,310***	-1,460***	-1,005***	-0,591***	-1,245***	-0,692***	-1,528***
Economic growth	0,011	0,011	0,008	0,008	-0,004	-0,017	0,012	-0,018	-0,014
R&D intensity	-0,129*	-0,131**	-0,134**	-0,125*	-0,149**	-0,137**	-0,131**	-0,125*	-0,137**
Timing	0,050***	0,050***	0,050***	0,051***	0,049***	0,052***	0,055***	0,055***	0,054***
Cultural distance		0,014	0,041	-0,067*	0,316***				
Cultural dimensions[a]:									
- PDI / E-A / PDI						-0,006*	-0,938***	-0,218	0,159
- IDV / H-E / UAI						0,020***	0,476***	0,099	-0,507***
- MAS / M-H / HUM						0,000	-0,375*	-0,559**	0,332
- UAI / INSTColl						0,007***		0,178	0,736***
- INGROUPColl								0,793***	0,671***
- Assertiveness								-0,811**	0,335***
- Gender Egalitarianism								0,133	-0,470**
- Future Orientation								0,278	0,005
- Performance Orientation								0,516*	-1,017***
Constant	-0,339	-0,359	-0,421	-0,210	-0,922**	-0,890**	-0,523†	-0,954**	-0,333
N (JV)	3704 (1252)	3704 (1252)	3704 (1252)	3704 (1252)	3704 (1252)	3704 (1252)	3704 (1252)	3704 (1252)	3704 (1252)
Model x^2	399,195***	399,431***	400,303***	403,446***	428,179***	473,324***	432,824***	489,065***	481,091***
–2 Log likelihood	4339,767	4339,531	4338,659	4335,516	4310,783	4265,638	4306,137	4249,897	4257,871
Nagelkerke R^2	0,142	0,142	0,142	0,143	0,151	0,166	0,153	0,171	0,169
Correctly classified (%)	70,5	70,5	70,6	70,5	70,9	71,2	70,4	70,8	71,0

Standard errors; † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (one-tailed).

[a] Hofstede: PDI (Power Distance), IDV (Individualism), MAS (Masculinity), UAI (Uncertainty Avoidance).
Schwartz: E-A (Embeddedness/Autonomy), H-E (Hierarchy/Egalitarianism), M-H (Mastery/Harmony).
GLOBE: PDI (Power Distance), UAI (Uncertainty Avoidance), HUM (Humane Orientation), INSTColl (Societal Institutional Collectivism), INGROUPColl (Societal In-Group Collectivism).

Appendix 1. Target countries of the investment

COUNTRY	TOTAL		SUBSAMPLE					
			DENMARK		FINLAND		SWEDEN	
	N	%	N	%	N	%	N	%
Argentina	9	0,24	2	0,36	3	0,17	4	0,29
Australia	36	0,97	10	1,80	8	0,45	18	1,31
Austria	46	1,24	6	1,08	20	1,13	20	1,45
Brazil	88	2,38	19	3,42	32	1,81	37	2,68
Canada	98	2,65	10	1,80	59	3,33	29	2,10
China	232	6,26	42	7,57	91	5,14	99	7,18
Denmark	168	4,54	0	0,00	69	3,90	99	7,18
Egypt	8	0,22	1	0,18	3	0,17	4	0,29
Finland	146	3,94	23	4,14	0	0,00	123	8,92
France	226	6,10	26	4,68	101	5,71	99	7,18
Germany	331	8,94	46	8,29	153	8,64	132	9,57
Greece	6	0,16	0	0,00	4	0,23	2	0,15
Hong Kong	6	0,16	0	0,00	6	0,34	0	0,00
Hungary	50	1,35	5	0,90	31	1,75	14	1,02
India	65	1,75	13	2,34	23	1,30	29	2,10
Indonesia	23	0,62	3	0,54	8	0,45	12	0,87
Ireland	21	0,57	3	0,54	13	0,73	5	0,36
Israel	5	0,13	2	0,36	0	0,00	3	0,22
Italy	117	3,16	14	2,52	52	2,94	51	3,70
Japan	25	0,67	4	0,72	6	0,34	15	1,09
Malaysia	43	1,16	8	1,44	24	1,36	11	0,80
Mexico	41	1,11	3	0,54	20	1,13	18	1,31
Netherlands	134	3,62	17	3,06	76	4,29	41	2,97
New Zealand	7	0,19	0	0,00	2	0,11	5	0,36
Philippines	10	0,27	4	0,72	2	0,11	4	0,29
Poland	132	3,56	31	5,59	61	3,45	40	2,90
Portugal	37	1,00	6	1,08	15	0,85	16	1,16
Russia	126	3,40	9	1,62	91	5,14	26	1,89
Singapore	16	0,43	1	0,18	12	0,68	3	0,22
Slovenia	7	0,19	3	0,54	2	0,11	2	0,15
South Korea	21	0,57	4	0,72	6	0,34	11	0,80
Spain	88	2,38	14	2,52	33	1,86	41	2,97
Sweden	335	9,04	36	6,49	299	16,89	0	0,00
Switzerland	50	1,35	11	1,98	21	1,19	18	1,31
Taiwan	8	0,22	1	0,18	3	0,17	4	0,29
Turkey	16	0,43	1	0,18	7	0,40	8	0,58
UK	316	8,53	82	14,77	131	7,40	103	7,47
USA	606	16,36	93	16,76	281	15,88	232	16,82
Venezuela	5	0,13	2	0,36	2	0,11	1	0,07
	3704	100,00	555	100,0	1770	100,00	1379	100,00

Appendix 2. Correlations

		Mean	Std. dev.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. Establish-ment mode	Pearson Correlation	0,27	0,445	1																
	Sig. (2-tailed)																			
2. Firm size log	Pearson Correlation	6,561	1,7906	0,037	1															
	Sig. (2-tailed)			0,025																
3. Firm size	Pearson Correlation	2298,53	4377,92	0,093	0,616	1														
	Sig. (2-tailed)			0,000	0,000															
4. Diver-sification	Pearson Correlation	10,87	7,640	-0,022	0,458	0,285	1													
	Sig. (2-tailed)			0,184	0,000	0,000														
5. Host country exp.	Pearson Correlation	8,34	13,955	-0,108	0,242	0,144	0,175	1												
	Sig. (2-tailed)			0,000	0,000	0,000	0,000													
6. Related expansion	Pearson Correlation	0,95	0,222	0,072	0,070	0,046	-0,018	0,014	1											
	Sig. (2-tailed)			0,000	0,000	0,005	0,286	0,383												
7. Shared subsidiary ownership	Pearson Correlation	0,34	0,473	0,139	-0,003	0,026	0,034	-0,121	-0,021	1										
	Sig. (2-tailed)			0,000	0,840	0,108	0,037	0,000	0,204											
8. Economic level	Pearson Correlation	0,76	0,425	-0,410	-0,112	-0,138	0,049	0,167	-0,096	-0,272	1									
	Sig. (2-tailed)			0,000	0,000	0,000	0,003	0,000	0,000	0,000										
9. Economic growth	Pearson Correlation	3,33	3,675	0,162	0,042	0,065	-0,018	-0,055	0,015	0,096	-0,293	1								
	Sig. (2-tailed)			0,000	0,011	0,000	0,262	0,001	0,360	0,000	0,000									
10. Timing	Pearson Correlation	14,09	7,687	-0,041	-0,462	-0,247	0,098	-0,143	-0,138	0,097	0,203	-0,065	1							
	Sig. (2-tailed)			0,013	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000								
11. R&D	Pearson Correlation	1,79	0,745	0,055	0,037	0,123	-0,028	-0,030	-0,056	-0,030	-0,020	0,048	-0,022	1						
	Sig. (2-tailed)			0,001	0,025	0,000	0,088	0,072	0,001	0,069	0,225	0,004	0,176							
12. General FDI exp.	Pearson Correlation	34,31	36,373	0,056	0,611	0,510	0,504	0,458	0,048	-0,008	-0,131	0,070	-0,330	0,028	1					
	Sig. (2-tailed)			0,001	0,000	0,000	0,000	0,000	0,004	0,644	0,000	0,000	0,000	0,088						
13. General FDI exp. log	Pearson Correlation	2,868	1,3180	0,038	0,747	0,430	0,571	0,421	0,074	-0,024	-0,097	0,041	-0,306	0,032	0,828	1				
	Sig. (2-tailed)			0,021	0,000	0,000	0,000	0,000	0,000	0,141	0,000	0,013	0,000	0,052	0,000					
14. Hofstede	Pearson Correlation	2,398	1,5134	0,242	0,203	0,188	-0,049	0,000	0,091	0,131	-0,480	0,212	-0,130	0,100	0,206	0,206	1			
	Sig. (2-tailed)			0,000	0,000	0,000	0,003	0,997	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000				
15.Schwartz	Pearson Correlation	1,327	1,2126	0,320	0,121	0,125	-0,012	-0,057	0,041	0,168	-0,589	0,377	-0,172	0,090	0,153	0,139	0,473	1		
	Sig. (2-tailed)			0,000	0,000	0,000	0,472	0,001	0,014	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000			
16. GLOBE A	Pearson Correlation	2,066	1,2894	0,139	0,194	0,138	-0,056	0,045	0,093	0,062	-0,402	-0,007	-0,153	0,052	0,185	0,199	0,682	0,180	1	
	Sig. (2-tailed)			0,000	0,000	0,000	0,001	0,007	0,000	0,000	0,000	0,665	0,000	0,002	0,000	0,000	0,000	0,000		
17. GLOBE B	Pearson Correlation	1,446	0,8628	0,341	0,101	0,129	-0,016	-0,171	0,063	0,256	-0,680	0,379	-0,123	0,067	0,109	0,086	0,517	0,494	0,241	1
	Sig. (2-tailed)			0,000	0,000	0,000	0,316	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	