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# **Entry Mode Choice: Testing New Approaches to Measuring Psychic Distance and International Experience**

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## **Abstract**

While the issue of entry mode choice has been extensively studied for almost two decades, there has been remarkably little investigation into how researchers operationalize two key constructs: psychic distance and international experience. Using a large scale database of Nordic FDI over the mid 1990s, the authors demonstrate that a broader selection of psychic distance scales dramatically increases the ability to predict entry mode selection. Similarly, the authors demonstrate that when a refined approach to measuring international experience, which distinguishes between experience in similar and dissimilar countries, is employed, only culture-specific experience (i.e. experience in countries similar to the target market) appears to have a significant impact on entry mode selection.

**Keywords:** entry mode, joint venture, psychic distance, international experience, language, religion, culture.



## **Entry Mode Choice: Testing New Approaches to Measuring Psychic Distance and International Experience <sup>1</sup>**

### **1 Introduction**

With the recent publication of several meta-analyses and reviews on entry mode selection (Brouthers & Hennart, 2007; Magnusson, Baack, Zdravkovic, & Staub, 2006; Tihanyi, Griffith, & Russell, 2005; Zhao, Luo, & Suh, 2004), and the 20<sup>th</sup> anniversary of two seminal papers in the field (Gatignon & Anderson, 1988; Kogut & Singh, 1988) fast approaching, one could be forgiven for thinking that the issue of international entry mode choice has been fully explored. To a large extent, we would agree with that sentiment. A quick perusal of the major journals in the field of international business easily produces a list of 40 or more empirical articles exploring various aspects of the degree of foreign parent ownership; not to mention another a dozen or more articles concerning the issue of greenfield entry modes versus entry by acquisition. Nevertheless, we believe there are two aspects of international entry mode choice which have not yet been full developed.

The first goal of our study is to analyse the role of the psychic distance in the entry mode selection for foreign direct investments (FDIs). More specifically, our objective is to analyse the impact on entry mode choice of 'other dimensions' of psychic distance, beyond just a single measure of national culture. The second goal of this paper is to examine the multiple forms of international experience, and their impact on entry mode choice. Here, we are drawing a distinction between general international experience and culture-specific

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international experience. Our investigations of both the psychic distance and international experience constructs are conducted on a large sample of FDIs made by Nordic investors in more than 50 countries. In this context, entry mode refers to the choice between the use of wholly-owned subsidiaries and joint ventures in FDI

The structure of the paper is as follows: The second section includes a literature review and develops the hypotheses. The third section includes the methodological discussion, including operationalizations of the key concepts and key features of the sample. The fourth section presents the results of the study. Fifth section summarizes the main findings and conclusions and presents some proposals for further studies.

## **2 Literature Review**

### *2.1 Psychic Distance*

As mentioned above, one of the ‘gaps’ in the entry mode literature concerns the concept of psychic distance. However, we are not arguing that the issue has been neglected; quite the reverse. Over the past two decades, psychic distance and cultural distance<sup>2</sup> have been among the most commonly employed predictor variables in empirical entry mode studies, beginning with Kogut and Singh’s (1988) creation of a composite index based on Hofstede’s (1980; 2001) four cultural dimensions. In Zhao *et al.*’s (2004) meta-analysis, psychic distance was included as a predictor variable in 14 of the 38 samples; second in frequency only to research and development intensity and international experience. In our own review of empirical

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<sup>2</sup> - some researchers, such as Gomes and Ramaswamy (1999) and Lee (1998), treat these two constructs as isomorphic. However, the authors of this article favour the interpretation that they are related but distinct constructs, with cultural distance being only one dimension of psychic distance (Shenkar, 2001). Given the focus of this paper, we will use the broader term, psychic distance, except when we are intentionally referring to the narrower construct; even if the author in question has used the terms interchangeably.

articles investigating the issue of the degree of foreign parent control (see Appendix I), 28 of the 42 papers included psychic distance as a predictor variable. Indeed, Cho and Padmanabhan (2005, p. 309) point out that “researchers have used it extensively ... almost to the point that no international business study can be complete unless there is an explicit variable controlling for [psychic] distance”.

At the conceptual level, the role of psychic distance in entry mode selection is just as strongly endorsed. It is frequently cited as prime example of an indicator of internal uncertainty in the transaction cost economics (TCE) approach to international entry modes (Erramilli & Rao, 1993; Hennart & Larimo, 1998; Zhao *et al.*, 2004); although some researchers have also justified their inclusion using the internationalization process model (Johanson & Vahlne, 1977). In both cases, a high degree of psychic distance between countries is expected to have a negative impact on a firm’s desire for a high control/equity entry mode.

Despite this broad agreement at the conceptual level, the actual empirical results concerning psychic distance and entry mode choice are weak and ambiguous. Zhao *et al.* (2004) find a significant negative correlation between psychic distance and entry mode selection; however, it is the weakest of the six predictor variables examined ( $r = -.03$ ), and when measured using secondary data such as Kogut and Singh’s scales, its effect falls to non-significant levels. Tihanyi *et al.* (2005) and Magnusson *et al.* (2006) find similarly small and weak effect sizes. In our own review of studies including psychic distance and entry mode, the relationship appears a little more consistent with 18 of the 28 articles reporting significant coefficients; however, this still leaves a full third of the investigations finding no significant relationship. These weak empirical results have led a wide variety of authors to question whether the way psychic distance is typically measured is partially to blame (Dow & Karunaratna, 2006; Harzing, 2003; Shenkar, 2001; Tihanyi *et al.*, 2005). This of course leads

us back to the first of the two major contributions of this paper, and to our first set of hypotheses.

From as early as 1975, numerous commentators (Boyacigiller, 1990; Evans & Mavondo, 2002; Johanson & Wiedersheim-Paul, 1975; Shenkar, 2001) have suggested that psychic distance is a multidimensional construct, encompassing factors such as differences in culture, language, religion, education, political systems, industrial development. Yet, when implemented in empirical studies, the vast majority of researchers not only default to measuring just differences in culture, but a single metric: Kogut and Singh's index of the Hofstede dimensions (Kogut & Singh, 1988). Shenkar (2001) refers to this bias as the 'illusion of causality' and suggests that it may be one of the causes of the 'mixed' results. For a fuller discussion of the prevalence of this bias, please refer to Dow and Karunaratna (2006) and Harzing (2003).

In response to the preceding comments and claims, this paper sets out to test two related hypotheses concerning psychic distance. The first simply reflects the standard hypothesis found in almost all entry mode choice papers:

**H1.** *The cultural distance between countries will be negatively associated with a high control entry mode (i.e. entry via a wholly-owned subsidiary).*

However, the second hypothesis reflects the views of Shenkar (2001) and others (Dow & Karunaratna, 2006; Evans & Mavondo, 2002; Harzing, 2003; Tihanyi *et al.*, 2005; Zhao *et al.*, 2004); that there are other significant aspects to psychic distance, in addition to the cultural component. For the purposes of this paper, we will adopt the specific dimensions put forward by Dow and Karunaratna (2006), but a similar list can also be found in numerous other

reviews of the issue (Evans & Mavondo, 2002; Harzing, 2003; Johanson & Wiedersheim-Paul, 1975; Shenkar, 2001)

**H2.** *Other dimensions of psychic distance, specifically differences in a) language, b) religion, c) industrial development, d) education and e) political systems, will also be negatively associated with a high control entry mode (i.e. entry via a wholly-owned subsidiary).*

## 2.2 *International Experience*

The second ‘gap’ in the entry mode literature that we address in this paper concerns the concept of international experience. As with psychic distance, international experience is a well established construct in the entry mode literature, in both its theoretical justification, and in terms of being included as a predictor or control variable in empirical studies.

Starting back with Gatignon and Anderson (1988), international experience has been cited, with respect to the TCE model, by numerous authors (Brouthers & Brouthers, 2001; Brouthers & Hennart, 2007; Contractor & Kundu, 1998a; Delios & Beamish, 1999; Gomes-Casseres, 1989; Hennart & Larimo, 1998; Lu, 2002; Padmanabhan & Cho, 1996) as an indicator of low levels of internal uncertainty. Though it is not nearly as heavily cited, international experience can also be justified as a predictor variable with respect to international entry mode choice using the Uppsala internationalisation process model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975).

In terms of its inclusion as a predictor or control variable in empirical studies, international experience has been by far the most frequently employed construct in the entry mode literature. In Zhao et al.’s meta-analysis (2004), 30 of the 38 empirical studies in their analyses included a measure of international experience. However, as was the case with



psychic distance, our concern is not the fact that researchers are ignoring the construct, but rather with how it is interpreted and measured.

Taken from the TCE perspective, international experience is relevant to entry mode selection because experience has the potential to reduce the cost and effectiveness of the monitoring of agents. This in turn, reduces risk and makes the cost of a lower control mode relatively more attractive. Yet, one must ask the question ‘experience in what?’ Roughly half of the empirical studies incorporating international experience as a predictor variable for entry mode selection (e.g. Gatignon & Anderson, 1988; Herrmann & Datta, 2006) have used overall international experience (typically measured in years, number of countries, or percentage of assets) as their sole indicator. This is significant because of the implication of what type of experience the firm is accumulating. Though few of the previous authors have explicitly discussed the issue, they are primarily measuring a firm’s **experience in the general process** of learning how to manage business activities in a distant location (e.g. learning how to effectively monitor an agent’s activities). This way of measuring of experience gives equal weighting to all markets; and thus, is assuming that it is not necessary for the various foreign markets to be similar for learning to occur. In fact, one could argue that the more diverse the countries are, the more effective the learning.

At the other extreme, almost one quarter of entry mode studies have used a variable to indicate prior experience within the same host country (e.g. Arregle, Hebert, & Beamish, 2006; Hennart, 1991). This variable implies a completely different, though no less potentially important, type of international experience: namely **culture-specific experience** (i.e. learning how to effectively operate in a specific environment which may include different languages, religions, cultures, and/or institutions). Greater experience in a specific language or culture arguably has as much potential to reduce the monitoring costs of an agent as experience in the process of how to manage an agent in a distant country. However, with this type of

experience, not all countries are equally important. For a firm selecting its entry mode into Germany, prior experience in Austria will be substantially more valuable than experience in Vietnam. To our knowledge only four existing entry mode studies (Brouthers & Brouthers, 2001; Brouthers & Brouthers, 2003; Dikova & van Witteloostuijn, 2007; Meyer, 2001) have explored this second form of international experience any further than including a simple variable for prior host country experience. In each of these four studies, separate variables were included for prior experience in similar countries. Unfortunately, in each case, these four studies only included a very narrow range of host countries, all from the same region – Central Eastern Europe. Moreover, for each of these studies, the international experience variables were only included for control purposes; and thus, no specific mechanisms were included to discriminate between the two types of experience.

This leads us to the second major objective of this paper: to empirically examine and test the relative importance of these two forms of international experience on entry mode selection. To do so, the first of the two hypotheses sets out to confirm the importance of general international experience as a predictor variable of entry mode.

**H3.** *Purely general international experience (i.e. international experience in countries dissimilar to the host country) will be positively associated with a high control entry mode (i.e. entry via a wholly-owned subsidiary).*

However, when a firm gains experience in countries similar to the host country, it will be gaining both ‘general international experience’ and ‘culture-specific experience’. As a result, if ‘culture-specific experience’ is important in international entry mode selection, we would not only expect experience in countries similar to the host country to be positively associated

with a preference for high control entry modes, but for its effect size to be greater than for experience in dissimilar countries.

**H4.** *International experience in countries similar to the host country will be*

*a) positively associated with a high control entry mode (i.e. entry via a wholly-owned subsidiary), and*

*b) this relationship will be stronger than for international experience in countries which are dissimilar to the host country.*

### **3 Methodology**

#### *3.1 The sample population*

The empirical analyses are conducted on a subset of a database of manufacturing FDI made by Nordic firms from 1960 to 1999. The information is drawn from annual reports of the firms, business journals, survey information, and direct contacts with companies based in Denmark, Finland, Norway and Sweden. The credentials of this database are reasonably well established with portions of the data being used in two previous peer-reviewed journal articles (Hennart & Larimo, 1998; Larimo, 2003). The main database contains 3,524 investments made by 382 Nordic firms; however, for the purposes of this paper, the dataset has been constrained to 1,557 investments made by 253 firms between 1993 and 1999. The sample includes a total of 54 host countries with 905 entries in the form of a wholly-owned subsidiary (WOS) and 652 entries in the form of a joint venture (JV) with a local partner (see Tables 1 & 2 for descriptive statistics and a correlation matrix).

### 3.2 *The dependent variable*

As is common amongst the majority of international entry mode studies (e.g. Arregle *et al.*, 2006; Brouthers & Brouthers, 2001; Gomes-Casseres, 1990; Hennart, 1991; Padmanabhan & Cho, 1996), the dependent variable used to represent a high control entry mode is a dummy variable indicating the use of a wholly-owned subsidiary, as opposed to a joint venture with a local partner when entering a new market. The commonly used cut-off of 95% equity is employed to discriminate between these two alternatives (Arregle *et al.*, 2006), with the WOS alternative coded as 1 and JV alternative coded as 0.

### 3.3 *Independent variables*

The primary independent variables of interest are various measures of psychic distance and international experience.

#### 3.3.1 *Psychic Distance*

As discussed in the development of the first hypothesis, far and away the most commonly employed variable used to represent psychic distance in international business research is Kogut and Singh's (1988) composite index, based on Hofstede's four dimensions of national culture (1980; 2001). While a major contribution of this paper is to empirically question the sagacity of using the Kogut and Singh index as the sole indicator of psychic distance, it may still represent an important component of psychic distance; and thus, it is critical that we include it in our models. Thus, our first major indicator of psychic distance is the classic measure of Hofstede's cultural distance (**Hof**). Although Hofstede and Bond (1988) have subsequently added a fifth dimension, we have chosen to utilize only the four original dimensions to maintain comparability with past research

In order to test the second hypothesis (i.e. the importance of other dimensions of psychic distance), we have adopted several of the scales developed by Dow and Karunaratna (2006).

Specifically, we have included multi-item factors measuring differences amongst countries in language (**Lang<sup>F</sup>**), religion (**Relig<sup>F</sup>**), education (**Edu<sup>F</sup>**), industrial development (**Ind Dev<sup>F</sup>**), degree of democracy (**Dem<sup>F</sup>**), and political ideologies (**Social**).<sup>3</sup>

Tables 1 & 2 provide descriptive statistics and the correlation matrix for these predictor variables, and the control variables, as applied to our sample population. Table 1 also provides a brief description of the items used to estimate each of the psychic distance factors. For a more extensive discussion of the psychic distance factors, we refer readers to the Dow and Karunaratna (2006) article where both the justification for, and calculation of, these variables is presented in considerable detail. Also, in keeping with Dow and Karunaratna's (2006) findings, the absolute value of the education, industrial development, democracy and political ideology variables are employed.

### 3.3.2 *International Experience*

As discussed in the development of the third and fourth hypotheses, international experience is arguably the most commonly included predictor variable in empirical entry mode studies. The most common forms of this variable are the number of previous foreign market entries (e.g. Delios & Beamish, 1999), the number of years of international experience (e.g. Brouthers, 2002), and the number of years of operational experience in the target market (e.g. Delios & Henisz, 2000). For the models presented here, total global experience in terms

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<sup>3</sup> - The time zone variable was not included; and thus, not reported in this study for three reasons. First of all, calls for its inclusion amongst the critical dimensions of psychic distance are far weaker than the other dimensions of psychic distance. Secondly, the variable is moderately collinear with a number of other predictor variables, making its inclusion problematic. Third, and finally, both our initial exploratory analyses, and the analyses put forward in Dow and Karunaratna (2006), indicate that under most circumstances the variable has no significant predictive power.

of the number of foreign market entries (**Exp\_Total**) and the number of years of experience in the local market (**Exp\_Local**) are included in our baseline model. However, in order to test our third and fourth hypotheses, we have chosen to also disaggregate the first of those two variables into two parts: the number of previous foreign market entries into countries similar to the host market (**Exp\_Similar**) and the number of previous foreign market entries into countries dissimilar to the host market (**Exp\_Dissimilar**).

For the purposes of this study, 120 of the potential host markets were subjected to a cluster analysis using several of the same dimensions as we are employing to measure psychic distance – specifically level of industrial development, education levels, degree of democracy, dominant languages and dominant religions. Unfortunately, the Hofstede data does not cover a sufficient number of countries to use it for this purpose. A 22 cluster solution using Wards method and squared Euclidean distances was selected on the basis of face validity (Kerlinger, 1986) and similarities to prior efforts at clustering nations (Ronen & Shenkar, 1985; Sethi, 1971)<sup>4</sup>. A complete list of the countries and their respective clusters is included in Appendix II.

The classic measure of local experience - the number of years of operational experience in the host country (**Exp\_Local**) is also included in the study, but as will be discussed later, it does introduce a degree of collinearity with the **Exp\_Similar** variable. As discussed in the development of the hypotheses, disaggregating prior experience in this form allows us to separate out the effects of general international experience (i.e. non-culture specific) and

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<sup>4</sup> - One manual adjustment to this cluster solution was imposed by the authors due to the nature of the language variables. Three countries – the Republic of Korea, Malta and Hungary, were all clustered with the Nordic nations. Closer investigation revealed that the major factor bringing this about was their ‘distance’ from the major languages such as English, Arabic, Chinese, Spanish, French, etc. As a result, it was resolved to set these as single nation clusters.

culture-specific international experience. Each of these three measures of experience has been adjusted using a natural logarithm transformation to reduce the amount of skew and kurtosis. This transformation is also consistent with the view put forward by the Uppsala school (Johanson & Wiedersheim-Paul, 1975) that the impact of international experience will be the strongest in the early stages of internationalisation, and then gradually diminish.

### *3.4 Control variables*

#### *3.4.1 R&D Intensity*

In addition to the aforementioned predictor variables, there are a number of variables which need to be included in order to control for other factors. Not the least of these is a measure of R&D intensity. Stretching back to Kogut and Singh's (1988) and Gatignon and Anderson's (1988) seminal articles on entry mode, R&D intensity has been the variable of choice to test the asset specificity aspects of the TCE approach. Zhao *et al.* (2004) note that it has been included in 23 of the 38 samples they reviewed. For this data set, R&D intensity is operationalized using a three point scale (**R&D**) which categorizes the parent firm's industry as high, medium or low R&D intensity based on OECD classifications (Larimo, 2003).

#### *3.4.2 Country Risk*

A second aspect of the TCE model is controlled for by the inclusion of country political risk (**Pol\_Risk**) as an indicator of external uncertainty (Gatignon & Anderson, 1988). In this particular instance we have adopted the Euromonitor scale where a score of 100 indicates low risk and a score of 0 indicates high risk (Delios & Beamish, 1999; Lu & Hebert, 2005; Sanchez-Peinado, Pla-Barber, & Hebert, 2007).

### 3.4.3 *Size of Parent firm*

A variety of researchers (e.g. Contractor & Kundu, 1998b; Delios & Henisz, 2000; Erramilli, Agarwal, & Kim, 1997; Hennart & Larimo, 1998) have predicted that the size of the parent firm may affect the entry mode choice. However, as Hennart and Larimo (1998) point out, arguments have been put forward for both a positive and negative impact. Nevertheless, firm size may be an influencing factor and needs to be controlled for. Company size in our analyses (**PSize**) is measured as the natural logarithm of the parent firm's annual sales immediately prior to the investment, measured in US\$ and standardized to the year 2000.

### 3.4.4 *Unrelated Investment*

Similarly, a variety of researchers (Chen & Hennart, 2002; Lu, 2002; Padmanabhan & Cho, 1999) have argued that when a foreign direct investment is in an industry unrelated to the parent company's main business, the firm may have a preference for a joint venture in order to access particular skills. In this study, a dummy variable (**Unrelated**) is used to indicate when the investment falls into a different four digit SIC code from the parent organisation.

### 3.4.5 *Restrictions on Foreign Ownership*

The final control variable concerns the propensity for the host market government to place restrictions on foreign investment. This variable has also been incorporated by a wide variety of researcher (e.g. Delios & Henisz, 2000; Padmanabhan & Cho, 1999; Pan, 2002) and is operationalized here as a dummy variable (**Restrictions**) using the Index of Economic Freedom (Miles, Feulner, & O'Grady, 2005). A value of 1 indicates a high degree of restrictions on foreign ownership and a value of 0 indicates a low degree of restrictions.



### 3.5 Analytical techniques

In keeping with previous research on entry mode choice modelling (e.g. Chen & Hennart, 2002); and as is appropriate with a binary dependent variable, we have used binary logistic regression to develop our baseline model and test our hypotheses. A positive and significant estimated coefficient indicates that the variable is associated with an increased probability of a high control entry mode (i.e. wholly-owned subsidiary). Our baseline model includes all of the control variables discussed previously, plus the traditional measures of psychic distance (**Hof**) and international experience (**Exp\_Total** and **Exp\_Local**).

A second block of predictor variables, specifically our expanded set of psychic distance indicators, are then added to the baseline model in order to test the first and second hypotheses. Due to potential problems with multi-collinearity amongst some of the dimensions of psychic distance, we have tested each of four of the variables – differences in religion, industrial development, education and degree of democracy separately, as well as collectively. We then remove the traditional measure of global experience (**Exp\_Total**) and substitute in our refined measures of experience (**Exp\_Similar** and **Exp\_Dissimilar**). This allows us to test hypotheses 3 and 4.

## 4 Results

Table 3 summarizes the series of logistic regressions used to examine the effect of various dimensions of psychic distance on entry mode selection. For model 1, the six 'new' psychic distance indicators were entered as a single block, yielding a  $\Delta\psi^2 = 42.36$ ,  $\Delta df = 6$ ,  $p < .001$ . However, as was the case in Dow and Karunaratna (2006), there is a high degree of multi-collinearity amongst several of these variables. In particular, differences in religion, industrial development, education and degree of democracy all have Pearson correlations with one another between 0.63 and 0.75. As a result, Model 1 in Table 3 is presented for

completeness, but suffers from a high degree of multi-collinearity. Models 2 through 5 test each of these four collinear variables independently, and the results essentially support hypotheses **H2b**, **H2c**, **H2d** and **H2e**. Taken individually, differences in religion, industrial development, education and degree of democracy are all highly correlated with the probability that a firm will select a low control entry mode. However, due to the multi-collinearity, it is not possible to discriminate amongst these variables. Nevertheless, whether one employs all four of these variables together, or any one of them individually, they represent a statistically significant improvement in terms of predicting entry mode choice. In terms of selecting the most parsimonious model to represent psychic distance, we have selected to retain the education variable (i.e. Model 4) as it is statistically significant, but also has the lowest level of collinearity with other predictor variables. This of course leads us to our second collinearity problem.

In addition to the collinearity amongst the four variables mentioned above, there appear to be two more mild cases of collinearity amongst the psychic distance variables. Both the national culture variable (**Hof**) and the differences in language variable (**Lang<sup>f</sup>**) are also mildly collinear with the previous four variables. Even when using our preferred model (Model 4), the differences in language and national cultural variables only achieve an extremely modest significance of  $p < .10$ . Yet when the **Edu<sup>f</sup>** variable is withheld (i.e. Model 6), the coefficients for the national culture variable and the language variable become statistically significant, confirming hypotheses **H1** and **H2a**. Indeed, the only dimension of psychic distance which does not prove to be statistically related to entry mode selection is one aspect of the political dimension: differences in political ideology (**Social**).

In order to test the third and fourth hypotheses, we have taken our most parsimonious model of psychic distance (Model 4), and have substituted in two new measures of international experience (**Exp\_Similar** and **Exp\_Dissimilar**) in place of the more traditional

measure (**Exp\_Total**). The results of this new model (Model 7, Table 4) are intriguing. While the coefficients for both of the new experience variables are statistically non-significant, the coefficient for the ‘experience in similar markets’ variable is in the predicted direction, whereas the coefficient for the ‘experience in dissimilar markets’ variable is not. Moreover, it is important to notice that the significance test of two other variables (**Exp\_Local** and **Edu<sup>f</sup>**) declined when we introduced the new measures of experience. In effect, the issue of collinearity has raised its head once again. One of the new experience variables (**Exp\_Similar**) seems to exhibit a degree of multi-collinearity with **Exp\_Local** and **Edu<sup>f</sup>**. Model 8 of Table 4 explores this issue by withholding both **Exp\_Local** and **Edu<sup>f</sup>** from the logistic regression. Under this condition, the coefficient for the ‘experience in similar markets’ variable becomes statistically significant in the predicted direction; thus, confirming **H4a**. In contrast, the coefficient for the ‘experience in dissimilar markets’ variable remains non-significant under all circumstances. Despite this remarkable difference between the two new experience variables, an unpaired t-test indicates that the difference between the coefficients for **Exp\_Similar** and **Exp\_Dissimilar** is only very weakly significant ( $t = 1.56$ ,  $p = .060$ , one tailed), in part due to the large standard error for the **Exp\_Dissimilar** coefficient. Thus, hypothesis **H4b** is only very weakly confirmed.

## 5 Discussion and conclusions

In summary, the argument for a much broader set of scales with which to measure psychic distance is strongly upheld. In addition to the traditional measure of national culture (**Hof**), four of the five new variables: differences in language (**Lang<sup>f</sup>**), religion (**Relig<sup>f</sup>**), education (**Edu<sup>f</sup>**), industrial development (**Ind Dev<sup>f</sup>**) and degree of democracy (**Dem<sup>f</sup>**) were all found to be statistically significant predictors of entry mode selection. It should be noted here that these variables are complements, rather than substitutes for the traditional measure of psychic

distance. However, they are very important complements. Based on the changes in the percentage of correct predictions, if one follows past practices and only uses the traditional Hofstede-based scale (**Hof**), you will only capture roughly one quarter of the potential impact of psychic distance on entry mode selection. This may partially explain the weak and ambiguous finds concerning the impact of psychic distance on entry mode selection. Moreover, these findings endorse the initial results of Dow and Karunaratna (2006) and extends their generalisability from export market selection to foreign direct investment entry mode selection.

The issue of multi-collinearity amongst the various measures of psychic distance unfortunately seems to be inherent to the nature of the constructs. In particular, differences in industrial development, education and degree of democracy seem to be highly correlated regardless of which sample population is employed. The fact that psychic distance also potentially impacts on market selection introduces an additional sample bias, which at times appears to accentuate the collinearity even further. However, this collinearity in no way weakens our claim that a more comprehensive set of psychic distance indicators is critical for future research in the area; but it does complicate the issue of what is the most parsimonious model for measuring psychic distance. As stated in our Results section, we prefer Model 4 in Table 3, where the national culture, education and language variables are retained and the religion, industrial development and democracy variables are dropped. This choice is based on our desire to both retain highly significant variables and reduce collinearity amongst them. At this stage, we believe it is also prudent to retain the second ‘political difference’ variable (**Social**) despite its non-significance.

The second major contribution of this paper concerns the way in which researchers traditionally measure international experience. Our results indicate that experience in countries similar to the host market may have a significant impact on entry mode selection;

however, experience in dissimilar countries appears to have no correlation with entry mode selection. This means that the traditional approach to measuring international experience, where no distinction is made amongst the countries, is flawed and may be producing a heavily 'diluted' measure of experience. It would appear that culture-specific experience is the most important form of experience, and that general international experience may have little or no impact on entry mode choice.

The conclusions presented here must be taken in context. Foremost amongst the limitations is the sample bias. These results are based purely on the behaviours of Nordic companies during the 1990s. If there are any national tendencies, such as a possibly a bias towards uncertainty avoidance by Nordic firms; or any temporal trends, such as 'globalization' causing a decline in the sensitivity to psychic distance (Nordstrom & Vahlne, 1994), then these results may not be strictly generalizable to other time periods or geographic locations. Similarly, the sample population is constrained to manufacturing firms. Any generalization of these results to service firms needs to be done with caution.

One limitation which is specific to our international experience conclusions is the process by which we defined similar and dissimilar markets. Our initial choice of 22 country clusters was based primarily on a face validity judgement by the lead author and a comparison of the clusters with previous efforts to cluster countries (Ronen & Shenkar, 1985; Sethi, 1971). It may be the case that we were inappropriately harsh in setting the hurdle between similar and dissimilar countries, and some useful 'culture-specific experience' is being misclassified.

A third limitation of this study is the measurement of R&D intensity at the industry level using a three point scale. Ideally, the R&D intensity should be measured at the firm level; however, the high proportion of multi-business firms has the potential to distort even that measure.

However, despite all these limitations, our results concerning the measurement of psychic distance are consistent with the earlier results of Dow and Karunaratna (2006). Regardless of whether one is examining export market selection or entry mode choice for FDI, it appears critical that a more comprehensive set of psychic distance indicators be used. Similarly, our results concerning international experience appear equally robust. The practice of counting all prior foreign market experience equally appears to be flawed. Experience in countries similar to the host market is a significant predictor of entry mode selection, but experience in dissimilar countries does not appear to have any correlation with entry mode choice.

A major implication of this research for practitioners is in raising the awareness that psychic distance, and the pursuant difficulties in conducting business in foreign markets are driven by a much broader range of factors that is often acknowledged in most empirical studies. While recent trends in globalisation may be affecting international flows of goods, services and investment; differences in language, religion, education systems and political systems still do affect international business decisions. Secondly, this research highlights the relative importance of culture-specific experience, which in turn has implications for the order in which firms exploit foreign market opportunities.

In terms of avenues of future research, one possible agenda is to extend the focus of this study to even more recent FDI. This study has focused on the entry mode choice of Nordic investors in the period 1993-1998. These results could be compared with the behaviour of Nordic investors more recently (e.g. in the period 1999-2004) to determine if there are any temporal trends in the impact of psychic distance and international experience. A second alternative would be to collect data from non-Nordic investors and compare the results. As discussed earlier, all the four Nordic countries are relatively small, economically well-developed countries, OECD-countries, having relatively close links with each others. Thus the non-Nordic sample could include FDI made by firms from a wider range of home countries.

A third alternative avenue would be to extend the analyses to other key strategic decisions – such as the form of investment (e.g. greenfield vs. acquisition) or the order of market selection. These extensions would give an even more comprehensive view of the impact of various dimensions of psychic distance and experience on the FDI decision making.

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**Table 1 Descriptive Statistics \* (n = 1557)**

Label	Description	Expected Sign **	Min.	Max.	Mean	Std. Deviation
Exp_Total	Total # of foreign market entries	+	1	244	42.93	46.59
Exp_Similar	Total # of entries into similar foreign markets	+	0	6	1.45	1.25
Exp_Dissimilar	Total # of entries into dissimilar foreign markets	+	0	242	41.47	46.03
Exp_Local	# of years of previous experience in the host country	+	0	117	7.13	13.08
R&D	3 = high R&D intensity industry; 1 = low R&D intensity industry; based on OECD classifications	+	1	3	1.76	0.75
PSize	Foreign parent company's annual revenue in 2000 US\$ million	***	1.7	26,417	3,282	5,578
Unrelated	Investment is in a different industry (4 digit SIC) from the foreign parent	-	0	1	0.04	0.19
Restrictions	Index of Economic Freedom: 1 = high degree of restrictions on foreign ownership; 0 = low degree of restrictions	-	0	1	0.04	0.19
Pol_Risk	Euromonitor measure of political risk: 100 = low risk; 0 = high risk	+	17.1	100.0	78.4	22.6
Hof	Kogut & Singh's (1988) index of national cultural distance based on the 4 original Hofstede dimensions (1980; 2001)	-	0.05	12.30	2.86	1.91
Lang <sup>f</sup>	3 item factor for differences in language between countries (Dow and Karunaratna, 2006)	-	-0.91	0.53	0.17	0.37
Relig <sup>f</sup>	3 item factor for differences in religion between countries (Dow and Karunaratna, 2006)	-	-1.55	1.28	-0.66	0.73
Ind Dev <sup>f</sup>	9 item factor for differences in industrial development between countries (Dow and Karunaratna, 2006)	-	0.00	2.06	0.64	0.60
Edu <sup>f</sup>	3 item factor for differences in education between countries (Dow and Karunaratna, 2006)	-	0.00	2.06	0.41	0.39
Dem <sup>f</sup>	4 item factor for differences in degree of democracy between countries (Dow and Karunaratna, 2006)	-	0.00	2.03	0.33	0.53
Social	Measure of differences in dominant political ideology between countries (Dow and Karunaratna, 2006; Beck <i>et al.</i> , 2001)	-	0.00	0.83	0.36	0.25

\* - Descriptive statistics are reported before any transformations (i.e. before the natural logarithm transformations of the experience variables and PSize)

\*\* - Expected sign of the coefficient in the logistic regressions, given the dependent variable is coded: WOS = 1, J/V = 0.

\*\*\* - This variable may potentially have an effect in either direction (Hennart and Larimo, 1998).

**Table 2 Correlation Matrix (n = 1,557)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Exp_Total	1.00																
2 Exp_Similar	0.51	1.00															
3 Exp_Dissimilar	0.99	0.45	1.00														
4 Exp_Local	0.44	0.56	0.42	1.00													
5 R&D	0.14	0.06	0.13	0.05	1.00												
6 Psize	0.79	0.41	0.78	0.30	0.10	1.00											
7 Unrelated	-0.05	-0.02	-0.05	0.04	0.05	-0.02	1.00										
8 Restrictions	0.08	-0.09	0.08	-0.09	0.09	0.05	-0.02	1.00									
9 Pol_Risk	-0.12	0.11	-0.13	0.27	0.08	-0.15	0.11	-0.15	1.00								
10 Hof	0.21	-0.04	0.23	-0.10	0.13	0.23	-0.08	0.07	-0.35	1.00							
11 Lang <sup>f</sup>	0.21	-0.07	0.22	-0.13	0.01	0.14	-0.03	0.00	-0.28	0.31	1.00						
12 Relig <sup>f</sup>	0.15	-0.21	0.17	-0.18	0.11	0.16	-0.06	0.44	-0.27	0.53	0.37	1.00					
13 Ind Dev <sup>f</sup>	0.17	-0.21	0.19	-0.23	0.05	0.16	-0.10	0.40	-0.65	0.51	0.40	0.74	1.00				
14 Edu <sup>f</sup>	0.06	-0.24	0.07	-0.18	0.06	0.07	-0.07	0.43	-0.37	0.28	0.13	0.67	0.75	1.00			
15 Dem <sup>f</sup>	0.13	-0.18	0.14	-0.19	0.05	0.13	-0.08	0.10	-0.49	0.49	0.37	0.73	0.75	0.63	1.00		
16 Social	0.07	-0.03	0.08	-0.01	-0.03	0.07	-0.04	0.01	-0.17	0.17	0.25	0.16	0.00	-0.20	0.08	1.00	
17 WOS	-0.08	0.08	-0.09	0.14	0.03	-0.10	0.04	-0.11	0.37	-0.20	-0.17	-0.27	-0.36	-0.27	-0.32	-0.03	1.00

**Table 3 Logistic Regressions – Comparing Indicators of Psychic Distance**

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	<i>B</i>	<i>Wald Test</i>	<i>B</i>	<i>Wald Test</i>	<i>B</i>	<i>Wald Test</i>	<i>B</i>	<i>Wald Test</i>	<i>B</i>	<i>Wald Test</i>	<i>B</i>	<i>Wald Test</i>
Constant	-2.111	9.70	-2.375	26.73	-0.543	1.26	-0.813	3.32	-1.021 *	5.59	-1.435 **	11.57
Exp_Total	-0.033	0.16	-0.031	0.15	-0.018	0.05	-0.031	0.14	-0.025	0.10	-0.024	0.09
Exp_Local	0.048 <i>t</i>	2.38	0.047 <i>t</i>	2.31	0.059 *	3.79	0.058 *	3.64	0.056 *	3.38	0.062 *	4.19
R&D	0.113 <i>t</i>	2.03	0.111 <i>t</i>	1.98	0.106 <i>t</i>	1.81	0.102 <i>t</i>	1.68	0.111 <i>t</i>	2.00	0.092	1.37
PSize	-0.057	0.87	-0.056	0.84	-0.075	1.52	-0.068	1.25	-0.069	1.29	-0.068	1.26
Unrelated	-0.070	0.06	-0.063	0.050	-0.069	0.05	-0.080	0.07	-0.065	0.05	-0.031	0.01
Restrictions	0.132	0.10	0.343	0.91	-0.041	0.01	-0.055	0.03	-0.588 *	3.58	-0.626 *	4.09
Pol_Risk	0.029 ***	48.00	0.030 ***	107.17	0.022 ***	37.14	0.026 ***	74.17	0.024 ***	63.26	0.029 ***	102.66
Hof	0.013	0.12	0.021	0.32	-0.024	0.44	-0.047 <i>t</i>	1.96	-0.019	0.29	-0.077 **	5.58
Lang <sup>f</sup>	-0.106	0.31	-0.067	0.13	-0.131	0.49	-0.288 <i>t</i>	2.62	-0.159	0.79	-0.355 *	4.01
Relig <sup>f</sup>	-0.480 **	8.28	-0.612 ***	30.69								
Ind Dev <sup>f</sup>	0.171	0.50			-0.059 ***	13.53						
Edu <sup>f</sup>	-0.192	0.53					-0.765 ***	17.06				
Dem <sup>f</sup>	-0.255	1.56							-0.669 ***	22.68		
Social	0.522	3.62	0.581	5.88	0.230	0.87	0.135	0.29	0.406	2.93	0.494	4.39
n	1557		1557		1557		1557		1557		1557	
Chi Sq	286.99		284.44		265.57		269.26		276.46		251.79	
df	14		11		11		11		11		10	
Signif	0.000		0.000		0.000		0.000		0.000		0.000	
Nagelkerke												
R Sq	0.226		0.225		0.211		0.214		0.219		0.201	
% Correct	71.3		71.6		71.2		71.1		70.5		69.9	

\*\*\* - .001 signif; \*\* - .01 signif; \* - .05 signif; *t* - .10 signif; (all one-tailed)

**Table 4 Logistic Regressions – Comparing Indicators of International Experience**

	Model 4		Model 7		Model 8	
	<i>B</i>	<i>Wald Test</i>	<i>B</i>	<i>Wald Test</i>	<i>B</i>	<i>Wald Test</i>
Constant	-0.813	3.32	-0.816	<i>t</i> 3.26	-1.431	** 11.20
Exp_Total	-0.031	0.14				
Exp_Similar			0.030	0.17	0.105	* 4.83
Exp_Dissimilar			-0.049	0.45	-0.027	0.15
Exp_Local	0.058	* 3.64	0.055	* 2.77		
R&D	0.102	<i>t</i> 1.68	0.102	<i>t</i> 1.70	0.087	1.24
PSize	-0.068	1.25	-0.062	1.10	-0.075	1.62
Unrelated	-0.080	0.07	-0.076	0.07	0.006	0.00
Restrictions	-0.055	0.03	-0.051	0.02	-0.603	* 3.75
Pol_Risk	0.026	*** 74.17	0.026	74.16	0.030	*** 115.12
Hof	-0.047	<i>t</i> 1.96	-0.046	<i>t</i> 1.89	-0.075	* 5.20
Lang <sup>f</sup>	-0.288	<i>t</i> 2.62	-0.277	<i>t</i> 2.42	-0.363	* 4.29
Edu <sup>f</sup>	-0.765	*** 17.06	-0.745	*** 15.23		
Social	0.135	0.29	0.146	0.34	0.520	4.89
n	1557		1557		1557	
Chi Sq	269.26		269.68		252.16	
df	11		12		10	
Signif	0.000		0.000		0.000	
Nagelkerke R Sq	0.214		0.214		0.201	
% Correct	71.1		71.0		70.1	

\*\*\* - .001 signif; \*\* - .01 signif; \* - .05 signif; *t* - .10 signif; (all one-tailed)

## Appendix I: Summary of the Empirical Measurement of Psychic Distance & Experience in Entry Mode Research

	Psychic Distance **	Global Experience ***	Regional Experience	Local Experience
Kogut & Singh (1988)	KS (s)	Cntry (ns)		Dum (ns)
Gatignon & Anderson (1988)	Dum (p)	Subsid (s)		
Gomes-Casseres (1989)	Dvd (s)	Cntry (s)		
Contractor (1990)				
Gomes-Casseres (1990)	Dvd (s)	Cntry (s)		
Klein, Frazier <i>et al.</i> (1990)				
Erramilli (1991)	KS (s)	Yrs, Cntry (p)		
Hennart (1991)				Yrs (p)
Agarwal & Ramaswami (1992)		Cntry, % (s)		
Kim & Hwang (1992)	Lkt (s)			
Erramilli & Rao (1993)	KS (s)			
Agarwal (1994)	KS (s)	% (s)		
Erramilli (1996)	KS (ns)	Cntry (p)		
Padmanabhanm & Cho (1996)	KS (s)	Yrs (ns)		Yrs (s)
Pan (1996)	KS (ns)			
Anand & Delios (1997)	KS, Dum (s)	Yrs (ns)		
Anand & Kogut (1997)				
Barkema & Vermeulen (1997)	KS, H4 (s)			Subsid (s)
Erramilli, Agarwal <i>et al.</i> (1997)	KS (s)			
Hennart & Reddy (1997)				Yrs (ns)
Contractor & Kundu (1998b)	KS (ns)	Yrs, % (s)		
Hennart & Larimo (1998)	Dum (s)	Yrs (p)		
Madhok (1998)	Unk (s)	Subsid (ns)		
Delios & Beamish (1999)		Subsid, % (s)		Yrs (s)
Padmanabhan & Cho (1999)	KS (ns)	Yrs, Subsid (ns)		Yrs, Subsid (ns)
Delios & Henisz (2000)		Yrs, Subsid (s)		Yrs, Subsid (s)

	<b>Psychic Distance **</b>	<b>Global Experience ***</b>	<b>Regional Experience</b>	<b>Local Experience</b>
Makino & Neupert (2000)				
Pan & Tse (2000)				
Brouthers & Brouthers (2001)	H4 (s)	Yrs (ns)	Yrs (s)	
Chang & Rosenzweig (2001)	KS, Dum (s)	% (p)		Dum (p)
Li, Lam <i>et al.</i> (2001)	Dum (ns)			
Meyer (2001)	Dum (ns)	% (s)	% (ns)	
Brouthers (2002)	Lkt (s)	Yrs (ns)		
Chen & Hennart (2002)				
Herrmann & Datta (2002)	KS (s)	% (p)		
Lu (2002)		Yrs (ns)		Yrs (s)
Pan (2002)				
Brouthers & Brouthers (2003)			Yrs (s)	
Cho & Padmanabhan (2005)	KS (p)	Yrs (ns)		Yrs (ns)
Arregle, Hebert <i>et al.</i> (2006)	Unk (ns)	Yrs (s)		Yrs (ns)
Herrmann & Datta (2006)	KS (s)	Cntry, % (p)		
Dikova & van Witteloostuijn (2007)		Yrs, Cntry (s)	Yrs, Cntry (ns) <sup>#</sup>	
Sanchez-Peinado <i>et al.</i> (2007)	KS (ns)	Yrs (p)		

\* (s) indicates that the variable was found to be statistically significant to 0.05; (ns) indicates that the variable was found to be non-significant; (p) indicates that the variable was significant in some models, but not for all models presented.

\*\* In terms of measuring psychic distance: **KS** - indicates the use of the Kogut & Singh (1988) index; **H4** - indicates the use of the four Hofstede dimensions separately; **Dvd** - indicates the use of Davidson's (1980) measure of distance; **Lkt** - indicates the use of Likert-type scales to measure perceived psychic distance; **Dum** - indicates the use of a dummy variable to distinguish between 'near' and 'far' countries; and **Unk** - indicates that a measure of psychic distance was employed but the precise nature of the instrument is unknown.

\*\*\* In terms of measuring experience: **Yrs** - indicates that experience was measured in years of international operation; **Cntry** - indicates that experience was measured in terms of the number of countries entered; **Subsid** - indicates that experience was measured in terms of the number of foreign subsidiaries established; **Dum** - indicates a dummy variable for prior experience in that local market; and **%** - indicates that experience was measured in terms of the percentage of assets, employees or revenues located outside the home country.

# For Dikova & van Witteloostuijn, the regional experience variable was two-tailed significant in the opposite direct to all other studies. This unexpected result may have been partially due to collinearity between the global and regional experience variables.



## Appendix II: Clustering of Countries on Psychic Distance Dimensions

<b>Cluster 1</b>	Afghanistan Bangladesh Indonesia Iran Malaysia * Pakistan Sierra Leone * Turkey * Uzbekistan	<b>Cluster 5</b>	* United States of America * Austria * Germany	Solomon Islands Trinidad and Tobago	
<b>Cluster 2</b>	Algeria Bahrain Egypt Iraq Jordan Kuwait Libyan Morocco Oman Qatar Saudi Arabia Sudan Syrian Arab Republic United Arab Emirates Yemen	<b>Cluster 6</b>	* Belgium Luxembourg * Canada * France * Switzerland	<b>Cluster 12</b>	* Estonia Kazakstan * Latvia * Russian Federation * Ukraine
<b>Cluster 3</b>	* Argentina * Chile * Colombia Costa Rica Ecuador El Salvador Guatemala * Mexico Panama Peru Puerto Rico * Spain Uruguay Venezuela	<b>Cluster 7</b>	* Brazil Mozambique * Portugal	<b>Cluster 13</b>	Ethiopia Ghana Kenya * Nigeria Tanzania, United Rep. of Uganda * Zambia Zimbabwe
<b>Cluster 4</b>	* Australia Guam * Ireland * New Zealand * United Kingdom	<b>Cluster 8</b>	* Bulgaria * Croatia * Czech Republic Greece * Lithuania * Poland * Romania * Serbia * Slovakia * Slovenia	<b>Cluster 14</b>	* India Nepal
		<b>Cluster 9</b>	* Denmark * Finland * Iceland * Norway * Sweden	<b>Cluster 15</b>	Hong Kong * Singapore * Taiwan
		<b>Cluster 10</b>	Cameroon Cote d'Ivoire * Lebanon Congo, Dem. Rep. of French Polynesia Madagascar New Caledonia Vanuatu	<b>Cluster 16</b>	* Japan Lao People's Dem. Rep. of Myanmar Sri Lanka * Thailand * Viet Nam
		<b>Cluster 11</b>	Cook Islands Jamaica Nauru Papua New Guinea * Philippines Samoa	<b>Cluster 17</b>	* Netherlands * South Africa Suriname
				<b>Single Nation Clusters</b>	* China Fiji * Hungary Israel * Italy Korea, Dem. People's Rep. of * Korea, Republic of * Malta

\* - Is a recipient of FDI in this data set

