

Psychic Distance, International Experience and Establishment Mode Choice

ABSTRACT

Until now, the concept of psychic distance has been almost exclusively operationalized in establishment mode research using Kogut & Singh's (1988) index of national cultural differences (Hofstede, 1980). In this paper, a more comprehensive set of psychic distance indicators, based on scales first put forward by Dow & Karunaratna (2006) are applied to a data set of outward Nordic FDI between 1993 and 1999. The analyses show that Kogut & Singh's index only captures approximately one quarter of the full effect, and that not properly measuring and controlling for psychic distance has the potential to distort the relationship between international experience and establishment mode choice. A moderating effect between experience and psychic distance is also investigated but no support is found for this effect.

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INTRODUCTION

The issue of international establishment mode (i.e. whether firm decides to establish itself in a foreign market via acquisition or via a greenfield investment) might not be able to match its companion decision – international entry mode choice - in terms of the number of related empirical studies, but it is nevertheless a critical issue for firms as they internationalise. Given the premiums typically paid when acquiring a firm (Zejan, 1990), the choice of establishment mode can have a substantial impact on the overall performance of the foreign investment. Similarly, establishing a venture by a greenfield investment may allow the parent firm to avoid paying an acquisition premium, but the venture may be handicapped by a lack of knowledgeable local managers, slower penetration of the market and greater retaliation from incumbents (Hennart & Reddy, 1997). Moreover, once this critical decision has been made, it can be difficult to change or correct. As a result, the choice of international establishment mode is an important issue and worthy of detailed investigation.

Despite our opening comments concerning the relatively ‘low popularity’ of the establishment mode topic, there has been a steady, though modest, stream of empirical research on establishment mode over the past 3 decades. In our literature review for this paper, a total of 22 empirical papers published in peer-reviewed journals have been identified (see Table 1). However, it is our contention that two major gaps still exist with respect to this body of knowledge. The first gap concerns the manner in which the concept of psychic distance is measured. The second gap concerns the manner in which international experience, and in particular its interaction with psychic distance, is modelled. As a result, the main contributions of this paper are focussed on the measurement and modelling of those two key constructs, and their impact on a firm’s choice of establishment mode. We introduce and test a broader set of psychic distance scales, first put forward by Dow & Karunaratna (2006). We also propose a moderating relationship between international experience and psychic distance. Both of these innovations are tested on an extensive database of foreign direct investments by Nordic firms over the period of 1993 to 1999.

The remainder of this paper is broken into four parts. The first section reviews the existing literature and develops a set of testable hypotheses concerning the impact of psychic distance and international experience on establishment mode choice. The second section describes the methodology by which we test these hypotheses. The third section presents the empirical results, and the fourth section summarizes the main findings, limitations and conclusions, and presents some proposals for further study.

LITERATURE REVIEW

Psychic Distance

The importance of psychic distance to the issue of establishment mode choice rarely seems to be disputed, with no less than 14 previous researchers investigating the relationship (Table 1). However, the underlying logic of the relationship is actually more subtle and complicated than first appears. For that reason, we believe it is appropriate to briefly review the theory behind the relationship, before discussing the related issue of how to measure psychic distance.

The term psychic distance was first coined by Beckerman (1956) and later popularized by Johanson & Wiedersheim-Paul (1975). Within the context of predicting establishment mode, Kogut & Singh (1988) were the first of many researchers to suggest a linkage between the psychic distance of a market and the preferred establishment mode. Yet, when one reviews the literature, it is interesting to note that predictions have been made in both directions! Kogut & Singh (1988), along with many others (Barkema & Vermeulen, 1998; Chang & Rosenzweig, 2001; Cho & Padmanabhan, 1995; Larimo, 2003), have predicted that large psychic distances between countries will increase a firm's preference for greenfield investments. In contrast, Anand & Delios (1997) and Brouthers & Brouthers (2000) have argued that large psychic distances will increase a firm's preference for acquiring an existing firm in the foreign market. In order to disentangle these two opposing predictions, we need to go back to the original Uppsala definition of psychic distance.

Johanson & Vahlne (1977, 24) defined psychic distance as:

“the sum of factors preventing the flow of information to and from the market. Examples are differences in language, education, business practices, culture, and industrial development.”

However, with respect to the establishment mode decision, there are actually three parties involved in ‘the flow of information’: the parent company’s corporate head office, the local subsidiary management, and the local market in general (which may include customers, competitors and other stakeholders).

1. The presence of a large psychic distance between two countries may ‘disrupt the flow of information’ between the corporate head office and the local subsidiary management. This phenomenon is at the core of the prediction that firms will prefer greenfield investments in psychically distance markets. Greenfield investments are essentially a ‘higher control entry mode’ (Chang & Rosenzweig, 2001), and in keeping with the classic transaction cost economics prediction, firms will tend to prefer a higher control mode when faced with the combination of asset specificity (e.g. proprietary technology) and uncertainty (e.g. psychic distance). Greenfield investments also allow the parent firm to much more closely replicate its own corporate culture in the host market; thus reducing the potential communication problems between the head office and the subsidiary even further. As a result, it is reasonable to expect a firm to prefer greenfield investments to both reduce and control for potential risks.
2. Conversely, a large psychic distance between host and home market may also ‘disrupt the flow of information’ between the subsidiary’s management and the local market in general. The phenomenon is at the core of the prediction that firms will prefer acquisitions in psychically distant markets. By acquiring an existing competitor the firm is simultaneously acquiring managers who are both knowledgeable about the industry and knowledgeable about the local market. Thus, it is plausible that a firm may prefer establishing itself via acquisition in order to reduce the potential for miscommunication between the subsidiary management and the market.

In effect, the overall relationship between psychic distance and establishment mode choice will be determined by the relative importance of these two competing issues. Turning to the empirical results of the previously published studies (Table 1), it would appear that the impact of psychic distance on

corporate head office to subsidiary management communication is a larger effect, with ten of the fourteen studies finding a statistically negative relationship¹, than the impact of psychic distance on the subsidiary to market communication. However, we must heavily ‘qualify’ this conclusion in light of the observation that all eleven of the aforementioned studies used the Kogut & Singh (1988) index of national cultural distance (Hofstede, 1980) as their sole indicator of psychic distance. As a result, our first hypothesis, which is simply a reassertion of the existing findings concerning psychic distance and establishment mode, is presented as follows:

- H1.** The national cultural distance between the host and home countries will be negatively associated with the propensity for a firm to establish itself in the host market via acquisition (as opposed to via a greenfield investment).

The distinct made above, between national cultural distance and psychic distance, reflects a contentious issue in the psychic distance literature, and represents the area where this paper arguably makes its greatest contribution. Once again, going back to the original definition of psychic distance, the construct was always intended to be much broader than just the Hofstede cultural dimensions. This view is supported by numerous commentators (e.g. Brewer, 2007; Harzing, 2003; Shenkar, 2001) and by empirical research in related issues such as export market selection (Dow & Karunaratna, 2006), FDI performance (Tsang & Yip, 2007) and entry mode choice (Dow & Ferencikova, 2007). Even within the establishment mode literature, while the authors were not explicitly intending to measure other aspects of psychic distance, there are inferential indications. A total of eight research studies (e.g. Herrmann & Datta, 2006, see Table 1 for a complete list) have found the level of industrial development of the host country to be a significant control variable. This result is generally interpreted as an indication of the availability of acquisition candidates; however, given that all ten of these studies involved high income nations as the home market, this variable may also be acting as a direct surrogate for Johanson & Vahlne’s (1977, 24) “differences in industrial development”. As a result, despite the reasonably consistent empirical results of

previous establishment mode studies, we believe the overall impact of psychic distance has been substantially understated due to the manner in which the construct has been measured. For that reason, we propose a second ‘psychic distance’ hypothesis as follows:

- H2.** Dimensions of psychic distance other than national culture, specifically differences in **a)** language, **b)** religion, **c)** industrial development, **d)** education and **e)** political systems, will also be negatively associated with the propensity for a firm to establish itself in the host market via acquisition (as opposed to via a greenfield investment).

International Experience

The role of international experience in establishment mode choice research has an even longer pedigree beginning with Wilson (1980). Indeed, from amongst the published studies reviewed in Table 1, only Dikova & Van Witteloostuijn (2007) do not have at least one measure of international experience in their analyses. However, once again, despite then near unanimous opinion about the importance of the construct, the actual theoretical justifications are sufficiently complex that they warrant summarizing.

As with psychic distance, authors have developed arguments in both directions (i.e. predicting a preference for both acquisition and greenfield investments).

1. Several researchers (e.g. Kogut & Singh, 1988; Shaver, 1998) have argued that a major barrier to establishing a foreign subsidiary by acquisition is the cost and complexity of integrating the two organisations. International experience reduces that cost; and thus, implies that as a firm gains international experience it will increase the likelihood the firm will establish itself by acquisition.
2. Conversely, others researchers (e.g. Barkema & Vermeulen, 1998; Hennart & Park, 1993; Wilson, 1980) have argued that the “capability to deal with different environments [such as] dealing with host governments, adapting production technologies and methods, and reformulating marketing strategies” (Wilson, 1980, 63) is a critical skill. When a firm has very little international

In a direct parallel to the earlier discussion concerning psychic distance, the overall relationship between international experience and establishment mode choice depends on the relative importance of those two competing issues: the complexity of integrating and managing a foreign subsidiary versus the complexity of understanding a foreign market. However, unlike the psychic distance results, the empirical results for international experience are extremely mixed. A wide variety of measures of international experience have been used, ranging from the number of years of foreign activity (Harzing, 2002), to the number of countries the firm is operating in (Vermeulen & Barkema, 2001), the number of foreign subsidiaries (Larimo, 2003) and the proportion of revenue or assets in foreign countries (Herrmann & Datta, 2006). Similarly, some researchers have focussed on general international experience (e.g. Herrmann & Datta, 2006), while others have focussed on local host market experience (e.g. Drogendijk & Slangen, 2006). Unfortunately, there does not appear to be any strong identifiable trend except for a mild tendency for local experience to be more commonly associated with acquisition and general experience to be associated with greenfield investments. In light of these ambiguous, and as yet unexplained results, we are putting forward two competing ‘experience’ hypotheses:

H3a. International experience will be negatively associated with entry via acquisition.

H3b. International experience will be positively associated with entry via acquisition

One potential explanation for the ambiguous results may be the presence of the moderating effect of psychic distance. While both phenomena - difficulty in integrating and managing a foreign subsidiary, and difficulty in understanding and adapting to a foreign environment, are likely to be present in even the most proximate market; it is highly likely that large psychic distances between home and host markets will magnify these effects. Large psychic distances are likely to magnify the difficulties of integrating an

acquisition and large psychic distance are likely to complicate the process of understanding and adapting to a foreign market. As a result, it is reasonable to expect psychic distance to have a moderating effect on the relationship between international experience and establishment mode choice. This is noteworthy because not one of the studies reviewed in Table 1 included a psychic distance moderator². Given the mild correlation between these two predictor variables, and our contention that the full impact of psychic distance is being underestimated, this omission may be contributing to the inconsistent and ambiguous results. Thus, our fourth and final hypothesis concerns a potential moderating relationship between psychic distance and international experience:

- H4.** The relationship between the international experience of the firm and the establishment mode of the foreign investment will be stronger for more psychically distant markets

METHODOLOGY

The Sample Population

The empirical analyses are based 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 1,526 investments made by 248 firms between 1993 and 1999. The sample includes a total of 54 host countries (see Table 2 for a summary of the countries) with 1052 entries in the form of acquisitions (**Acqn**) and 474 entries via greenfield start-ups (**Grnfd**).

The Dependent Variable

As is typical with establishment mode studies (Harzing, 2002) dependent variable is a binary dummy variable coded '1' when the entry into a foreign market is based on the acquisition of an existing company within that market, and '0' when the venture is based on entirely new assets (i.e. a greenfield start-up)³. Either of these two establishment modes may be in the form of a joint venture or a wholly-owned subsidiary.

Independent Variables

The two main independent variables for our analyses are psychic distance and international experience; however, in both cases there are multiple ways to measure each construct.

Psychic distance. As discussed in the literature review, Kogut and Singh's (1988) composite index, based on Hofstede's four dimensions of national culture (1980; 2001), has essentially been the de facto variable used to represent psychic distance over the past 20 years of establishment mode research. While the major contribution of this paper is to put forward and empirically test what we believe is a more comprehensive; and thus, superior set of scales, the Kogut and Singh index 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**).

The 'more comprehensive' scales referred to above, which are the focus of our second hypothesis (i.e. the importance of other dimensions of psychic distance), are the 'psychic distance stimuli' scales developed by Dow and Karunaratna (2006). Specifically, we have included their multi-item factors measuring differences amongst countries in language (**Lang^F**), religion (**Relig^F**), education (**Edu^F**), industrial development (**Ind Dev^F**), degree of democracy (**Dem^F**), and political ideologies (**Social**). Dow & Karunaratna's 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. In the course of our analyses, it was also discovered that four of the aforementioned dimensions: differences in religion, industrial development, education and degree of democracy are all highly correlated. As a result these four dimensions have been combined into a single factor (**RIES**) using confirmatory factor analysis.

Tables 3 & 4 provide descriptive statistics and the correlation matrix for these predictor variables, and the control variables, as applied to our sample population. Table 3 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.

International experience. In contrast to the dominance of the Kogut & Singh index for measuring psychic distance, there does not appear to be any such consensus with respect to measuring international experience. For the measurement of overall general international experience alone, at least 6 different scales appear to have been used. Herrmann & Datta (2006) and Chang & Rosenzweig (2001) have used the proportions of international assets and revenues respectively; whereas others, have used the number of years of international activity (e.g. Harzing, 2002), the number of prior foreign subsidiaries (e.g. Andersson & Svensson, 1994), the number of countries entered (e.g. Vermeulen & Barkema, 2001) and the number of subsidiary-years (Padmanabhan & Cho, 1999). For the purposes of this study, two of the more common of these measures: the number of previous foreign market entries (**Exp_Gen_#**) and the number of years of international activity (**Exp_Gen_{Yrs}**) have been adopted to represent general international experience.

For measuring 'experience in the local market', the situation is slightly less ambiguous with the years of operating experience and a simple dummy variable for previous experience in that market being the most

common metrics (employed in 8 of the 11 studies reviewed). For the purposes of this study, we have adopted the more complex and data-rich of those two scales: the number of years of operating experience in the host country (**Exp_Loc**).

Control variables

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 technology intensity. As evident in Table 1, stretching back to Caves & Mehra's (1986) article, R&D intensity has been the standard variable in virtually every establishment mode study. In the case of establishment mode analyses, R&D intensity is considered to be a surrogate measure of asset specificity (Hennart & Park, 1993). When combined with the assumption that greenfield investments represent a higher control mode, one would expect firms to prefer greenfield investments over acquisitions in R&D intensive industries. The empirical evidence supporting this prediction appears quite strong with 10 of 15 studies in Table 1 finding a statistically significant negative effect. For the purposes of our analyses, 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).

Size of parent firm. Numerous researchers, beginning with Kogut & Singh (1988) but continuing right through to recent times (Drogendijk & Slangen, 2006), have argued that the size of the parent firm is an indicator of the availability of financial resources; and as such should have a positive impact on a firm's ability to use acquisitions as an establishment mode. While the empirical evidence concerning this is ambiguous, with only 4 of 13 studies supporting the prediction, we have retained the size of the parent organization as a control variable. 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.

Diversification of parent organisation. Beginning with Wilson (1980), the degree to which the foreign parent is diversified has been included in virtually every establishment mode study on the basis that firms

have a tendency to diversify via acquisition. After an initial flurry of results supporting this proposition (Caves & Mehra, 1986; Kogut & Singh, 1988; Wilson, 1980; Zejan, 1990), more recent studies have in general not found support for this effect. This may in part reflect a temporal trend in diversification practices. Nevertheless, we have chosen to retain this item as a control variable. The diversification of the parent (**Diversif**) is measured by the number of four digit SIC codes which apply to the parent firm.

Unrelated investment. Similarly, a variety of researchers (e.g. Caves & Mehra, 1986; Harzing, 2002; Hennart & Park, 1993) 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 an acquisition in order to access particular skills. Hennart & Park (1993) also argue that there will be less transfer of knowledge from the parent to the subsidiary; and thus, less need for a higher control mode such as a greenfield investment. In this study, a dummy variable (**Unrelated**) is used to indicate when the investment falls into a different four digit SIC code from the foreign parent organisation.

Growth rate of the host market. A substantial number of researchers (e.g. Brouthers & Brouthers, 2000; Caves & Mehra, 1986; Drogendijk & Slangen, 2006; Hennart & Reddy, 1997; Shaver, 1998) have included various measures of the growth rate of the market as a control variable in their establishment mode studies. It is argued that for low growth markets, acquisitions will be preferable as they do not necessarily add extra capacity to the market. As Table 1 indicates, this prediction has received moderate support; however other researchers (Caves & Mehra, 1986; Hennart & Park, 1993; Hennart & Reddy, 1997) have successfully argued that firms may also prefer acquisitions in high growth rate markets due to the urgency of 'keeping up' with the market; imply a 'U' shaped relation. For the purposes of this study, market growth is measured as the annual increase in GDP for the host market in the year preceding the investment (**Growth**).

Ownership structure of the venture. Researchers have generally not put forward any specific propositions concerning the impact of ownership structure (i.e. whether the venture is a wholly-owned subsidiary or an equity joint venture), but a substantial number of studies (e.g. Barkema & Vermeulen, 1998; Caves & Mehra, 1986; Hennart & Park, 1993; Larimo, 2003) have retained it as a control variable due to the

possibility of interactions between entry mode choice and establishment mode choice (Anand & Delios, 1997). For this study, ownership structure is measured using a dummy variable (**WOS**) coded 1 for wholly-owned subsidiaries (>95% of equity controlled by the foreign parent) and 0 for equity joint ventures.

Year of investment. The final control variable concerns the possibility of a temporal trend in establishment modes. A number of researchers (Andersson & Svensson, 1994; Barkema & Vermeulen, 1998; Harzing, 2002; Larimo, 2003; Padmanabhan & Cho, 1999; Vermeulen & Barkema, 2001; Zejan, 1990) have identified a temporal trend towards establishment via acquisition. This phenomenon is controlled for by including a variable (**Year**) indicating the year in which the venture was established.

Analytical techniques

In keeping with previous establishment mode research (e.g. Brouthers & Brouthers, 2000; Harzing, 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 a variable is associated with an increased probability of establishing the venture by acquisition. Our baseline model includes all of the control variables discussed previously, plus the traditional measure of psychic distance (**Hof**) and local, or host market experience (**Exp_Loc**). Due to a high degree of collinearity between our two measures of general international experience (**Exp_Gen_#** and **Exp_Gen_{Yrs}**) a composite variable (**Exp_Gen_r**) was created using confirmatory factor analysis. Both of the general experience variables and the composite variable have been tested separately as part of the development of our baseline model.

In order to test hypotheses H1 through to H3b, our expanded set of psychic distance indicators is added to the baseline model. As mentioned earlier, due to potential problems with multi-collinearity, four of the psychic distance dimensions – differences in religion, industrial development, education and degree of democracy separately, have been merged using confirmatory factor analysis to create a single composite

variable (**RIED**). Each of the four highly correlated dimensions and the composite variable are tested separately; however, for parsimony, only the results concerning the composite variable are reported.

In order to test the moderating hypothesis (H4), the four main dimensions of psychic distance (**Hof**, **Lang^f**, **RIED** and **Social**) are centred and combined with the two forms of international experience (general and local) to create eight moderating terms. Each of these moderating terms is tested independently with the logistic regression incorporating our full range of psychic distance variables.

RESULTS

Table 5 summarises the two confirmatory factor analyses. The four highly correlated psychic distance dimensions all yield high factor loadings (> 0.85) and produce a very reliable composite factor (Cronbach alpha = 0.908). The two general experience variables also have high factor loadings and produce a similarly reliable composite factor (Cronbach alpha = 0.868)

Models 1 through 3 in Table 1 represent the development of our baseline model. It is interesting to note that while the two measures of general experience are highly correlated ($r = 0.77$), only experience measured in terms of the number of foreign market entries is a statistically significant predictor of establishment mode (Wald test = 14.40, $p < 0.001$). It would appear that the primary learning benefit is in the initial market entry. As a result, we formally adopt Model 1 as our baseline model. This model is highly significant (Chi Sq = 147.175, $df = 10$, $p < 0.001$) and yields a correct prediction 72% of the time. We should note that at this stage our baseline model very closely mirrors prior empirical results summarised in Table 1. Cultural distance, general international experience, R&D intensity and market growth all indicate a significant negative relationship with establishment mode, and parent diversity and local experience indicate a significant positive relationship.

With the introduction of the 'other psychic distance' variables into the analyses, Model 4 in Table 7 represents the formal testing of hypotheses H1, H2, H3a and H3b. This model is a statistically significant improvement over the baseline model (Δ Chi Sq = 81.377, Δ $df = 1$, $p < 0.001$). In this model, the second hypothesis is very strongly supported (Wald test = 60.17, $p < 0.001$) in a broad sense, with only the

'differences in political ideology' dimension (**Social**) not proving to be significant. Substantial doubt is also placed on the Kogut & Singh index as a significant predictor of establishment mode. Despite the coefficient for cultural distance being statistically significant in the baseline model (Model 1), once the other dimensions of psychic distance are introduced, it drops to insignificant levels. As for the two experience hypotheses, the general experience variable retains its statistically negative coefficient, though at reduced levels, supporting H3a; but the local experience variable coefficient falls to non-significant levels. At this stage there appears to be no support for hypothesis H3b. The potential explanations and implications of the differences between Models 1 and 4 are discussed in detail in the Conclusions section of this report. Tables 8 & 9 represent the formal testing of the moderating hypothesis, H4, and despite a total of eight different possible moderating variables, the results are remarkably consistent. There is no support for H4: a moderating relationship between psychic distance and international experience.

DISCUSSION AND CONCLUSIONS

The main contribution of this paper is that it represents the first study to incorporate a broader and more comprehensive set of variables with which to measure psychic distance, and the results are extremely strong. Measured in terms of the increase in the Nagelkerke R^2 , the broader measures of psychic distance represent approximately a four fold improvement in the proportion of variance explained when predicting establishment mode. In essence, when researchers use the Kogut & Singh index as their sole measure of psychic distance, they are missing roughly 75% of the effect size! Moreover, most of the effect captured by the Kogut & Singh index is already reflected in the other psychic distance dimensions; thus the Kogut & Singh index may possibly be redundant. This is noteworthy as a substantial number of researchers may be unnecessarily constraining their studies to countries for which estimates of Hofstede's national cultural dimensions are available. These empirical results, not surprisingly, are similar to those found in related research areas such as export market selection (Dow & Karunaratna, 2006), entry mode choice (Dow & Larimo, 2007) and FDI performance (Dow & Ferencikova, 2007).

A second contribution of this paper concerns the role of international experience in establishment mode studies, though it might be argued that we raise as many questions as we have answered. However, in one aspect, the results appear to be strong and clear. Despite our predictions otherwise, there appears to be no evidence of a moderating relationship between international experience and psychic distance. This of course still leaves us with the dilemma about what possible direct effect international experience may have on establishment mode choice. Previous empirical studies seem to indicate a positive relationship between local experience and a preference for acquisitions; however, general international experience appears to have a negative relationship. While Tables 8 and 9 clearly indicate a moderating relationship is not the cause of the ambiguous results; the results in Table 7 may provide some clues.

1. The more international experience a firm has at the time of entering a market (**Exp_Gen_#**), the more likely the market in question is psychically distant. This prediction is derived directly from the Uppsala internationalisation model (Johanson & Vahlne, 1977), is supported by prior empirical research (e.g. Davidson, 1983; Sethi, Guisinger, Phelan, & Berg, 2003), and is consistent with our correlation matrix. The correlations between our primary general international experience variable and each of the dimensions of psychic distance are statistically significant and positive, with Pearson correlations ranging between 0.07 and 0.21. This is important because in the absence of properly controlling for psychic distance, general international experience may be acting as a proxy for distant markets. This will bias the international experience coefficient in the negative direction; which is exactly what we observe in Table 7. When psychic distance is not properly controlled for (i.e. Model 1), the coefficient for general international experience almost doubles on magnitude and the associated Wald test value more than triples.
2. Similarly, a high level of local experience (**Exp_Loc**) indicates that the market in question was initially entered much earlier; and thus, is more likely to a psychically proximate market. Once again this prediction is based on the Uppsala internationalisation model and is confirmed by the correlation matrix values (Table 1) which are all statistically significant and range from -0.14 to -0.23 for the correlations between local experience and our main indicators of psychic distance.

Thus, in the absence of properly controlling for psychic distance, local international experience may be acting as a proxy for markets similar to the firm's home market. This will bias the local experience coefficient in the positive direction; which is again exactly what we observe in Table 7. When psychic distance is not properly controlled for (i.e. Model 1), the coefficient for local international experience is positive and significant; however, when it is controlled for, the effect disappears.

In summary, the previously 'mixed' results concerning the relationship between international experience and establishment mode may be entirely due to researchers not properly measuring, and thus controlling for psychic distance. In this light, the results for Model 4 would seem to indicate that the 'unbiased' relationship between international experience and establishment mode is a negative one, indicating that the primary benefit of international experience is in developing the capability to understand foreign markets (rather than in developing the capability to integrate international acquisitions).

These results obviously need to be qualified in a couple of respects. The most significant qualification concerns the nature of the data set. While the range of host countries is reasonably broad, the range of home countries is quite narrow, and thus one needs to be careful when generalising to firms originating from other countries. Similarly, while we have attempted to include as wide a range of control variables as possible, there are some factors we were unable to include. Possibly the most important of these missing variables are controls for mode experience (Padmanabhan & Cho, 1999) and the investing firm's corporate strategy (Harzing, 2002). Both have proven to be significant predictors of establishment mode; however, due to the longitudinal nature of our database, we were not able to include them.

In closing, the implications of these findings for researchers and practitioners alike primarily concerns the way in which the concept of psychic distance is conceptualised and measured. We believe our results argue strongly for a much broader interpretation of psychic distance. Despite the rhetoric concerning globalisation over the past decade, issues such as differences in language, religion, education, industrial development and political systems do still have a significant impact on international business. By not

being aware of them and including them in their considerations, people seriously risk underestimating their impact.

¹ - All of the studies reported in Table 1 have been standardized such that a positive result indicates a preference for acquisition (as opposed to greenfield investment). This is in keeping with dominant practice in the field and is consistent with the dependent variable employed in this study.

² - Two of the 22 studies did include moderating relationships (Brouthers & Brouthers, 2000; Dikova & van Witteloostuijn, 2007); however, in both cases technology intensity was the moderating variable.

³ - Approximately one third of the studies cited in Table 1 used the equivalent coding, but defined greenfield investments as '1' and acquisitions as '0'. The only difference in these two approaches is the resulting sign of the coefficients, as noted in footnote #1.

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Table 1: Summary of the Empirical Research on Establishment Mode *

	R&D intensity	Size of foreign parent	Degree of diversification of foreign parent	Venture unrelated to existing businesses	Growth rate of host market	Venture is a wholly owned subsidiary
Dikova & van Witteloostuijn (2007)	+			<i>ns</i>	<i>ns</i>	
Drogendijk & Slangen (2006)	-	<i>ns</i>	<i>ns</i>	<i>ns</i>	-	-
Herrmann & Datta (2006)	-	<i>ns</i>			<i>ns</i>	
Larimo (2003)	-	+	<i>ns</i>	+	-	+
Harzing (2003)	-		<i>ns</i>			
Mudambi & Mudambi (2002)		+		+	-	
Chang & Rosenzweig (2001)	<i>ns</i>	<i>ns</i>	<i>ns</i>	+	+	
Vermeulen & Barkema (2001)		+	<i>ns</i>	<i>ns</i>		+
Brouthers & Brouthers (2000)	-		+	-	-	
Padmanabhan & Cho (1999)	-	<i>ns</i>	<i>ns</i>	<i>ns</i>		
Barkema & Vermeulen (1998)		<i>ns</i>	- , + U	+	<i>ns</i>	<i>ns</i>
Shaver (1998)	<i>ns</i>	-		<i>ns</i>	-	
Anand & Delios (1997)						
Hennart & Reddy (1997)				<i>ns</i>	+U	
Cho & Padmanabhan (1995)	-	<i>ns</i>	<i>ns</i>	<i>ns</i>		
Padmanabhan & Cho (1995)	-	<i>ns</i>	<i>ns</i>	<i>ns</i>		
Andersson & Svensson (1994)	-	+			<i>ns</i>	
Hennart & Park (1993)	-		<i>ns</i>	+	+U	<i>ns</i>
Zejan (1990)			+	<i>ns</i>	-	
Kogut & Singh (1988)	<i>ns</i>	<i>ns</i>	+			
Caves & Mehra (1986)	<i>ns</i>		+	<i>ns</i>	+U	+
Wilson (1980)			+			

* + indicates a statistically significant positive relationship was identified (i.e. a higher probability of establishment via acquisition); - indicates a statistically significant negative relationship was identified (i.e. a lower probability of acquisition); *ns* indicates no statistically significant relation was identified. **U** indicates a second order 'U' shaped relation was identified.

Table 1: Summary of the Empirical Research on Establishment Mode * (continued)

	General international experience **		Prior experience in the host market ***		Cultural distance (Kogut & Singh)	Host market GDP per capita	Other potential measures or surrogates of psychic distance
Dikova & van Witteloostuijn (2007)							- Institutional advancement
Drogendijk & Slangen (2006)			+	(D)	-		- Perceived psychic distance - Schwartz (1992)
Herrmann & Datta (2006)	<i>ns</i>	(A)			-	+	
Larimo (2003)	<i>ns</i>	(S)	<i>ns</i>	(Y)	-	+	
Harzing (2003)	+	(Y)			-		
Mudambi & Mudambi (2002)	+	(Y)					
Chang & Rosenzweig (2001)	-	(R)	-	(D)	-		
Vermeulen & Barkema (2001)	-	(C)			-	<i>ns</i>	
Brouthers & Brouthers (2000)	-	(R)			<i>ns</i>		
Padmanabhan & Cho (1999)	-	(SY)	<i>ns</i>	(SY)	<i>ns</i>	+	
Barkema & Vermeulen (1998)	-	(C)	+	(S)	-	<i>ns</i>	
Shaver (1998)			+	(S)			
Anand & Delios (1997)	-	(Y)			<i>ns</i>		
Hennart & Reddy (1997)			+	(Y)			
Cho & Padmanabhan (1995)	<i>ns</i>	(Y)	<i>ns</i>	(Y)	<i>ns</i>	+	
Padmanabhan & Cho (1995)	<i>ns</i>	(Y)			-	+	
Andersson & Svensson (1994)	+	(S)	+	(D)		+	
Hennart & Park (1993)			<i>ns</i>	(Y)			
Zejan (1990)	<i>ns</i>	(Y)				+	
Kogut & Singh (1988)	<i>ns</i>	(C)	<i>ns</i>	(D)	-		
Caves & Mehra (1986)	+	(C)					
Wilson (1980)	-	(Y)				+	

* + indicates a statistically significant positive relationship was identified (i.e. a higher probability of establishment via acquisition); - indicates a statistically significant negative relationship was identified (i.e. a lower probability of acquisition); *ns* indicates no statistically significant relation was identified. U indicates a second order 'U' shaped relationship was identified.

** is variously measured in proportion of revenues (R) or assets (A) abroad, years of international activity (Y), number of foreign subsidiaries established (S), number of subsidiary-years in foreign markets (SY), or number of countries entered (C).

*** is variously measured in years of activity in that country (Y); number of previous foreign subsidiaries in that country (S), number of subsidiary-years in foreign markets (SY), or a simple dummy variable (D) indicating previous experience in that market.

Table 2 Host and Home Countries* (n = 1526)

Host Countries:	Home countries:				Total
	Denmark	Finland	Norway	Sweden	
Argentina	2	1	1	1	5
Australia	7	3	3	2	15
Austria	2	9	2	8	21
Belgium	2	4	1	13	20
Brazil	3	9	4	16	32
Bulgaria			1	2	3
Canada	2	10	2	8	22
Chile		3	1	1	5
China	17	26	14	48	105
Colombia				2	2
Croatia	3			2	5
Czech Rep	2	6	5	12	25
Denmark		7	12	23	42
Estonia		23	4	13	40
Finland	13		14	45	72
France	13	21	3	37	74
Germany	20	39	8	43	110
Hungary	1	10	1	4	16
India	5	4	2	22	33
Ireland		2	2	2	6
Italy	11	19	5	20	55
Japan	1	2		6	9
Latvia		8		2	10
Lebanon		1			1
Lithuania	8	8	4	3	23
Malta		1			1
Mexico	1	4	1	7	13
Netherlands	6	11	1	12	30
New Zealand			1	2	3
Nigeria				1	1
Norway	13	5		16	34
Pakistan	1			2	3
Philippines	1	1		1	3
Poland	17	29	13	34	93
Portugal	5	2	3	1	11
Romania	3	1	2	4	10
Russia	7	26	8	30	71
Singapore		2	3		5
Slovakia		1	1	3	5
Slovenia	2			1	3
South Africa		3	3	4	10
South Korea		3	3	5	11
Spain	4	5	2	11	22
Sweden	18	46	27		91
Switzerland	4	7	1	4	16
Taiwan	1			2	3
Thailand	4	7	7	3	21
Turkey		2		4	6
UK	40	23	14	28	105
Ukraine	6	4	4	5	19
USA	40	58	11	72	181
Uzbekistan				1	1
Vietnam			2		2
Zambia			1		1
Total	285	456	197	588	1526

Table 3 Descriptive Statistics * (n = 1526)

Label	Description	Expected Sign **	Min.	Max.	Mean	Std. Deviation
R&D	3 = high R&D intensity industry; 1 = low R&D intensity industry; based on OECD classifications	-	1	3	1.75	0.74
PSize	Foreign parent company's annual revenue in 2000 US\$ million	+	1.7	26,417	3,170	5,357
Diversif	Degree of foreign parent company's diversification (# of 4 digit SIC industries)	+	1	31	11.58	8.18
Unrelated	Investment is in a different industry (4 digit SIC) from the foreign parent	+	0	1	0.04	0.19
Growth	Host country growth rate (GDP) in year prior to investment	-	-51.9	14.2	2.62	5.06
WOS	1= wholly owned subsidiary (i.e. foreign parent company owns >95% of the equity)	***	0	1	.59	.49
Year	Year the venture was established	***	1993	1999	1995.9	1.7
Hof	Kogut & Singh's (1988) index of national cultural distance based on the 4 original Hofstede dimensions (1980; 2001)	-	0.05	12.30	2.84	1.89
Lang ^f	3 item factor for differences in language between countries (Dow and Karunaratna, 2006)	-	-0.91	0.53	0.17	0.37
Relig ^f	3 item factor for differences in religion between countries (Dow and Karunaratna, 2006)	-	-1.55	1.28	-0.66	0.73
Ind Dev ^f	9 item factor for differences in industrial development between countries (Dow and Karunaratna, 2006)	-	0.00	2.06	0.64	0.60
Edu ^f	3 item factor for differences in education between countries (Dow and Karunaratna, 2006)	-	0.00	2.06	0.41	0.39
Dem ^f	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 et al., 2001)	-	0.00	0.83	0.36	0.25
Exp_Gen _#	Total # of foreign market entries	***	1	244	42.41	45.62
Exp_Gen _{Yrs}	Years since first foreign market entry	***	0	120	31.70	26.43
Exp_Loc	# of years of previous experience in the host country	***	0	117	7.21	13.17

* 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: Acquisitions = 1, Greenfield investments = 0.

*** This variable may potentially have an effect in either direction.

Table 4 Correlation Matrix (n = 1,526)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 R&D	1.00																
2 PSize	0.09	1.00															
3 Diversif	0.02	0.62	1.00														
4 Unrelated	0.04	-0.03	-0.04	1.00													
5 Growth	0.08	-0.03	-0.08	-0.02	1.00												
6 WOS	0.04	-0.10	-0.06	0.04	0.00	1.00											
7 Year	-0.05	0.02	-0.08	-0.04	0.23	0.09	1.00										
8 Hof	0.11	0.21	0.04	-0.09	0.12	-0.20	-0.01	1.00									
9 Lang ^f	0.01	0.14	0.09	-0.03	0.07	-0.17	0.00	0.31	1.00								
10 Relig ^f	0.11	0.16	0.00	-0.06	0.40	-0.27	-0.01	0.53	0.36	1.00							
11 Ind Dev ^f	0.05	0.15	0.02	-0.10	0.29	-0.36	0.01	0.51	0.39	0.74	1.00						
12 Edu ^f	0.06	0.08	-0.06	-0.07	0.43	-0.27	0.06	0.29	0.12	0.67	0.75	1.00					
13 Dem ^f	0.05	0.13	0.00	-0.08	0.28	-0.32	0.00	0.49	0.37	0.73	0.75	0.63	1.00				
14 Social	-0.03	0.07	0.07	-0.03	-0.25	-0.03	-0.06	0.17	0.25	0.16	0.00	-0.20	0.08	1.00			
15 Exp_Gen _#	0.13	0.79	0.66	-0.05	-0.02	-0.08	0.05	0.20	0.21	0.15	0.17	0.07	0.12	0.07	1.00		
16 Exp_Gen _{Yrs}	0.01	0.63	0.48	-0.05	-0.01	-0.04	0.03	0.20	0.12	0.10	0.11	0.02	0.08	0.05	0.77	1.00	
17 Exp_Loc	0.04	0.30	0.31	0.04	0.00	0.15	0.06	-0.11	-0.14	-0.18	-0.23	-0.18	-0.20	-0.01	0.44	0.40	1.00
18 Acqn	-0.08	-0.06	0.04	0.05	-0.15	0.13	0.03	-0.21	-0.19	-0.33	-0.37	-0.28	-0.33	-0.01	-0.08	-0.03	0.09

Table 5 Confirmatory Factor Analyses for Four Psychic Distance Scales and Two General International Experience Scales *

	Factor Loadings		Factor Loadings
Relig ^f	0.885	Exp_Gen _#	.940
Ind Dev ^f	0.917	Exp_Gen _{Yrs}	.940
Edu ^f	0.859		
Dem ^f	0.879		
Cronbach Alpha	0.908	Cronbach Alpha	0.868

* The resulting psychic distance factor is labelled **RIED** to represent the four underlying dimensions. The resulting general international experience factor is labelled **Exp_Gen_f**.

Table 6 Logistic Regressions – Comparing Indicators of General International Experience

	Model 1		Model 2		Model 3	
	B	Wald Test	B	Wald Test	B	Wald Test
Constant	-182.08 *	6.06	-152.09 *	4.30	-161.95 *	4.85
R&D	-0.13 <i>t</i>	2.74	-0.17 *	4.51	-0.17 *	4.45
PSize	0.01	0.04	-0.14 *	6.34	-0.08	1.57
Diversif	0.04 ***	15.21	0.03 **	7.41	0.03 **	9.67
Unrelated	0.46	1.71	0.54	2.37	0.51	2.10
Growth	-0.07 ***	24.20	-0.07 ***	24.51	-0.07 ***	24.43
WOS	0.31 *	6.46	-0.34 **	7.66	0.33 **	7.44
Year	0.09 *	6.20	0.08 *	4.43	0.08 *	4.95
Hof	-0.16 ***	22.48	-0.17 ***	26.98	-0.16 ***	23.88
Exp_Gen _#	-0.34 ***	14.40				
Exp_Gen _{Yrs}			0.00	0.00		
Exp_Gen _f					-0.18 <i>t</i>	3.36
Exp_Loc	0.09 **	10.10	0.06 *	3.88	0.08 *	6.45
n	1526		1526		1526	
Chi Sq	147.175		132.314		135.728	
df	10		10		10	
Signif	< .001		< .001		< .001	
Nagelkerke R Sq	.129		.117		.120	
% Correct	72.0		72.0		72.0	

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

Table 7 Logistic Regressions – Comparing Indicators of Psychic Distance

	Model 1		Model 4	
	B	Wald Test	B	Wald Test
Constant	-182.08 *	6.06	-161.367 *	4.48
R&D	-0.13 <i>t</i>	2.74	-0.15 <i>t</i>	3.33
PSize	0.01	0.04	0.01	0.02
Diversif	0.04 ***	15.21	0.03 **	10.63
Unrelated	0.46	1.71	0.39	1.20
Growth	-0.07 ***	24.20	-0.01	0.26
WOS	0.31 *	6.46	-0.01	0.00
Year	0.09 *	6.20	0.08 *	4.55
Hof	-0.16 ***	22.48	-0.02	0.40
Lang ^f			-0.55 **	7.02
RIED			-0.64 ***	60.17
Social			0.11	0.19
Exp_Gen _#	-0.34 ***	14.40	-0.20 *	4.60
Exp_Loc	0.09 **	10.10	0.02	0.39
n	1526		1526	
Chi Sq	147.175		228.552	
df	10		13	
Signif	< .001		< .001	
Nagelkerke R Sq	.129		.196	
% Correct	72.0		73.9	

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

Table 8 Logistic Regressions – Potential Moderating Impact of Total International Experience

	Model 4		Model 5		Model 6		Model 7		Model 8	
	B	Wald Test	B	Wald Test	B	Wald Test	B	Wald Test	B	Wald Test
Constant	-161.367 *	4.48	-162.11 *	4.50	-161.16 *	4.46	-160.45 *	4.42	-160.37 *	4.48
R&D	-0.15 <i>t</i>	3.33	-0.15 <i>t</i>	3.23	-0.15 <i>t</i>	3.34	-0.16 <i>t</i>	3.62	-0.15 <i>t</i>	3.33
PSize	0.01	0.02	0.01	0.02	0.01	0.01	0.00	0.00	0.01	0.02
Diversif	0.03 **	10.63	0.03 **	10.65	0.03 **	10.63	0.03 **	10.87	0.03 **	10.63
Unrelated	0.39	1.20	0.39	1.19	0.38	1.16	0.39	1.20	0.39	1.20
Growth	-0.01	0.26	-0.01	0.27	-0.01	0.29	-0.01	0.29	-0.01	0.26
WOS	-0.01	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00
Year	0.08 *	4.55	0.08 *	4.58	0.08 *	4.54	0.08 *	4.50	0.08 *	4.55
Hof	-0.02	0.40	-0.02	0.39	-0.02	0.35	-0.02	0.30	-0.02	0.40
Lang ^f	-0.55 **	7.02	-0.55 **	7.01	-0.52 *	6.00	-0.52 *	6.17	-0.55 **	6.99
RIED	-0.64 ***	60.17	-0.64 ***	60.05	-0.64 ***	59.95	-0.65 ***	60.40	-0.64 ***	60.12
Social	0.11	0.19	0.11	0.19	0.12	0.20	0.11	0.17	0.12	0.20
Exp_Gen _#	-0.20 *	4.60	-0.20 *	4.62	-0.20 *	4.58	-0.21 *	4.78	-0.20 *	4.60
Exp_Loc	0.02	0.39	0.02	0.39	0.02	0.48	0.02	0.51	0.02	0.39
Hof * Exp_Gen _#			-0.01	0.03						
Lang ^f * Exp_Gen _#					0.04	0.36				
RIED * Exp_Gen _#							0.07	0.99		
Social * Exp_Gen _#									-0.01	0.01
n	1526		1526		1526		1526		1526	
Chi Sq	228.552		228.579		228.915		229.563		228.559	
df	13		14		14		14		14	
Signif	< .001		< .001		< .001		< .001		< .001	
Nagelkerke R Sq	.196		.196		.196		.197		.196	
% Correct	73.9		73.7		73.8		73.7		73.8	

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

Table 9 Logistic Regressions – Potential Moderating Impact of Local International Experience

	Model 4		Model 9		Model 10		Model 11		Model 12	
	B	Wald Test	B	Wald Test	B	Wald Test	B	Wald Test	B	Wald Test
Constant	-161.367 *	4.48	-158.523 *	4.30	-163.36 *	4.59	-162.56 *	4.52	-160.38 *	4.42
R&D	-0.15 <i>t</i>	3.33	-0.15 <i>t</i>	3.47	-0.15 <i>t</i>	3.22	-0.15 <i>t</i>	3.26	-0.15 <i>t</i>	3.37
PSize	0.01	0.02	0.01	0.01	0.01	0.05	0.01	0.02	0.01	0.01
Diversif	0.03 **	10.63	0.03 **	10.64	0.03 **	10.49	0.03 **	10.62	0.03 **	9.88
Unrelated	0.39	1.20	0.39	1.21	0.39	1.22	0.38	1.18	0.39	1.19
Growth	-0.01	0.26	-0.01	0.22	-0.01	0.24	-0.01	0.27	-0.01	0.38
WOS	-0.01	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00
Year	0.08 *	4.55	0.08 *	4.38	0.08 *	4.66	0.08 *	4.60	0.08 *	4.49
Hof	-0.02	0.40	-0.02	0.25	-0.02	0.37	-0.02	0.38	-0.03	0.56
Lang ^f	-0.55 **	7.02	-0.55 **	7.10	-0.53 *	6.62	-0.55 *	6.96	-0.55 **	7.13
RIED	-0.64 ***	60.17	-0.64 ***	60.36	-0.64 ***	60.69	-0.64 ***	57.02	-0.63 ***	58.26
Social	0.11	0.19	0.11	0.17	0.11	0.17	0.11	0.18	0.14	0.28
Exp_Gen#	-0.20 *	4.60	-0.20 *	4.51	-0.21 *	4.98	-0.20 *	4.64	-0.20 *	4.36
Exp_Loc	0.02	0.39	0.02	0.37	0.02	0.53	0.02	0.38	0.02	0.40
Hof * Exp_Loc			0.03	0.27						
Lang ^f * Exp_Loc					-0.06	0.73				
RIED * Exp_Loc							-0.02	0.06		
Social * Exp_Loc									0.07	1.36
n	1526		1526		1526		1526		1526	
Chi Sq	228.552		228.818		229.282		228.610		229.917	
df	13		14		14		14		14	
Signif	< .001		< .001		< .001		< .001		< .001	
Nagelkerke R Sq	.196		.196		.196		.196		.197	
% Correct	73.9		73.9		73.8		73.8		73.7	

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