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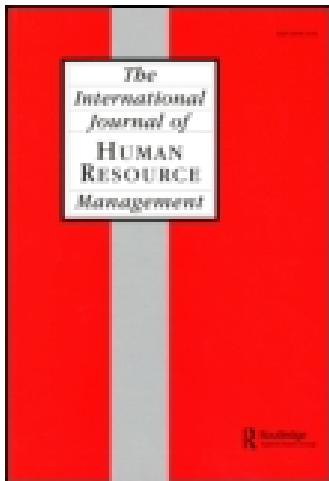
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Cultural distance in international business and management: from mean-based to variance-based measures

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Extant practice in international management is to measure cultural distance as a nation-to-nation comparison of country means on cultural values, thereby ignoring the cultural variation that exists within countries. We argue that these traditional mean-based measures of cultural distance should take within-country cultural variation into account. Therefore, we propose the use of variance-based measures of cultural distance. To illustrate our argument, we examine total US foreign affiliate sales in more than 40 host countries over the 1983–2008 period, complemented with data from the World Values Survey. We analyze the effects of three cultural distance measures: the Kogut and Singh (1988) mean-based index of cultural distance, the Kogut and Singh (1988) index conditioned by host-country cultural variation and a variance-based measure that takes into account both home- and host-country cultural variation. Our findings indicate that, when within-country cultural variation is taken into account, the explanatory power of the Kogut and Singh (1988) index is substantially decreased. In addition, our variance-based measure of cultural distance outperforms the Kogut and Singh (1988) measure in the explanation of foreign US sales. We therefore suggest to move from mean-based to variance-based measures of cultural distance, thereby taking the cultural variation within countries into account.

Keywords: cultural distance; IHRM; intra-country variation; measurement

What sets international management apart from management in general is the idea that operating abroad creates a liability of foreignness (Zaheer, Schomaker and Nachum 2012). Due to various reasons – transport and coordination costs, lack of knowledge of the environment, discrimination and lack of legitimacy, or home-country regulations – distance brings about additional costs for multinational enterprises (MNEs) that indigenous firms do not incur (Hymer 1976; Zaheer 1995; Miller and Edén 2006). For international human resource management (IHRM) specifically, cultural differences have been identified as one of the main sources of difficulties of doing business abroad (Dowling, Welch and Schuler 1999; Gerhart and Fang 2005). The fact that MNEs have to deal with workers from various cultural backgrounds and operate in multiple cultural contexts complicates HRM considerably (McGaughey, Iverson and de Cieri 1997; Tanure, Barcellos and Fleury 2009). Cultural distance increases adjustment difficulties of expatriates and affects the applicability of recruitment and selection procedures, performance appraisal policies, compensation management, and training and development activities (Aycan 2005; Jenkins and Mockaitis 2010). Inability to deal with cultural differences appropriately may make management practices less effective and cause business or expatriate failure, imposing substantial costs on the MNE (Dowling et al.

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1999; Johnson, Lenartowicz and Apud 2006). Common strategies to reduce the liability of foreignness include minimizing the distance by selecting culturally close markets, opting for low-risk entry modes when targeting distant environments, increasing parent-country expatriate staffing or promoting cultural awareness among managers (Kogut and Singh 1988; Barkema, Bell and Pennings 1996; McGaughey et al. 1997; Gerhart and Fang 2005; Galan, González-Benito and Zuñiga-Vincente 2007; Colakoglu and Caligiuri 2008; Malhotra, Sivakumar and Zu 2009; Tadesse and White 2010).

Empirical investigations into the liability of foreignness usually focus on the effects of nation-to-nation distance, most notably the distance associated with differences in cultural values and beliefs. The most well-known measure of this distance is Kogut and Singh's (1988) index, which operationalizes cultural distance as the sum of the absolute difference between two countries on Hofstede's (1980) cultural dimensions. Other examples of distance measures include those of economic distance (Hewett, Roth and Roth 2003; Campbell, Eden and Miller 2012) and psychic distance (Beckerman 1956; Dow 2000; Dow and Karunaratna 2006; Dow and Ferencikova 2010). Most of these measures conceive distance as the difference between countries' mean scores on a certain variable (Au 1999).

The key assumption underlying this field of research is that the mean (cultural) distance between Countries A and B is an adequate approximation of the distance experienced by the average MNE from Country A operating in Country B. This assumption has been widely criticized for assuming homogeneity and ignoring intra-country variation (ICV) in cultural values (Kogut and Singh 1988; Au 1997, 1999, 2000; Shenkar 2001, 2012; Mezias et al. 2002; Husted 2003; Au and Cheung 2004; Gerhart and Fang 2005; Tung 2008; McSweeney 2009; Steel and Taras 2010; Tung and Verbeke 2010). Yet, while this literature makes a strong case that assuming homogeneity is incorrect, few studies actually explain why ICV invalidates standard, mean-based distance measures and none have proposed a workable solution (Tung and Verbeke 2010).

This paper argues that ICV matters because it allows firms to minimize distance not only between countries, but also within countries. For example, attraction–selection–attrition processes allow firms to harness those workers within the country distribution that have values that fit those of the firm, resulting in fairly homogenous organizations in spite of intercountry diversity (Schneider 1987; Gerhart and Fang 2005). The upshot is that the distance firms are actually dealing with in practice is considerably less than mean-based distance measures suggest. The presence and degree of ICV thus reduces the relevance of intercountry distance. We build on this argument to develop theoretically and empirically superior measures taking within-country variation into account.

Our empirical strategy follows two steps. We first develop a measure of cultural variation in host countries, using data from the World Values Survey (WVS), in order to show that it negatively moderates the effects of mean-based distance. Using the same WVS, we subsequently develop a measure of cultural differences that takes the variation of values in host and home countries into account, in order to show that such an advanced measure is superior to the mean-based measures common in the distance literature. We test our claims in a sample of US MNEs and their sales in more than 40 host countries over the 1983–2008 period.

Implications of our study are twofold. First, the evidence shows that using mean-based measures of cultural distance yields biased results. Therefore, our paper is a plea to start using measures that take within-country cultural variation into account. Second, we show that existing databases, such as the WVS, can be used for the development of variance-based cultural distance measures. This bodes well for future work in IHRM and

international management in general, as culture and cultural differences continue to be an important part of the research agenda in these fields.

Background: cultural distance in international management

MNEs are affected by different types of distances in different ways (Ghemawat 2001; Slangen and Beugelsdijk 2010). An important distance dimension is cultural distance, of which a measure has been introduced by Kogut and Singh (1988) (hereafter: K-S index) in their famous article on the relation between cultural distance and entry modes. The exact formula that Kogut and Singh (1988) apply, reads as follows:

$$CD_j = \sum_{i=1}^4 \{(I_{ij} - I_{ia})^2 / V_i\} / 4, \quad (1)$$

where CD_j is the cultural distance of the j th country from a base country (denoted by subscript a), I_{ij} indicates the national Hofstede (1980) score on the i th dimension of country j and V_i is the variance of the score per cultural dimension i , used to make the calculated distances on the separate dimensions commensurable before summation. The number 4 in the formula reflects that calculations based on the K-S index are typically restricted to include the four original dimensions of Hofstede (1980), and not long-term orientation, which is available for only a limited number of countries.

Since its inception 25 years ago, the K-S index has quickly become the leading measure of cultural distance in international management. We constructed an overview of 50 studies that apply the K-S measure of cultural distance, based on a citation analysis. The Appendix provides this overview and the procedure we followed. A detailed look at the papers using the K-S index leads to two main observations. First, the K-S index has been applied to a wide variety of topics, such as foreign entry mode (e.g. Barkema and Vermeulen 1997), compensation strategy (e.g. Roth and O'Donnell 1996), subsidiary performance (e.g. Gomez-Mejia and Palich 1997), expatriate staffing (e.g. Gong 2003) and expatriate performance (e.g. Tung 1998), conformity to local HRM practices (e.g. Luo 2001), the internationalization process (e.g. Barkema et al. 1996) and foreign direct investment (FDI) patterns in general (e.g. Erramilli 1996). Second, the effect of cultural distance on a phenomenon of interest is not always significant (Shenkar 2001). Related to this issue is that, in line with Kirkman, Lowe and Gibson (2006), we find that effect sizes are reported in less detail than is statistical significance. It therefore seems paradoxical that the vast interest in the role of cultural distance to explain a variety of international management phenomena is not matched by equally strong and robust statistical results on its effects.

Where does this discrepancy between theoretical logic and empirical evidence come from? One important reason for the ambiguous results surrounding cultural distance may be the conceptual and empirical weaknesses of the K-S index. Kogut and Singh (1988) already paid much attention to the limitations of their distance measure, including its lack of internal validity and the idealistic assumption of temporal stability of the Hofstede (1980) scores (Kogut and Singh 1988, 422, 427–429). This was followed by a long list of critiques, summarized in Shenkar (2001) and Tung and Verbeke (2010). Among the recurring points of critique is the allegation that the K-S measure incorrectly assumes uniformity within the national unit (Shenkar 2001). Tung (2008) argues that this 'fallacious assumption' (45) may render empirical findings based on the K-S index invalid. If ICV exists, therefore, we need to rethink our cultural distance concepts (Tung and Verbeke 2010).

There is ample evidence supporting the claim that ICV is important (e.g. Au 1997, 1999, 2000; Lenartowicz, Johnson and White 2003; Gerhart and Fang 2005; Hofstede, Garibaldi de Hilal, Malvezzi, Tanure and Vinken 2010a). A few studies also attempt to include some type of ICV in their analyses (Chang and Rosenzweig 2001; Luo 2001; Luo and Park 2001; Meyer and Nguyen 2005). Although useful, none of these attempts amount to the type of reconceptualization of cultural distance called for by Tung and Verbeke (2010) in light of ICV. While the idea of ICV has been well recognized (Au 1997, 1999, 2000; Shenkar 2001), the step toward understanding the implications of ignoring ICV has not been made. Most of the literature criticizing mean-based measures simply seems to take it as self-evident that the presence of ICV would invalidate mean-based cultural distance measures (Shenkar 2001; Mezas et al. 2002; Tung 2008; McSweeney 2009). Why and how ICV is a problem for cultural distance measures is something that needs to be explained. We are the first to provide this explanation, in the next section of this paper. We first explain the relevance of ICV for the validity of mean-based distance measures, such as the K-S index, in more detail. Second, we argue how variance-based measures help to overcome the theoretical and empirical limitations of mean-based measures of cultural distance.

Theory and hypotheses: why mean-based measures do not cut it

The core problem of mean-based distance measures is the following: theory about the effects of distance operates at the disaggregated level, involving firms, organizational teams or individual workers, whereas measures are taken at the macro-level. If we want to establish the relation between distance and MNE behavior and performance, we should ideally have information on the distance experienced in actual dealings with people from the host country, e.g. as (potential) buyers of an MNE's product or as employees (Kogut and Singh 1988; Håkanson and Ambos 2010). This is a problem of representativeness. This problem emerges when the part of the population one is interested in is not representative of the population as a whole. This can best be illustrated with an example. According to the K-S index, the cultural distance between the USA and China equals 2.94 (the calculation is based on the full sample of countries for which the Hofstede (1980) scores are available, details available upon request). A closer analysis of the underlying four Hofstede (1980) dimensions shows that the major share of this distance is caused by individualism: the USA scores 91 on this dimension and China 20, yielding a difference of 71. The differences on the other three dimensions are 40 (power distance), 16 (uncertainty avoidance) and 4 (masculinity). The contribution of the difference in individualism to the total cultural distance is 69%¹, making it the most important component of total cultural distance between the USA and China. Given that modernization theory predicts that individualism increases when levels of welfare go up (Bell 1973; Inglehart and Baker 2000; Hofstede, Hofstede and Minkov 2010b), we expect that the degree of individualism in well-developed cities such as Shanghai, Beijing and Hong Kong is substantially higher than the mean level for China as a whole. What is more, even within these cities, differences in income and education level may ensure that parts of the population are more individualistic than others. If foreign firms operate in these developed cities and employ mainly the more educated, individualistic part of their populations, the actual cultural distance experienced by US MNEs operating in China is much smaller than indicated by the difference in country means.

Do we have reason to assume that US MNEs disproportionately prefer the educated worker segments from well-developed cities over other parts of the Chinese population?

Yes. This is precisely why cultural distance matters: MNEs will locate themselves in those areas in China that are culturally most proximate to them, in order to minimize the liability of foreignness they are exposed to. Attraction–selection–attrition processes may also allow firms to draw those workers out of the population that fit their own cultural background (Gerhart and Fang 2005). Because of these processes, the part of a country’s population that firms actually deal with is always less distant than the country mean. Figure 1 graphically illustrates this fundamental point. Using numbers from the individualism dimension, Panel A depicts the USA, (the home country) having a mean country score of 91 and China (the host country) having a mean country score of 20. The distance between these country means is 71.

Suppose, for simplicity’s sake, that we have a US firm that is perfectly reflecting US culture, i.e. its individualism score is 91 (Panel B in Figure 1). This firm will be inclined to target those individuals within the host country’s (China) cultural values distribution that are located left of the country mean, so that the distance it is exposed to is less than 71. The implication is that cultural distance between two countries becomes smaller not only when the difference in the cultural mean between them decreases (which is what mean-based

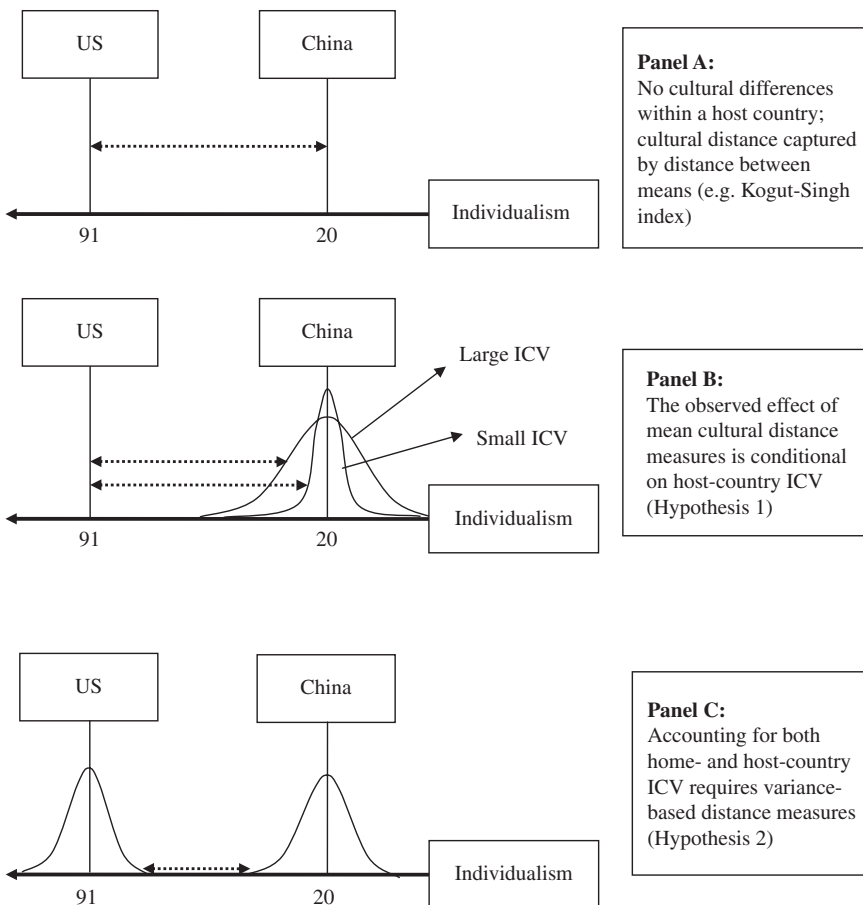


Figure 1. From mean-based to variance-based cultural distance measures.

measures argue), but also when the variation within the host country increases. *Ceteris paribus*, the higher the host-country ICV is, the more opportunity there is for MNEs to minimize cultural distance by targeting the most proximate segment of the host-country population. As a result, as host-country ICV increases, mean-based cultural distance measures become less representative of actual cultural distance: the greater the level of ICV is, the more the mean cultural distance overestimates actual cultural distance. The translation of this to distance research is that the observed effect of the K-S index is conditional on the degree of ICV in the host country. Formally, we have:

Hypothesis 1. The observed negative effect of a mean-based cultural distance measure on MNE activity becomes weaker when the intra-cultural variation in a host country increases.

ICV in the host country is only part of the issue, however. Home countries are also characterized by within-country variation. As illustrated in Panel C of [Figure 1](#), if we allow variation within the home country as well, we find that firms on ‘the Chinese side’ (the right side) of the US distribution targeting Westernized cities in China experience a distance that is much smaller than that from the US home country mean to the Chinese distribution. Firms that are completely on the left side of the US distribution, however, are exposed to a distance that is substantially larger than that from the home-country mean. For those, it may make more sense not to target China, but to target like-minded consumers or workers in different, more individualistic markets, even though the mean-based distance between the USA and these other countries may actually be larger than that between the USA and China.

What this shows us is that, as a proxy for liability of foreignness, mean differences do not reflect the reality faced by internationalizing firms. The distance that matters to an MNE is not the distance between the center of two populations, but distance in the sense of the shortest route between the targeted segment of the host-country population and the segment of the home-country population that the MNE actually comes from or is most familiar with. An example is a producer of organic food targeting a specific set of consumers in its home country and doing the same in the host country. Measurement of the relevant cultural distance in this case not only needs to move beyond differences in country means, but also requires taking into account the entire distribution of cultural values in both the home and the host country. This leads us to predict that distance measures that are able to incorporate both home-country ICV and host-country ICV are more meaningful than cultural distance measures that are solely mean-based. Hence, our second hypothesis is:

Hypothesis 2. Cultural distance measures that take home- and host-country ICV into account have superior explanatory power over mean-based distance measures.

Hypothesis 1 states that the observed effect of the K-S index is conditional on the level of ICV and can be tested by means of an interaction effect between the K-S index and a measure of ICV. Since Hypothesis 2 involves complete information about home- and host-country ICV, it requires the development of a so-called variance-based measure of cultural distance. We explain the development of this measure in the next section, which presents our empirical analysis.

Empirical analysis

Data and sample

We use data on all foreign affiliate sales of US MNEs in the period 1983–2008. The data on our dependent variable were originally derived from the US *Direct Investment Abroad: Financial and Operating* database of the US Bureau of Economic Analysis (BEA). Similar BEA data on MNE activity have been used to test for the role of distance by Slangen and Beugelsdijk (2010) and Nachum and Zaheer (2005). The two independent variables of interest, (1) ICV and (2) variance-based cultural distance measure, are calculated using data from the WVS. The reason for choosing the WVS is that it contains disaggregated data, rather than just country means, giving us full information on the variation in values within countries. The WVS was developed in the early 1980s by sociologists and political scientists at the University of Michigan, and measures individuals' core values in several domains.² The individual-level data of the WVS span a large number of countries, covering more than 90% of the world population. The relevance and importance of this data set for cross-cultural research has been shown by various studies (e.g. Inglehart 1997; Beugelsdijk and Maseland 2011) and the sample of responses from individuals in every country is sufficiently large to measure variation within countries. To obtain a sample that is as large as possible, both in terms of the number of individuals per country and the total number of countries covered, we use data from all five waves of the WVS. These five waves cover the period 1981–2008, which coincides with the period for which we could collect data on US foreign affiliate sales. The data on our control variables are derived from a variety of sources specified below. Our final data set consists of 41 and 42 countries, caused by the fact that the variance-based cultural distance measure and the ICV measure are not available for the same set of countries and years, leading to a total of 688 and 687 observations, respectively.

Given that we have both longitudinal and cross-sectional data, we use panel data analysis to estimate the models. Modified Wald chi-squared tests indicated that all the models contained within-panel heteroskedasticity ($p < 0.01$), while Wooldridge's (2002) test for autocorrelation showed that these models also contained first-order autocorrelation ($p < 0.001$). We therefore use feasible generalized least squares regression to correct the standard errors for both heteroskedasticity and autocorrelation.

Dependent and independent variables

Dependent variable

The dependent variable, total US MNE activity in each host country, is measured as the aggregate sales of goods generated by majority-owned subsidiaries located in those host countries, where both subsidiaries and the US parent are nonfinancials. The countries included in our sample account for 80% of this type of US foreign affiliate sales, meaning that we base our findings on the majority of worldwide US MNE activity.

Independent variables

To test our hypotheses, we start with a baseline model that includes a traditional, mean-based cultural distance measure. The first independent variable is therefore the K-S index, drawing on Hofstede's (1980) dimensions of culture (Kogut and Singh 1988). The highest mean cultural distance from the USA in our sample is to Guatemala (6.20) and the lowest to Australia (0.02).

Second, we test Hypothesis 1 by including the conditioning effect of ICV on mean-based cultural distance, which requires the inclusion of ICV. The level of ICV in a given host country is measured by using the following three items from the WVS: (1) How would you place your view on the following scale: private ownership of business and industry should be increased (= 1) versus government ownership of business and industry should be increased (= 10). (2) In political matters, people talk of ‘the left’ and ‘the right.’ How would you place your views on this scale, generally speaking? (1 = left through 10 = right). (3) Some people feel they have complete free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means ‘none at all’ and 10 means ‘a great deal’ to indicate how much freedom of choice and control you feel you have over the way your life turns out.

We selected these items because they (1) focus on respondents’ values, (2) are related to ideology, which is the most important aspect of ICV (Ralston, Holt, Terpstra and Kai-Cheng 1997; Au 2000), (3) are included in a large number of the national surveys and in almost all waves of the WVS, (4) have a 10-point Likert-type scale rather than a yes/no response format, allowing for a more precise calculation of ICV (Au 2000), and (5) are used in a large number of other studies on culture across social science disciplines (e.g. Guiso, Sapienza and Zingales 2003; Alesina and Angeletos 2005; di Tella and MacCulloch 2005; Davis and Robinson 2006; Weldon 2006; Inglehart, Foa, Peterson and Welzel 2008; Kay, Gaucher, Napier, Callan and Laurin 2008; Tabellini 2008; Aghion, Algan, Cahuc and Shleifer 2010; Hofstede et al. 2010b). In reference to existing literature (Au 1997, 1999, 2000; Schwartz and Sagie 2000), we measure ICV by the standard deviation on each of these three items in each country. In order to obtain one measure of ICV, we performed a factor analysis on the country standard deviation of these three items, resulting in one factor with an eigenvalue of 2.2 and a Cronbach’s alpha of 0.81. The country with the highest score on our ICV factor is India (2.05) and the lowest level of ICV can be found in Japan (−1.34), making Japan the most homogeneous country in our sample³.

Finally, we include a new variance-based measure of cultural distance as an independent variable. While Hypothesis 1 concerns the presence of ICV in the host country, Hypothesis 2 proposes a solution, namely the adoption of a variance-based distance measure that incorporates ICV, not only in the host country, but also in the home country. Although we are not aware of the use of such measures in international management, variance-based measures are developed and used by various disciplines, including psychology, information science and biology (e.g. Dice 1945; Tversky 1977; Gusfield 1997). We use a variance-based measure of cultural distance that is statistically sound, yet intuitively clear, and simple to calculate.

Because a variance-based measure requires inclusion of the underlying value distribution within country populations, we cannot use the Hofstede dimensions as indicators for cultural differences, as these are not available at the individual level. Instead, we focus on another set of measures capturing general cultural orientation that is present in the WVS. The set of WVS items that we employ concerns qualities that children can be encouraged to learn at home, where respondents may select up to 5 qualities out of a list of 10 (Independence, Hard work, Feeling of responsibility, Imagination, Tolerance and respect for other people, Thrift/saving money and things, Determination/perseverance, Religious faith, Unselfishness, and/or Obedience). In the WVS data, each child quality is assigned a different dummy variable (coded as 1 when it was chosen by an individual and coded as 0 when it was not chosen), for 10 variables in total. The WVS child quality set of items together captures the importance of core values in a culture, which are the ones that are sufficiently important to be transmitted to children. The use of such a child-rearing-

values battery as a measure of (within-country) culture has a long history and can be traced back to the classical work of authors such as Kohn (1959) and Inkeles (1960). Although the fact that our variance-based measure is based on a different set of value dimensions than the K-S index is a limitation of our approach, we are thus reasonably confident that the WVS child quality items-set, like the Hofstede dimensions, represent the general cultural orientation of a population. This set of items has been widely used in cross-cultural research (e.g. Guiso et al. 2003; Inglehart, Moaddel and Tessler 2006; Lindbeck and Nyberg 2006; Tabellini 2008; Aghion et al. 2010; Hofstede et al. 2010b; Welzel 2010; Gorodnichenko and Roland 2011).

To obtain a variance-based measure of cultural differences, we first calculated the percentage of respondents within each country that chose a particular quality. Doing so, we found, for example, that 27% of the respondents in the USA chose Thrift as an important quality. For China, this number was 60%. What does this tell us about the distance between China and the USA? It shows us that, even though, relative to China, Thrift appears to be a decidedly less-valued quality in the USA, there are still 27 people of every 100 persons who consider it important. For these people, the distance to the people in China that also mention this quality is zero. Our distance would therefore calculate the fraction of US respondents that can be matched to a Chinese counterpart who mention the same quality.

More generally, the proximity between two countries is given by the minimum percentage that the two countries have in common on each quality. We added these scores for all 10 qualities and subtracted the result from one, in order to obtain a distance measure. In formal terms, we have:

$$CD_{USChina} = 1 - \sum_{q=1}^{10} \{ \min(Q_{qUS}, Q_{qChina}) * Q_{qWorld} \}, \quad (2)$$

which gives the cultural distance between the USA and a host country, in this case China. Q_{qUS} (Q_{qChina}) indicates the fraction of mentioned qualities in the USA (China). Comparable to the standard K-S index, we multiply the scores on each of the 10 variables included in our measure by the fraction of the world population mentioning this quality. This does justice to the fact that some qualities are hardly mentioned in most countries, where lack of agreement on those values contributes less to distance than lack of agreement on qualities that are frequently mentioned on a worldwide basis. Table 1 provides an overview of the ICV and variance-based distance scores for all countries included in the analyses.

Casual observation of Table 1 teaches us that there is a mild negative relation between our ICV and variance-based distance measures (the correlation is -0.279 which is significant at the 10% level). This reflects our argument that the wider the within-country distribution of a target country is, the closer the most nearby segments of its population are. Conversely, when entering a homogenous country it is relatively hard to find like-minded individuals, even though the mean-based distance to such a country may not be extremely high. For this reason, relatively homogenous countries such as Japan, Thailand, Norway and Sweden are all located at relatively high distances to the USA.

Control variables

Following standard practice in estimating gravity equations, we include a set of additional variables to control for other factors affecting US foreign MNE activity and to avoid a bias from omitted variables. We control for the economic size and level of economic

Table 1. Sample and country scores on ICV (Sample 1) and variance-based cultural distance (Sample 2).

<i>Country</i>	<i>Host-country ICV</i>	<i>Variance-based cultural distance measure</i>	<i>Country</i>	<i>Host-country ICV</i>	<i>Variance-based cultural distance measure</i>
Argentina	0.18	8.29	Japan	- 1.34	21.17
Australia	- 0.77	9.96	Malaysia	-	9.28
Austria	- 1.22	-	Mexico	0.94	11.39
Belgium	- 0.37	-	Netherlands	- 1.15	15.36
Brazil	1.54	8.70	New Zealand	- 1.00	10.02
Canada	- 1.09	5.64	Nigeria	1.78	23.07
Chile	0.17	12.57	Norway	- 0.96	22.31
China	-	18.03	Peru	0.63	9.50
Colombia	0.91	15.54	Philippines	0.27	11.06
Czech Republic	- 0.04	16.05	Poland	0.54	16.43
Denmark	- 0.87	-	Portugal	- 0.18	-
Dominican Rep.	1.73	9.28	Russia	0.58	14.47
Egypt	-	12.23	Saudi Arabia	-	17.92
Finland	- 1.26	17.88	Singapore	-	8.05
France	- 0.42	11.00	South Africa	1.25	7.09
Germany	- 0.90	22.40	South Korea	0.55	17.66
Guatemala	0.50	14.55	Spain	- 0.59	10.84
Hungary	- 0.06	15.72	Sweden	- 0.84	23.17
India	2.05	13.74	Switzerland	- 0.61	12.13
Indonesia	0.21	13.08	Thailand	- 1.18	17.07
Ireland	- 0.81	-	Trinidad and Tobago	1.14	10.45
Israel	-	14.11	Turkey	1.70	9.36
Italy	0.01	9.31	United Kingdom	- 0.68	12.08
			Venezuela	1.70	11.68
<i>N</i>	20 (total 41)	19 (total 42)		21 (total 41)	23 (total 42)

development of each host country by respectively including gross domestic product (GDP) and GDP per capita (both at purchasing power parity exchange rates, in 2005 international dollars) (Loree and Guisinger 1995; Sethi, Guisinger, Phelan and Berg 2003; Feinberg and Gupta 2009). The data on both variables were obtained from the World Bank's *World Development Indicators*. Additionally, we control for each host country's openness to FDI through its inward FDI stock as a percentage of GDP (Kumar 1994; Slangen and Beugelsdijk 2010). This percentage was taken from United Nations Conference on Trade and Development's (UNCTAD's) *Foreign Direct Investment* database. We also enter a dummy variable coded 1 for Canada as of 1989 and for Mexico as of 1994 to control for the fact that these countries shared North American Free Trade Agreement (NAFTA) membership with the USA during these years (Globerman and Shapiro 2003). Similarly, we include a dummy variable coded 1 for those years in which a given host country shared WTO (or its predecessor, the General Agreement on Tariffs and Trade (GATT)) membership with the USA (Rose 2004). Furthermore, we control for the level of political stability in each host country through its score on Henisz's (2000) POLCONV measure, as reported in the 2010 release of his POLCON database. Additionally, the volatility of a host country's exchange rate is controlled for through the percentage by which this annual rate (in US dollars, as reported in the *Penn World Tables*) deviated from its past three year average (Globerman and Shapiro 2003). Finally, we include a time-trend variable, taking the values of 1983–2007, to control for the possibility that the effects of our time-varying independents are driven by the fact that these independents share a time trend with our dependent, and $T - 1$ year dummies to control for year-specific factors affecting US MNE activity in all countries in the same way (Zwinkels and Beugelsdijk 2010).

Results

Tables 2 and 3 provide descriptive statistics for the variables included in the analysis and their correlations. Correlations between the variables are low, indicating an absence of multicollinearity. A formal collinearity diagnostics test confirms this, as none of the condition indices share more than 50% of their variation with other variables (Belsley, Kuh and Welsch 1980). The mean-based K-S index of cultural distance correlates 0.21 with our variance-based cultural distance measure.

Table 4 shows the results for the four models that we estimated. Model 1 is the baseline model, including only the K-S index alongside the standard set of control variables. Results show that the traditional measure of cultural distance has a significant negative effect on MNE activity ($p < 0.001$). This is in line with previous studies (Sethi et al. 2003; Slangen and Beugelsdijk 2010). We test Hypothesis 1 in Model 2 by including the conditioning effect of ICV in the host country. Specifically, we include the interaction between host-country ICV and the K-S index. Note that we also include the direct effect of ICV to exclude the possibility of omitted variable bias (Brambor, Clark and Golder 2006). According to Table 4, the main effect of the K-S index is still negative and statistically highly significant ($p < 0.001$), although the effect has decreased compared to Model 1. Moreover, the interaction between this measure and ICV is positive and statistically significant ($p < 0.001$). This confirms Hypothesis 1 that ICV reduces the negative effect of mean-based cultural distance on MNE activity. A post-hoc analysis shows that the negative effect of mean-based cultural distance is diminished by 54% when ICV increases by one standard deviation.^{4,5} Hence, support for Hypothesis 1 is strong.

We test Hypothesis 2 in Models 3 and 4. Model 3 includes the standard set of control variables and the K-S measure of cultural distance, which we use as a benchmark. The

Table 2. Descriptive statistics Sample 1: host-country ICV.^a

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. MNE activity ^b	9.66	1.52	1										
2. Mean-based cultural distance (K-S index)	1.91	1.31	-0.52	1									
3. Host-country ICV	0.00	1	-0.42	0.34	1								
4. Geographic distance ^b	8.83	0.59	-0.29	0.02	0.06	1							
5. Economic development level ^b	9.53	0.86	0.61	-0.46	-0.67	-0.30	1						
6. Economic size ^b	26.68	1.08	0.66	-0.24	0.03	0.00	0.15	1					
7. FDI Openness ^b	0.27	1.42	0.27	-0.12	0.16	-0.14	0.23	-0.14	1				
8. NAFTA membership	0.04	0.20	0.31	-0.11	-0.05	-0.59	0.09	0.18	0.09	1			
9. WTO membership	0.95	0.15	0.15	-0.26	-0.18	0.12	0.08	0.01	0.13	0.03	1		
10. Political stability	0.66	0.23	0.42	-0.47	-0.38	-0.17	0.66	0.13	0.17	0.00	0.16	1	
11. Exchange rate volatility ^b	1.77	1.46	-0.20	0.11	0.25	0.00	-0.12	-0.03	-0.15	-0.11	-0.06	-0.13	1

^a $N = 688$. Correlations greater than or equal to $|0.08|$ are significant at $p < 0.05$ (two-tailed).

^b Log-transformed to remove skewness and/or outliers.

Table 3. Descriptive statistics Sample 2: variance-based cultural distance measure.^a

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. MNE activity ^b	9.61	1.61	1										
2. Mean-based cultural distance (K-S index)	2.07	1.31	-0.46	1									
3. Variance-based cultural distance	13.08	4.50	-0.09	0.21	1								
4. Geographic distance ^b	8.91	0.62	-0.27	0.12	0.14	1							
5. Economic development level ^b	9.42	0.91	0.59	-0.44	0.06	-0.26	1						
6. Economic size ^b	26.75	1.12	0.60	-0.29	0.09	-0.08	0.11	1					
7. FDI openness ^b	0.31	1.41	0.24	-0.01	-0.12	-0.02	0.18	-0.16	1				
8. NAFTA membership	0.04	0.20	0.29	-0.14	-0.24	-0.59	0.12	0.16	0.08	1			
9. WTO membership	0.95	0.21	0.24	-0.27	-0.11	0.03	0.16	-0.08	0.06	0.04	1		
10. Political stability	0.62	0.25	0.43	-0.49	-0.05	-0.18	0.64	0.06	0.08	0.03	0.34	1	
11. Exchange rate volatility ^b	1.51	1.96	-0.06	-0.06	-0.08	-0.10	-0.01	-0.05	-0.17	-0.05	0.18	0.08	1

^a N = 687. Correlations greater than or equal to |0.08| are significant at p < 0.05 (two-tailed).

^b Log-transformed to remove skewness and/or outliers.

Table 4. FLGS regression estimates of the interaction between mean cultural distance and ICV (H1), and a variance-based cultural distance measure (H2).^{a,b}

	Test of Hypothesis 1			Test of Hypothesis 2		
	Sample 1			Sample 2		
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Mean-based cultural distance (K-S index)	-0.29 (0.02)***	-0.24 (0.02)***	-0.14 (0.02)***	-0.14 (0.02)***	-0.04 (0.03)	-0.04 (0.03)
Host-country ICV		-0.62 (0.07)***				
K-S index*ICV		0.13 (0.03)***				
Variance-based cultural distance						
Geographic distance	-0.45 (0.03)***	-0.36 (0.04)***	-0.33 (0.05)***	-0.33 (0.05)***	-0.04 (0.01)***	-0.04 (0.01)***
Economic development level	0.53 (0.04)***	0.24 (0.05)***	0.70 (0.04)***	0.70 (0.04)***	-0.28 (0.04)***	-0.28 (0.04)***
Economic size	0.74 (0.03)***	0.75 (0.03)***	0.75 (0.03)***	0.75 (0.03)***	0.83 (0.05)***	0.83 (0.05)***
FDI openness	0.01 (0.01)	0.01 (0.01)	0.02 (0.01)**	0.02 (0.01)**	0.02 (0.01)**	0.02 (0.01)**
NAFTA membership	0.05 (0.06)	0.04 (0.08)	0.31 (0.12)**	0.31 (0.12)**	0.21 (0.09)*	0.21 (0.09)*
WTO membership	0.06 (0.10)	0.02 (0.09)	0.40 (0.13)**	0.40 (0.13)**	0.42 (0.13)**	0.42 (0.13)**
Political stability	0.01 (0.08)	-0.03 (0.07)	0.01 (0.08)	0.01 (0.08)	0.04 (0.08)	0.04 (0.08)
Exchange rate volatility	-0.01 (0.00)*	-0.01 (0.00)*	-0.01 (0.00)*	-0.01 (0.00)*	-0.01 (0.00)*	-0.01 (0.00)*
Number of observations	688	688	687	687	687	687
Wald χ^2 test of Model 2 vs. 1, resp. 4 vs. 3		94.02***			46.91***	46.91***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed).

^a Heteroskedasticity and autocorrelation-robust standard errors are listed in parentheses. Year dummies and intercept are included but not shown. The model chi-square test shows that all models are significant at 1%. Note that the sample of countries differs between Models 1 and 2 testing for Hypothesis 1, and Models 3 and 4 testing for Hypothesis 2.

^b Standardized beta coefficients are reported

reason for estimating Model 3 is that this analysis draws on a different sample than before. The effect of the K-S index of cultural distance indeed is slightly different in size in Model 3 than in Model 1, but remains negative and significant ($p < 0.001$). When we include our variance-based cultural distance measure, jointly with the mean-based K-S index in Model 4, the K-S index becomes insignificant, while the variance-based measure is highly significant ($p < 0.001$). The size of the effect is such that, *ceteris paribus*, a one-standard-deviation increase in the variance-based cultural distance from the mean (from US-Indonesia to US-Saudi Arabia) is associated with a 100,000\$ decrease in foreign affiliate sales (which is almost identical to the negative sales effect of 120,000\$ when using the mean-based cultural distance in Model 3 for the same countries). Moreover, a Wald chi-square test shows that adding the variance-based measure of cultural distance significantly improves overall model fit. These results support Hypothesis 2.

Discussion and concluding remarks

Traditional international management research has used the Kogut and Singh (1988) mean-based measure of cultural distance (the K-S index) as a proxy for the cultural difficulties firms face in achieving desired business outcomes abroad. However, by using a mean-based measure, one assumes that MNEs will only encounter average circumstances when locating in foreign locations and, more problematic, that firms will primarily deal with the average individual abroad. In practice, however, cultures are not homogeneous and internationalizing firms will target or be confronted with those segments of the host-country population that are closest to the segment that the MNE deals with in the home-country population. The idea that firms seek to minimize the liability of foreignness between countries also holds within countries. Following this logic, we proposed an approach to distance that takes the variation in traits within countries into account, ultimately substituting a mean-based cultural distance approach with a variance-based approach to cultural distance.

To test our argument empirically, we proceeded in two steps. First, we developed a measure of ICV in host countries to test if the observed effect of the mean-based K-S measure of cultural distance is conditional on the degree of heterogeneity in host countries. The weakened effect of the K-S index indeed fits our belief that it is not so much the mean distance to a host country that is important for firms, but the distance to a part of the host country's population. In an analysis of foreign affiliate sales generated by US MNEs in the period 1983–2008, we found support for this conditioning effect. Our second test acknowledges the presence of both host-country and home-country ICV. We developed a variance-based measure of cultural distance and showed that this measure beats the mean-based K-S index in a horse race of explaining the foreign affiliate sales of US MNEs. This finding supports the notion that a variance-based distance measure provides a more accurate proxy of the liabilities of foreignness faced by internationalizing firms than traditional mean-based measures of cultural distance do.

The main step for future research is to develop more advanced variance-based cultural distance measures. Disciplines such as biology, information science and psychology have long used and developed sophisticated variance-based distance measures and these may be adapted to deal with the types of distance that business scholars are interested in. The key challenge lies in the availability of appropriate data. Calculating variance-based distance measures requires disaggregated values data that is

not readily available in international management. Notably, Hofstede's (1980) individual-level data have been destroyed, while the data from the GLOBE (House, Hanges, Javidan, Dorfman and Gupta 2004) project are not made public. We have relied on data from the comprehensive WVS, which are widely used in economics and psychology, but have not found their way to international management yet. In part, the present study shows the rich opportunities offered by this data set for management research.

This paper further raises important issues to be dealt with in future research. A first one concerns the level at which to measure variation within countries. We have shown that taking into account differences between individuals increases the explanatory power of cultural distance. An important follow-up question, however, is how we can incorporate differences in firms within the home and the host country, while also acknowledging individual-level distributions within these firms. A second open question is about the significance of variance-based measures of distance in explaining different phenomena in IHRM and international management in general. Are they, for instance, more relevant in analyses of expatriate performance or in compensation management research? And, to what extent can we apply variance-based measures to other distances faced by MNEs? We may have cast our analysis in terms of cultural distance, but the importance of incorporating ICV equally applies to, for example, geographic and economic distance. Measuring geographic distance by taking the distance between countries' capitals neglects spatial variation within host countries, while looking at country differences in GDP per capita does not take income inequalities into account.

Overall, we conclude not only that ICV matters, but also that international management research needs to move beyond mean-based measures of distance to explicitly incorporate, and perhaps even embrace, variation that occurs within countries. In IHRM, for example, the decisions made and policies implemented by HR managers are ultimately about individual workers, not about country averages. Variance-based measures give a more accurate and relevant picture of the true distance that managers of internationalizing firms face toward such workers. Variance-based distance measures hold great potential for international management and international management research, in answering, as well as raising, important and challenging questions.

Notes

1. This can be calculated by dividing the difference on individualism (weighted by the variance on individualism) by the total cultural distance. The weighted distance on individualism is 8.11, and the total sum of all weighted difference dimensions is 11.8, yielding a share of 69%. To obtain the overall cultural distance score this 11.8 is divided by four yielding the 2.94.
2. The website of the WVS, <http://www.worldvaluessurvey.org/>, provides more information.
3. We note that the list of scores on our ICV measure shows some resemblance to a survey of response styles (Harzing 2006). Indeed, we would expect internally diverse societies to portray more extreme response styles in surveys.
4. This is easy to calculate because ICV is measured with mean of 0 and a standard deviation of 1. For a mean level of ICV, the coefficient for the K-S index equals -0.24 (see Model 2 in Table 2). When ICV increases by one standard deviation, the K-S index is corrected upwards to a new level of $-0.24 + 0.13 \cdot 1 = -0.11$. In percentages, this is equal to a $(-0.11 \text{ minus } -0.24) / -0.24 = 54\%$ reduction of the effect of distance.
5. To check whether these results are driven by the sample selection, we have done this analysis for Sample 2 as well. Our findings are robust for moving to Sample 2, in which case the reduction of the mean-based distance effect increases to 61% (results available on request).

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Appendix: Overview of studies citing Kogut and Singh' (1988) article

Selection Procedure. We constructed this overview in several steps. First, to identify the most important studies applying the K-S index, we examined those papers that had been cited 100 times or more. This resulted in a set of 14 papers. We then looked at the set of papers that were referred to in comprehensive reviews or meta-analyses (Shenkar 2001; Werner 2002; Tihanyi, Griffith and Russell 2005; Kirkman et al. 2006; Berry, Guillen and Zhou 2010; Em 2011) and which were cited 40 times or more. This added another 25 articles. By construction, the resulting selection was biased toward papers published in the 1990s and at the start of the new millennium, as articles that have appeared more recently have had less time to gather citations. To correct for this bias, we also considered all articles referring to Kogut and Singh (1988) that appeared in print between 2003 and October 2011, sorting them from high to low, according to the number of citations these articles received. Ten articles received more than 40 citations. The end result is the collection of 49 papers that can be found in the Appendix, plus the original Kogut–Singh paper (a more detailed table is available upon request).

<i>Authors</i>	<i>Journal</i>	<i>Number of cultural dimensions</i>	<i>Focal country</i>	<i>Focal variable</i>	<i>Countries in sample</i>	<i>Criticism Hofstede/ K-S index</i>	<i>Criticism ICV</i>
1. Kogut and Singh (1988)	Journal of International Business Studies	4	The USA	Foreign entry mode	13 countries (with Scandinavia as 'country') and one 'other'	Yes	No
2. Erramilli (1991)	Journal of International Business Studies	4	The USA	Cultural distance	Not available	No	No
3. Li and Guisinger (1991)	Journal of International Business Studies	4	The USA	Failure of foreign-trolled subsidiaries vs. domestic-con-trolled subsidiaries	10 countries	No	No
4. Li and Guisinger (1991)	Journal of International Business Studies	4	Multiple (Japan, the USA, Western European countries)	FDI in number of affiliates	Triad regions (not available which countries are included)	No	No
5. Benito and Gripsrud (1992)	Journal of International Business Studies	4	Norway	Timing/sequence of FDI	Not available	Yes	No
6. Erramilli and Rao (1993)	Journal of Marketing	4	USA	Foreign entry mode	Not available	No	No
7. Rosenzweig and Nohria (1994)	Journal of International Business Studies	4	The USA (inferred, but not specified)	Resemblance to local HRM practices	9 countries (2 non-European)	No	No
8. Shane (1994)	Strategic Management Journal	4	USA	Foreign entry mode (degree of licensing)	52 countries	No	No
9. Loree and Guisinger (1995)	Journal of International Business Studies	4	USA	Amount of FDI to host countries	49 countries	No	No
10. Barkema, Bell and Pennings (1996)	Strategic Management Journal	4	The Netherlands	Longevity of foreign ventures	Not available	Yes	No
11. Erramilli (1996)	Journal of International Business Studies	4	Multiple	Foreign subsidiary ownership	Not available	No	No

Appendix – continued

<i>Authors</i>	<i>Journal</i>	<i>Number of cultural dimensions</i>	<i>Focal country</i>	<i>Focal variable</i>	<i>Countries in sample</i>	<i>Criticism Hofstede/ K-S index</i>	<i>Criticism ICV</i>
12. Roth and O'Donnell (1996)	Academy of Management Journal	4	Multiple	Compensation strategy of the foreign subsidiary	5 countries	No	No
13. Pan (1996)	Journal of International Business Studies	4	China (but because unavailable: scores from Taiwan)	The level of foreign equity ownership in joint ventures in China	41 countries and regions (not specified which)	No	No
14. Barkema and Vermeulen (1997)	Journal of International Business Studies	5	The Netherlands	International joint venture (IJV) survival, by longevity and foreign entry mode	72 (not specified which)	Yes	No
15. Anand and Delios (1997)	Journal of International Business Studies	Unclear	Unclear	The foreign entry mode and subsidiary performance	Not available	No	No
16. Gomez-Mejia and Palich (1997)	Journal of International Business Studies	4	Multiple	Performance of MNEs	15 countries	Yes	No
17. Park and Ungson (1997)	Academy of Management Journal	4	The USA	Joint venture duration until dissolution	Not available	No	No
18. Erramilli, Agarwal and Kim (1997)	Journal of International Business Studies	Unclear	South Korea	Foreign entry mode	Not available	No	No
19. Barkema, Shenkar, Vermeulen and Bell (1997)	Academy of Management Journal	4	The Netherlands	The longevity of international joint ventures (IJVs)	Not available	Yes	No
20. Morosini, Shane and Singh (1998)	Journal of International Business Studies	4	Italy	Cross-border acquisition performance	10 countries	No	No
21. Contractor and Kundu (1998)	Journal of International Business Studies	4	Multiple	Foreign entry mode	Not available	No	No

Appendix – continued

<i>Authors</i>	<i>Journal</i>	<i>Number of cultural dimensions</i>	<i>Focal country</i>	<i>Focal variable</i>	<i>Countries in sample</i>	<i>Criticism Hofstede/ K-S index</i>	<i>Criticism ICV</i>
22. Barkema and Vermeulen (1998)	Academy of Management Journal	4	The Netherlands	Foreign entry mode	72 countries (not specified which)	No	No
23. Tung (1998)	Journal of World Business	Unclear	Unclear, probably the USA	Expatriate success abroad	52 countries (not specified which)	No	No
24. Luo and Peng (1999)	Journal of International Business Studies	4	China	Subunit (subsidiary) performance	Not available	No	No
25. Oxley (1999)	Journal of Economic Behavior and Organization	4	The USA	Governance structure of interfirm alliances	28 countries	No	No
26. Brouthers and Brouthers (2000)	Strategic Management Journal	4	Japan	Foreign entry mode	7 countries	No	No
27. Arora and Fosfuri (2000)	Journal of International Business Studies	4	Multiple	Foreign entry mode	60 countries (not specified which)	No	No
28. Thomas and Mueller (2000)	Journal of International Business Studies	4	The USA	Entrepreneurial motivation	9 countries	No	No
29. Merchant and Schendel (2000)	Strategic Management Journal	4	The USA	Shareholder value	Not available	No	No
30. Griffith and Harvey (2001)	Journal of International Business Studies	3	The USA (inferred, but not specified)	Power of overseas distributors	5 countries	No	No
31. Luo (2001)	Administrative Science Quarterly	4	China	Personal attachment between boundary spanners	Not available	No	No
32. Chang and Rosenzweig (2001)	Strategic Management Journal	4	The USA	Foreign entry mode	12 countries	Yes	No
33. Brouthers and Brouthers (2001)	Journal of International Business Studies	4	Multiple	Foreign entry mode	9 countries	Yes	No
34. Ahuja and Katila (2001)	Strategic Management Journal	4	Multiple	Innovation performance/output	Not available	No	No

Appendix – continued

<i>Authors</i>	<i>Journal</i>	<i>Number of cultural dimensions</i>	<i>Focal country</i>	<i>Focal variable</i>	<i>Countries in sample</i>	<i>Criticism Hofstede/ K-S index</i>	<i>Criticism ICV</i>
35. Luo and Park (2001)	Strategic Management Journal	4	China	Financial performance of subsidiary	8 countries and 'others'	Yes	No
36. Evans and Mavondo (2002)	Journal of International Business Studies	5	Multiple	Organizational (MNE) performance in terms of financial performance and strategic effectiveness	Not available	Yes	No
37. Harzing (2002)	Strategic Management Journal	Unclear	Multiple	Foreign entry mode	22 countries	No	No
38. Habib and Zurawicki (2002)	Journal of International Business Studies	4	Multiple	FDI flow	89 countries (not specified which)	No	No
39. Pothukuchi, Damanpour, Choi, Chen and Park (2002)	Journal of International Business Studies	4	India	International joint venture (IJV) performance	22 countries (not specified which)	Yes	No
40. Minbaeva, Pedersen, Björkman, Fey and Park (2003)	Journal of International Business Studies	4	Multiple	Transfer of knowledge (utilization)	6 countries	No	No
41. Zhang, Cavusgil and Roath (2003)	Journal of International Business Studies	4	The USA	Trust and manufacturer's reliance on relational norms	Not available	Yes	No
42. Luo (2003)	Journal of International Business Studies	5	China (inferred, but not specified)	Subsidiary performance	Not available	No	No
43. Gong (2003)	The Academy of Management Journal	Unclear	Japan (inferred, but not specified)	Proportion of expatriate staffing and subsidiary performance	Not available	No	No

Appendix – continued

<i>Authors</i>	<i>Journal</i>	<i>Number of cultural dimensions</i>	<i>Focal country</i>	<i>Focal variable</i>	<i>Countries in sample</i>	<i>Criticism Hofstede/ K-S index</i>	<i>Criticism ICV</i>
44. Balabanis and Diamantopoulos (2004)	Journal of the Academy of Marketing Science	4	Britain	Consumer preferences for domestic or foreign products	6 countries	No	No
45. Jensen and Szulanski (2004)	Journal of International Business Studies	4	Multiple	Recipient motivation and stickiness	19 countries	No	No
46. Hansen and Lovas (2004)	Strategic Management Journal	5	Multiple	Success of transfer of technological competencies	8 countries	No	No
47. Meyer and Nguyen (2005)	Journal of Management Studies	5	Vietnam (inferred, but not specified)	Foreign entry mode	Not available (only regions)	No	No, but include institutional within-country variation
48. Tihanyi et al. (2005)	Journal of International Business Studies	Unclear	The USA	Foreign entry mode, international diversification and MNE performance	Not available	Yes	No
49. Krishnan, Martin and Noorderhaven (2006)	Academy of Management Journal	4	India	Strategic alliance performance	22 countries (not specified which)	No	No
50. Dow and Karunaratna (2006)	Journal of International Business Studies	5	Multiple	Amount of trade flows between countries	38 countries	Yes	No