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# The effects of within-country linguistic and religious diversity on foreign acquisitions

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**Abstract**

This article explores how within-country diversity of both language and religion influences the ownership structure of foreign acquisitions. Commentators have acknowledged the potential importance of “within-country diversity,” but to date this issue has received minimal empirical attention. We propose that diversity plays two distinct roles. Namely, diversity within the host country may be an additional source of behavioral uncertainty and information asymmetry, over and above the effects arising from cross-national differences. Moreover, diversity within the home country may increase the cognitive complexity of the decision makers, moderating the firm’s response to the distance and diversity of the host country. Results based on foreign acquisitions across 67 acquirer and 69 target countries confirm both of these roles. While the main focus of this article is on the role that within-country diversity plays in international business decisions, it also makes contributions in terms of expanding the range of dimensions of distance investigated in the cross-border acquisition literature, in highlighting a potentially positive role that diversity might play in such acquisitions, and in providing a potential explanation for asymmetries in distance – that is, differences in cognitive complexity.

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**Keywords:** international acquisitions; foreign entry; language (language design, silent language, translation); religion; diversity

## INTRODUCTION

The concept of distance has played an undeniably large role in international business research over the past few decades. Indeed, in a recent commentary, Zaheer, Schomaker, and Nachum (2012: 19) went as far as to claim that “essentially international management is the management of distance.” In 2012 alone, 176 articles published in eight major international business (IB)-focused journals<sup>1</sup> include some form of distance in their discussions or analyses. And yet, while the sheer quantity of “attention” paid to the distance construct continues to grow, so has the amount of criticism. Beginning with the seminal article by Shenkar (2001), commentators such as Harzing (2003), Tung (2009), Tung and Verbeke (2010), Zaheer et al. (2012), Beugelsdijk and Mudambi (2013), and Ambos and Håkanson (2014) have repeatedly criticized how researchers have conceptualized and operationalized various forms of distance.

The focus of this article is on one particular aspect of those criticisms – specifically Shenkar’s (2001) “assumption of homogeneity” – that is,

The authors contributed equally to this manuscript.

that ignoring diversity within each country is a dubious practice. Surprisingly, 15 years after Shenkar's initial call, within-country diversity is still rarely even acknowledged in most empirical studies, let alone investigated. Accordingly, in this article we theorize about, and then empirically investigate, how within-country diversity and between-country distances may interact and influence cross-border acquisitions. Our focus is on one particular aspect of cross-border acquisitions, namely the equity stake foreign partners take in their targets. The bilateral nature of cross-border acquisitions, as well as their wide geographic occurrence, allows for a large-scale multi-country study (i.e., multiple acquiring nations and multiple target nations), which makes it very well suited to study diversity and distance-related issues. Furthermore, compared with other governance modes, such as contractual alliances, which lack directionality and often provide no clear indication about a home or host country, the directionality of cross-border acquisitions provides a clear home and host country, allowing us to make further theoretical refinements by separating the effects of diversity in the home country of the acquirer and diversity in the host country (i.e., the country of the target).

In terms of the chosen dimensions of distance and diversity, we focus on linguistic and religious differences within and between countries. Despite early acknowledgment of the importance of differences in language and religion in international business (e.g., Beckerman, 1956; Boyacigiller, 1990; Ronen & Shenkar, 1985), these two dimensions of distance have only recently begun to gain attention in the empirical international business literature as potential determinants of managerial decisions and firm behaviors (Berry, Guillén, & Zhou, 2010; Castellani, Jimenez, & Zanfei, 2013; Dow & Karunaratna, 2006; Luiz, 2015). Of particular relevance here is the fact that there are also substantial differences between countries in the amount of within-country heterogeneity on these two dimensions, making them very well suited for studying the effects of within-country diversity. For example, in terms of language, Japan is very homogenous, while countries such as India and Switzerland with their multiple (official) languages have much higher levels of linguistic diversity. Similarly, some countries such as Iran are very homogenous in terms of religion, while other countries such as the United States and Singapore are much more diverse.

In light of this, we first investigate the role of linguistic distance and religious distance and argue

that acquirers will take less equity in their target when linguistic and religious distance between their countries is higher. Subsequently, we extend this logic and argue that linguistic and religious diversity in the target's home country have a similar effect as that of distance, that is, greater diversity will lead a foreign acquirer to take less equity. Finally, we argue that diversity in the acquirer's home country makes the acquirer more aware of and sensitive to the challenges associated with higher levels of distance between their country and that of the target, as well as with the challenges associated with higher diversity in the target's country. As a result, we expect the level of linguistic and religious diversity in the acquirer's home country to moderate the respective effects of distance and diversity in the target country. We test our hypotheses on a sample of 59,092 cross-border acquisitions across 67 acquirer and 69 target countries and find support for all of our hypotheses.

We aim to make several contributions in this study. This article makes a relatively unique contribution by exploring and theorizing about what impact within-country diversity may have on international management decisions. As noted above, several commentators have called for such investigations, and some initial work has begun (Luiz, 2015; Venaik & Midgley, 2015) but in general they have stopped short of developing specific predictions about what role diversity might play in IB decisions. We highlight two distinct roles that diversity might play, and in doing so, bring into the debate the social psychological concept of "cognitive complexity." This responds to Beugelsdijk, McCann, and Mudambi's (2010: 489) comment that "integrating a discussion of firm organizational issues with the characteristics of the sub-national region is essential for better understanding the interplay between the MNE and its spatial environment." Second, our hypotheses concerning the acquirer country diversity respond to calls by Tung and Verbeke (2010), and Stahl and Tung (2015) for a greater focus on the potentially positive benefits of distance and diversity. Our results suggest that managers from more diverse countries may have higher levels of cognitive complexity, and thus might be more sensitive to such differences, and adjust their decisions accordingly. Such increased sensitivity and awareness in turn could potentially lead to more informed decisions (i.e., a positive benefit of diversity). Third, these same moderating hypotheses provide a base for explaining why and when asymmetry might arise with respect to linguistic and religious distance.

Fourth, much of the empirical IB literature to date has relied heavily on the Kogut and Singh (1988) national cultural distance index as the primary measure of distance. Some recent efforts, such as the emphasis on linguistic distance by some authors (e.g., Castellani et al., 2013; Demirbag, Tatoglu, & Glaister, 2009; Lopez-Duarte & Vidal-Suarez, 2010) have broadened the literature, but our study broadens the spectrum even further by exploring the role of religious distance, as well as linguistic distance.

## BACKGROUND

### The Distance and the Diversity Literature

Research into the role and impact of distance on international management decisions has gone through numerous cycles over the past half century. The most obvious starting point is the role that geographic distance has played in the classic gravity models that are used to predict the patterns of trade flows around the world (e.g., Linnemann, 1966). Indeed Anderson (1979: 106) describes the gravity model – with geographic distance as a key predictor variable – as “probably the most successful empirical trade device of the last twenty-five years.”

In the mid-1970s, thanks to Johanson and Vahlne’s (1977) incorporation of psychic distance into their seminal internationalization process model, there was a dramatic shift in focus from geographic distance to the use of the term “distance” as a metaphor for cross-national differences. In particular, this approach accelerated with Kogut and Singh’s (1988) creation of a “national cultural distance” index using Hofstede’s (1980) four dimensions of culture. Indeed, by the early 2000s, the Kogut and Singh index was arguably the *de rigueur* measure of distance in empirical IB research (Harzing, 2003), and its use has continued to grow in popularity (Leung and Morris, 2015; Venaik and Midgley, 2015).

The next major swing in the cycle is most widely attributed to Shenkar (2001), although we do note that prior authors (e.g., Welch & Luostarinen, 1988) had voiced similar comments. In his seminal paper, which eventually won the *JIBS* Decade Award, Shenkar (2001) raises alarms about various “assumptions” and “illusions” with respect to the use of the distance construct in IB research. These concerns include issues such as the narrowness of the construct and dubious assumptions of symmetry, linearity, and stability over time. The main focus of this paper is what Shenkar refers to as the “illusion of spatial homogeneity.” Shenkar (2001: 525) notes

that “intra-cultural variation explains as much if not more than inter-cultural variation,” and yet the past and current practices in IB research have tended to ignore and assume away within-country differences. Tung (2009) echoes this call and refers to it as a “fallacious assumption” – using the example of the French- and English-speaking communities in Canada to demonstrate her point. Similarly, Zaheer et al. (2012) put forward the Flemish- and French-speaking regions of Belgium as another example of significant within-country diversity.

Now, almost 15 years after Shenkar’s seminal article, numerous commentators (e.g., Beugelsdijk & Mudambi, 2013; Tung, 2009; Tung & Verbeke, 2010; Zaheer et al., 2012) have echoed similar concerns, but the actual response in terms of empirical investigations is only just beginning. While some progress has been made on broadening the range of dimensions of distance (e.g., Berry et al., 2010; Brewer, 2007; Dow & Karunaratna, 2006), on exploring the asymmetry of psychic distance (Håkanson & Ambos, 2010), and on potential biases in managers’ perceptions of distance (Baack, Dow, Parente, & Bacon, 2015) to our knowledge only one recent paper (Beugelsdijk, Slangen, Maseland, & Onrust, 2013) has empirically explored the impact of within-country diversity on managerial decisions. The authors of that recent paper propose that given the presence of within-country diversity and the potential for selection bias, national averages may actually overstate the “effective” or “real” distance between two countries. For example, while the cultural distance between the United States and Japan may be quite large, that is not true for Japanese migrants living in the United States, and not surprisingly these migrants may be systematically drawn toward US–Japan business opportunities (Ellis, 2000). The same may hold for, for example, the substantial amount of Chinese diaspora spread throughout the world. Beugelsdijk et al. (2013) explore this idea by using the ethno-linguistic diversity of countries as a moderator of the relationship between national cultural distance and US multinational enterprise (MNE) sales abroad, and find support for this relationship in their sample.

We acknowledge Beugelsdijk et al.’s (2013) point, but as argued in the development of our hypotheses, we believe that within-country diversity may have other implications for IB decisions beyond just a distortion in the measurement of the “real” distance. As a result, the main focus of our study is to respond to the call of Shenkar (2001), Tung (2009) and others, and explore even further

how within-country diversity may affect firm behavior.

### **Linguistic and Religious Distance and Diversity**

In terms of potential dimensions of distance and within-country diversity that may be considered, we focus on differences between languages and religions, for two reasons.

First, focusing on language and religion, as opposed to national cultural distance (Kogut & Singh, 1988), responds to Shenkar's (2001) concern about the illusion of causality. Specifically, Shenkar (2001: 524) was concerned that researchers were too often assuming that "culture is the only determinant of distance with relevance to FDI." As we have mentioned in the introduction, while neither linguistic distance nor religious distance have been heavily studied in the empirical IB literature, they both have been frequently mentioned as potential distance factors in the literature. Indeed, language is specifically mentioned as an important form of distance in both the original work which coined the term psychic distance (Beckerman, 1956) and in the seminal work of Johanson and Vahlne (1977), and has received attention in a number of recent studies and a special issue of the *Journal of International Business Studies* (e.g., Brannen, Piekkari, & Tietze, 2014; Cuypers, Ertug, & Hennart, 2015; Slangen, 2011). Religion is a less studied distance factor, but it has still been proposed and/or employed by a number of researchers including Shenkar (2001) and others (e.g., Berry et al., 2010; Boyacigiller, 1990; Castellani et al., 2013; Dow & Karunaratna, 2006; Ghemawat, 2001; Luiz, 2015). Indeed, Gomez-Mejia and Palich (1997: 317) argue that "next to language, religion is probably the most distinctive cultural feature," and they include both language and religion as predictor variables in their investigation of the performance of multinational firms. The underlying mechanisms of how these potential dimensions of distance influence multinational firms are discussed in more detail in the development of our hypotheses.

A second reason why we focus on these two particular dimensions of distance pertains to the fact that the distance between countries will only affect managerial decisions if the managers are aware of these differences when they make decisions. In this respect differences in language and religion are arguably among the most visible and salient of the various distance factors. Even managers with minimal international experience will be immediately aware of any differences in language from the very

outset of the acquisition process. While differences in religion may not be as immediately obvious as differences in language, the awareness of religious differences often becomes apparent soon after interacting with someone of a different religion. In contrast, many of the more subtle cultural differences that make up the more commonly used "national cultural distance index" (Kogut & Singh, 1988), such as uncertainty avoidance and power distance, are quite subtle. They may initially be overlooked and only become apparent later during the acquisition process. Thus we argue that differences in language and religion may have a stronger impact on managerial decisions simply because of the heightened awareness of those factors at the time such decisions are made (Slangen, 2011). A final benefit of focusing on languages and religions is that they are more comprehensively documented, and thus measures of within-country diversity can be more readily calculated.

### **Cross-Border Acquisition Entry Mode Choice**

As mentioned in the introduction, we focus on one particular managerial decision: the choice of ownership level that an acquirer takes in a foreign firm, or target, as our dependent variable. While in general, the issue of distance and foreign entry mode choice has been extensively covered (see Zhao, Luo, & Suh, 2004 for an excellent summary); the issue as it pertains to cross-border acquisitions is relatively under-explored (Chari & Chang, 2009). Indeed, within the cross-border acquisition literature, existing research has mainly limited the measurement of distance to the classic Hofstede-based cultural distance indices (e.g., Chari & Chang, 2009; Malhotra, Sivakumar, & Zhu, 2011) and to geographic distance (Ragozzino, 2009). Even within the broader entry mode literature (i.e., including establishment modes other than acquisitions) only a handful of papers have explored a wider range of distance dimensions (e.g., Demirbag, Glaister, & Tatoglu, 2007; Dow & Larimo, 2009) and none have addressed the issue of within-country diversity.<sup>2</sup> An additional benefit of focusing on cross-border acquisitions is the bilateral nature of the phenomenon. This characteristic makes acquisitions particularly suitable for the simultaneous investigation of the effects of both host and home country characteristics, such as within-country diversity, as well as cross-national issues such as various forms of distance.

Despite the relatively nascent stage of the cross-border acquisition literature, the underlying theories

as to why cross-national distances might affect entry mode choices are relatively well-developed, as these theories speak to differences between acquirers and targets and uncertainty in a broader way. As argued by Chari and Chang (2009) there are largely two explanations: one *ex ante*, and the other *ex post*.

The *ex ante* argument draws upon the notion of information asymmetry from the information economics literature (e.g., Balakrishnan & Koza, 1993). Acquisitions involve a degree of information asymmetry in that the seller typically possesses superior information about the firm than an external acquirer. This arises from the fact that ownership provides the seller (owner) with detailed private information about the firm that is difficult to access externally. In instances where this information enhances the value of the target, the seller has an incentive to divulge this information to the potential acquirers. However, in instances where the information reduces the value of the firm, there is no incentive for the seller to emphasize this information, due diligence procedures notwithstanding. As a result, an adverse selection hazard often arises. One remedy for this problem is for the acquirer to take a smaller stake in the target. On the one hand, this approach allows the acquirer to discern which potential acquisitions are “lemons,” and works on the assumption that sellers of “lemons” prefer “to adopt a hit-and-run strategy” (Chen & Hennart, 2004). As a result, the larger an equity stake the seller is willing to retain, the less likely it is that there is adverse hidden information. In effect, the seller’s willingness to retain a partial equity stake in the organization is a signal of the quality of the firm. On the other hand, taking a smaller stake in the target also allows the acquirer to gather more private information about the target, which can then be used to decide to pursue the acquisition of the remaining stake of the target.

This *ex ante* argument is particularly relevant in cross-border acquisitions because cross-national differences may increase the quantity of asymmetric information. In any acquisition process, in addition to information directly provided by the seller, potential acquirers typically collect information from other sources as well. This information may be about the target firm, and about the local operation environment (e.g., customers, competitors, the industrial relations environment, the regulatory environment, and other stakeholders). However, a potential acquirer from a distant country may have greater difficulty in collecting this information than potential

acquirers from more proximate countries. Similarly the seller will tend to have greater knowledge and understanding of the local market environment as well. As a result, the distance of the acquirer from the target firm’s home market will tend to increase the quantity of asymmetric information, which the seller may, in turn, choose not to divulge. Thus acquirers from more distant countries, provided that they are aware of this potential asymmetry, will tend to prefer lower levels of equity to mitigate the implications of this situation.

The *ex post* argument draws heavily from the extensive transaction cost economics (TCE) literature (e.g., Anderson & Gatignon, 1986; Hennart, 1991) and pertains to the fact that even once an acquirer has acquired a target, a substantial amount of tacit knowledge possessed by the management of the target firm and the seller may be critical to operating effectively in the local environment, and to the ongoing success of the firm. It may also be difficult for the acquirer to accurately monitor the behavior and performance of the managers possessing this knowledge after the acquisition, or to motivate them to keep contributing, even if appropriate contracts are put in place concerning the transition of management. Hence the acquirer faces *behavioral uncertainty* and taking higher levels of ownership or full control in the target would not reduce the level of behavioral uncertainty sufficiently, because the acquirer would still face monitoring and incentive problems. Instead, an acquirer may prefer to take less equity in a target to preserve the incentives of the management and the seller of the target firm, particularly so when there is a higher need for these parties to keep contributing to the firm’s success after the acquisition (e.g., Hennart, 1991). In addition to this, it may be difficult for the acquirer to accurately monitor the behavior and performance of the managers possessing this knowledge, even if appropriate contracts are put in place concerning the transition of management. Within the TCE literature this concern about being able to monitor the activity of the agents is often referred to as “internal uncertainty” (Anderson & Gatignon, 1986; Brouthers & Hennart, 2007). As a result, the buyer may prefer to leave a portion of the equity of the firm in the hands of the prior management and owners, in order to give them a strong incentive to continue contributing to the success of the firm. As with the *ex ante* argument, the *ex post* argument suggests that higher distances between the acquiring firm’s home market and the target firm’s home market will tend

to increase behavioral uncertainty (Cuypers et al., 2015; Hennart, 1991).

When combined, these two lines of argument imply that higher levels of information asymmetry (in favor of the sellers), more behavioral uncertainty, and a higher need to leave incentives to the target's decision makers will encourage acquirers to take a smaller stake in a target firm. In the next section, we outline how linguistic and religious distance, and within-country diversity may affect information asymmetry and behavioral uncertainty, and thereby impact the levels of ownership acquirers take in their targets. However, we would first like to comment on our chosen level of analysis.

In line with other studies that have investigated the levels of ownership that acquirers take in their targets (e.g., Chari & Chang, 2009), our basic unit of analysis is the transaction. This is inevitable given the nature of our dependent variable. However, for distance variables such as differences in culture (or in our case language and religion), these factors are typically measured at the level of the country-dyad (country-pair). Consistent with a considerable numbers of studies in the IB literature (e.g., Berry et al., 2010; Brouthers & Brouthers, 2001), we endorse and embrace this practice for a number of reasons.

First, while the final decision for such a transaction may involve a small number of individuals, the inputs to that decision would typically involve a considerably larger number of people. On the acquirer's side, a substantial number of individuals will tend to be involved in the initial exploration, assessment and due diligence phases of an acquisition. This will include employees from many different levels and functional areas of the company, such as finance, marketing, accounting, human resources, and operations (e.g., Howson, 2003). Thus the number of individuals involved in feeding information back to the top management team will be substantial.

Second, the managers structuring the acquisition deal will also need to take into account the likely post-acquisition behaviors of an even broader set of individuals. Once an acquisition has been consummated a substantial number of people will be involved in the post-acquisition integration, and the ongoing monitoring and interaction between the acquiring firm and its new affiliate. This is necessary in order for the acquiring firm to extract the required synergies. While these interactions will occur after the acquisition decision has been made, the top management team needs to take into consideration the risk that these *ex post* activities might be hindered by cross-national differences.

Third, on the target firm's side, both pre- and post-acquisition, the range of people involved is arguably even greater. Not only will the acquiring firm need to interact with the top management team, the legal teams, and a wide variety of managers within the target firm, they will also need to interact with other stakeholders in the host country. These stakeholders may include customers, unions, industry insiders, banks, consultants, former managers, relevant host country agencies, and even the local press. In essence, it is important for the acquiring firm in general (i.e., the broad range of people in the acquiring firm who will at some stage need to interact with the acquired firm) to understand and be able to effectively communicate with the environment in the host country (as separate from simply the target firm or the target firm's key managers), and the managers making the final acquisition decision need to take these broader factors into account. Thus given the wide range of parties from both countries that may play either a direct or indirect role in the broader process, we believe that it is more appropriate to measure distances such as differences in language and religion at the country-dyad level, rather than taking the narrower view of just the linguistic and religious attributes of the key decision maker(s), even if those key decision makers could be identified for a large sample, like the one in our study.

## THEORY

### The Direct Impact of Distance in Cross-Border Acquisition

A key role that distance might play in cross-border acquisitions is most famously described in the Johanson and Vahlne (1977: 24) definition of psychic distance "as the sum of factors preventing the flow of information from and to the market. Examples are differences in language, education, business practices, culture, and industrial development." These factors, which are purported to disrupt the "flow of information," may impede a foreign acquirer from uncovering information about the target firm and the competitive environment. This, in turn, will have a tendency to magnify and perpetuate the existing information asymmetries, given that the target firm will be substantially more knowledgeable about itself and the local environment. Similarly, the factors that prevent the flow of information, or the interpretation of that information, may also impede the acquirer in effectively monitoring and sufficiently understanding the

post-acquisition activities of the acquired firm, its employees, and how to operate effectively in the host country after the acquisition has been completed; thus increasing behavioral uncertainty.

In parallel to this, the fields of information economics (e.g., Berger & Calabrese, 1975; Gudykunst & Nishida, 1984), and social psychology (Byrne, 1961) have also posited a relationship between the similarities and dissimilarities between people (i.e., distance) and the way in which they communicate. However the focus of research of social psychology has been more on the behavioral aspects of how and why people interact. This research has also linked dissimilarities to perceptions of behavioral uncertainty and the attributions people make about others (e.g., Berger & Calabrese, 1975). As a result, the relationships between distance (or dissimilarities), perceptions of behavioral uncertainty, and how people communicate are fundamental to the IB literature, and the transaction cost economics – entry mode literature in particular (e.g., Zhao et al., 2004).

### ***Linguistic distance***

With respect to the specific role that linguistic distance might play, it is most commonly cited as a key factor in disrupting the flow of information, as explicitly acknowledged by Johanson and Vahlne (1977), and has been extensively discussed and explored by numerous authors (e.g., Demirbag et al., 2007; Dow & Karunaratna, 2006; West & Graham, 2004). Linguistic distance has been shown to have a strong impact on market selection (Berry et al., 2010), trade flows (Dow & Karunaratna, 2006), entry mode (Demirbag et al., 2009), establishment mode (Dow & Larimo, 2011), and knowledge transfer (Schomaker & Zaheer, 2014). While in theory an individual can learn a new language, and firms can and do hire translators or local employees with appropriate language skills, there are three intervening complications. The first complication is the same issue raised in the preceding discussion of the unit of analysis. The managers deciding on the final structure of an acquisition deal rely on information from a broad range of people pre-acquisition, and need to take into consideration the likely post-acquisition behaviors of an even broader range of people who will have to interact with one another in order to implement, monitor, and extract value from the acquisition.

This issue is compounded by the fact that typically the people involved in an acquisition from the acquiring firm's side are selected because they

possess particular firm, technical, and/or industry-specific knowledge. As a result it is not simply a matter of finding or hiring people who are more familiar with the local language, but rather finding or hiring people with both the appropriate language skills and the necessary technical skills and knowledge.

The third complicating factor is that while many individuals can learn a second or third language to a base-level proficiency (e.g., to ask directions or carry on a polite discussion over a meal), learning a foreign language to a level where one can understand subtle nuances and interact in complex discussions is a substantially greater challenge (Chiswick & Miller, 2005). The combination of these three complications means that if the linguistic distance at the national level is high, communication difficulties related to language are very likely to arise, and that the use of translators, or hiring in new employees with local language skills, are unlikely to completely resolve the situation.

### ***Religious distance***

With respect to the role that religious distance might play, its links with disruptions in the flow of information, information asymmetry and behavioral uncertainty are arguably more subtle, and relate more to the interpretation of information (Carlson, 1974), and how forms of non-verbal communication may influence trust, the attribution of motives and the willingness of people to interact and communicate with one another. However, first we need to emphasize that we refer here to religion, and differences in religions, in the broader sense. Most religions have a reasonably codified set of principles or doctrines; however, they also tend to have a much broader set of beliefs, behaviors, and norms that are shared across most adherents, but which are only rarely formally stated, and may only be very loosely connected to formal doctrines. By way of example, some religions have differing views on what is an appropriate stand of dress, and how one should greet elders and show respect (or disrespect). Similarly some religions diverge strongly in terms of their attitudes to alcohol, and the roles of women in society.

These norms, both formalized and informal, influence people's frames of reference, and thus the motives that they attribute to others, their level of trust in them, and their willingness to cooperate and interact with them (Kumar & Nti, 2004). Several large scale studies have provided strong evidence of how religions contribute to people's practices in general daily life and in their work (e.g., Norris & Inglehart, 2011). With respect to cross-border



acquisitions one difficulty arises when such a norm carries a particular significance in one religious community, but not in others. For example, within most Muslim communities showing the sole of ones foot to another person is considered an insult, and yet it carries no significance in most other communities. Thus simply cross your legs at an inopportune moment may severely disrupt an interview or negotiation. In another example, a potential joint venture in 2003 between Nokia and a Malaysian firm was almost derailed when the inadvertent actions of one of the Finnish employees offended the local Muslim managers.<sup>3</sup> Such a lack of appreciation of subtle differences in local norms can be a major source of misunderstanding. In most settings, trust and respect are an important precursor to complex exchanges of information. As a result, such *faux pas* can potentially hamper a firm's ability to collect information in the search and due diligence phases of an acquisition; thereby limiting its ability to reduce information asymmetry. Furthermore, arguably, such *faux pas* are an even greater risk in the post-acquisition stage where the frequency and intensity of the interactions will be greater. Misunderstandings and loss of trust at this stage can seriously hamper the acquiring firm's ability to manage and monitor the newly acquired venture – thereby increasing behavioral uncertainty.

Nevertheless, even if such *faux pas* can be avoided, Byrne's (1961) similarity–attraction paradigm suggests that differences in religion may still influence the flow of information in cross-border acquisitions in a way that we believe may be even more pervasive. Within the social psychology literature “several decades of research have generally supported the similarity–attraction paradigm, that is, the idea that similarity (particularly attitude and status similarity) leads to interpersonal attraction” (Thomas & Ravlin, 1995: 134). Moreover, similarity has also been subsequently linked a much broader range of behaviors including the frequency of communication (Lincoln & Miller, 1979; Zenger & Lawrence, 1989) and trust (Thomas & Ravlin, 1995) between individuals. In the words of Mitteness, DeJordy, Ahuja, and Sudek (2014: 8) “similarity attraction research suggests that individuals form friendships with similar others because interacting with similar others creates process benefits – communication is easier, behavior is more predictable, and interpersonal trust is increased.” In both the pre- and post-acquisition phases such a tendency for both sides of a dyad to

communicate less with each other and to trust each other less will both impede the collection of information and reduce the cooperation. Thus we argue here that differences in religion, and even a difference in the degree of non-belief in a religion (i.e., atheism and agnosticism), may be an important source of such “differences (or similarities) in attitudes,” and as a result, significantly influence how people interact with one another.

For these reasons, several commentators (e.g., Berry et al., 2010; Boyacigiller, 1990; Castellani et al., 2013; Ghemawat, 2001; Luiz, 2015) have proposed religion as an important form of distance. Unfortunately the number of empirical investigations concerning religious distance across all the IB literature is very limited (Blomkvist & Drogendijk, 2013; Castellani et al., 2013; Dow & Karunaratna, 2006; Malhotra & Gaur, 2014).

Taken together, the preceding arguments form the basis of our first set of hypotheses. Large linguistic and/or religious distances, due to their tendency to disrupt the flow of information, and the interpretation of that information, as well as reduce the level of trust and frequency of interaction between the various actors, have the potential to perpetuate and possibly increase the degree of *ex ante* information asymmetry. In addition, large linguistic and/or religious distances may result *ex post* in more behavioral uncertainty and impose more challenges for the acquirer on how to operate in the local environment. In response, the acquiring firm is likely to prefer a lower level of equity in their target, both as an assurance of the quality of the firm and to provide the existing management and sellers with an incentive to cooperate in maximizing the returns of the business. Thus we propose:

**Hypothesis 1a:** When the linguistic distance between the acquirer's home country and the target's home country is higher, the acquirer will tend to seek a lower equity share in the target.

**Hypothesis 1b:** When the religious distance between the acquirer's home country and the target's home country is higher, the acquirer will tend to seek a lower equity share in the target.

We should note that these hypotheses parallel those proposed by Demirbag et al. (2007) and Dow and Larimo (2009), and in many respects are widely accepted “baseline” predictions that merely set the stage for the main focus of this article – the role of within-country diversity in such international decisions.

### **The Direct Impact of Target Country Diversity**

One potential way that within-country linguistic and/or religious diversity can affect cross-border acquisitions is a simple direct effect that parallels the impact of linguistic and religious distance (Hypotheses 1a and 1b). Just as large differences across countries increase the difficulty in communicating with and understanding people in another country, the presence of multiple languages and/or religions in the target country may also adversely affect such information gathering efforts. When a firm needs to learn how to deal with one new language or religion, that is not insurmountable, but it is costly in terms of senior management's time and even more importantly increases the risk of misunderstandings and errors. Learning how to deal with multiple new languages and/or religions all at the same time will compound the difficulty of the task. For example, McDonald's found out the difficulty of operating in a religiously diverse environment in Singapore when it was selling toy animals based on the Chinese zodiac calendar. One of these toy animals, a pig soft toy, caused outrage among Muslims in Singapore, which highlights the difficulty of incorporating the sensitivities of all religions in a religiously diverse country such as Singapore (Reuters, 2010). In essence we argue that there may be diseconomies of scale in terms of the number of languages and/or religions that the firm has to deal with simultaneously. Increased levels of diversity in the target country may increase the amount of *ex ante* information asymmetry and the amount of *ex post* behavioral uncertainty with respect to a cross-border acquisition.

As a result, our second set of hypotheses parallels the first set except that diversity within the target country, rather than the distance between the countries, is the complicating factor that is perpetuating and/or magnifying the information asymmetry and behavioral uncertainty.

**Hypothesis 2a:** When the level of linguistic diversity in the target's home country is higher, the acquirer will tend to seek a lower equity share in the target.

**Hypothesis 2b:** When the level of religious diversity in the target's home country is higher, the acquirer will tend to seek a lower equity share in the target.

### **The Moderating Impact of Acquirer Country Diversity**

A second potential role that within-country diversity might play in cross-border acquisitions is as a

moderating factor. Among others, Dikova (2009) suggests paying attention to factors that might affect managers' sensitivity to distance factors. Essentially there is no a priori reason all managers would react in the same fashion to the same stimulus. To build on this idea we draw upon the concept of cognitive complexity, which originated in the social psychology literature (Bieri, 1955), but has been applied with increasing frequency in the management literature (e.g., Calori, Johnson, & Sarnin, 1994; Lakshman, 2013; Levy, Beechler, Taylor, & Boyacigiller, 2007; Lucke, Kostova, & Roth, 2014). Cognitive complexity is defined as "the number of independent dimensions-worth of concepts the individual brings to bear in describing a particular domain of phenomena" (Scott, 1962: 405). For example, an individual with a low level of cognitive complexity with respect to religion may simply be aware of, and acknowledge the existence of major religions, but make no further distinction. To them the world is binary; people who believe the same things as me, and people who believe something else. Whereas an individual with a very high level of cognitive complexity with respect to religion would not only be aware of the differences among the major religions, but also be aware that most of the major religions have multiple branches, sects, or denominations, and to assume that there is no distinction between say Sunni and Shia Muslims, or between Theravada and Mahayana Buddhists, is misleading. And more importantly, individuals with higher cognitive complexity will also be more likely to understand how these often subtle differences may have implications in terms of behavior and business practices.

Our moderating hypotheses concerning cognitive complexity have two key components. The first issue is that we need to consider when and why some managers may have a higher level of cognitive complexity with respect to a particular dimension. Numerous researchers have argued that bicultural individuals tend to have a higher level of cognitive complexity (Benet-Martinez, Lee, & Leu, 2006; Lakshman, 2013; Lucke et al., 2014). In addition, Benet-Martinez et al. (2006: 386) argue that "exposure to more than one culture may increase individuals' ability to detect, process, and organize everyday cultural meaning." We extend this argument by suggesting that people who live in a linguistically or religiously diverse country are more likely to have a higher degree of cognitive complexity with respect to that dimension. For example, an individual who lives in a multilingual country such as

Switzerland will tend to have a more cognitively complex view of languages than someone who grows up in a predominantly unilingual country. Similarly, someone who lives in a religiously diverse country will tend to have a more cognitively complex view of religions.

The second issue is how a higher level of cognitive complexity might influence managerial decisions. Of particular relevance here is that various researchers have argued that “a significant positive relationship exists between cognitive complexity and predictive accuracy” (Bieri, 1955: 265) and “more ... accurate attributions ... in cross-cultural settings” (Lakshman, 2013: 932). Thus an individual with a high level of cognitive complexity with respect to language or religion will not only have a higher and more sophisticated awareness of those dimensions, but they may also tend to make more accurate predictions about their potential impact. However, at the very least, they will be more aware of the difficulties that differences in language and religion may cause, and the need to proactively deal with those difficulties (e.g., using equity structure to deal with the implications of information asymmetries and behavioral uncertainty). Specifically in the context of cross-border acquisitions they will be more acutely aware of the need to ensure the cooperation of individuals with knowledge and expertise in the local languages and religions.

Bringing these two perspectives together, we argue that firms which originate in a linguistically or religiously diverse country will tend to have managers that possess a higher level of cognitive complexity with respect to those dimensions; and these higher levels of cognitive complexity will increase their sensitivity to the difficulties that arise from linguistic or religious distance. In turn, these managers will be more likely to seek remedies such as lower levels of equity to address the implications of information asymmetry, and to maintain appropriate incentives for the local management. As a result, we expect the negative relationship between linguistic and/or religious distance and equity to be even stronger for deals that involve acquirers coming from more diverse home countries. In contrast, managers from largely homogeneous countries will tend to be less aware of the difficulties and the need to deal with them. In effect, we are arguing that the relationships proposed in Hypothesis 1a and Hypothesis 1b will be stronger when the acquiring firm originates from a diverse home country.

We should note that the preceding predictions implicitly assume that the benefits of diversity are

specific to a particular dimension (e.g., that exposure to linguistic diversity only influences how one deals with linguistic diversity, and that exposure to religious diversity only influences how one deals with religious diversity). This is consistent with transfer theory (Cormier & Hagman, 1987; Ellis, 1965; Zollo & Reuer, 2010) which postulates that the effects of prior experience and knowledge will be present only when the setting to which the experience and knowledge are transferred is similar enough, as there are considerable constraints on deriving benefits from transferring experience and knowledge from one area to another. Because, religion and language present substantially different domains, we do not expect the effects of diversity to be transferable between them, but instead predict that the effects of diversity will be specific to a particular dimension. Hence we expect:

**Hypothesis 3a:** When the level of linguistic diversity in the acquirer’s home country is higher, the negative relationship between linguistic distance and the equity stake the acquirer seeks in the target (i.e., Hypothesis 1a) will be stronger.

**Hypothesis 3b:** When the level of religious diversity in the acquirer’s home country is higher, the negative relationship between religious distance and the equity stake the acquirer seeks in the target (i.e., Hypothesis 1b) will be stronger.

The fourth and final set of hypotheses also concerns the moderating impact of the within-country diversity in the acquirer’s home country. This time, however, the moderation is with respect to the direct relationships between within-country diversity in the target country and the equity stake taken by the acquirer, as proposed in Hypotheses 2a and 2b. Consistent with our arguments regarding the preceding hypotheses, the presence of high within-country diversity in the acquirer’s home country will increase awareness of the respective dimensions and the difficulties that might arise from such diversity. Having greater prior exposure to a diverse environment, in terms of religion and language, gives them greater awareness of the potential difficulties that might arise when acquiring a target in a country with higher levels of linguistic or religious diversity, as well as the need for effective remedies for those kinds of difficulties. As a result, we expect that the relationships proposed in Hypothesis 2a and Hypothesis 2b will be stronger when the acquiring firm is from a diverse country. Therefore we predict:

**Hypothesis 4a:** When the level of linguistic diversity in the acquirer’s home country is higher,

the negative relationship between the level of linguistic diversity of the target's home country and the equity stake the acquirer seeks in the target (i.e., Hypothesis 2a) will be stronger.

**Hypothesis 4b:** When the level of religious diversity in the acquirer's home country is higher, the negative relationship between the level of religious diversity of the target's home country and the equity stake the acquirer seeks in the target (i.e., Hypothesis 2b) will be stronger.

### Alternative Moderating Hypotheses

Before testing our hypotheses, we should note that there exist at least two counter arguments with respect to the moderating impact of diversity in the acquiring firm's country. The first of these is proposed by Beugelsdijk et al. (2013). Given the possibility of selection bias, the presence of within-country diversity may cause national averages to overstate the "real" distance between a firm and particular segments within a potential foreign market. For example, on average the linguistic distance between Japan and the United States may be large, but for a Japanese firm targeting the substantial Japanese-speaking community in California, the actual linguistic distance would be much smaller. Beugelsdijk et al. (2013) explore this idea by using the ethno-linguistic diversity of countries as a moderator of the relationship between national cultural distance and US MNE sales abroad, and confirm this relationship in their sample. For this line of argument, we would agree that the underlying line of logic is sound, but that within-country diversity is actually a weak substitute for what is essentially a limitation in the way in which distance is typically measured. While within-country diversity is a necessary condition for there to be closer sub-segments (e.g., the Japanese-speaking community in California), it is not a sufficient condition. Whether one is talking about cultural distance, linguistic distance, or religious distance, they are all multidimensional constructs. As a result, the presence of diversity does not guarantee that the sub-segments are closer. For example, in terms of linguistic diversity, Papua New Guinea (PNG) is one of the most diverse countries in the world, but this does not make Japanese firms any closer to PNG. PNG's linguistic diversity comes from the existence of many different dialects in PNG that are unrelated to the Japanese language. Thus we would suggest that within-country diversity is actually a weak surrogate for the phenomena Beugelsdijk is proposing. As we will explain in more detail when

we discuss our methodology, the second and third items in the linguistic and religious distance scales that we use, already capture this phenomena by measuring the incidence of each country's major language(s) and religion(s) in the other countries. Hence we deal with this possibility empirically.

The second argument for a moderating effect in the opposite direction to our third and fourth set of hypotheses is that managers from more diverse countries may indeed be more familiar in dealing with different languages and/or religions, but that this familiarity and skill may in fact "lessen" the impact of distance rather than enhance it. In effect, the suggestion here would be that as a firm becomes more skilled in dealing with a problem, the problem will have less impact on its behavior.

This line of argument loosely parallels the logic used in the Uppsala Internationalization Process Model (Johanson & Vahlne, 1977), where international experience is predicted to reduce the psychic distance of countries. However, it is important to consider that linguistic and religious diversity in the acquirer's home country will not reduce the challenges it faces in a more distant or more diverse country, unless there is overlap in the religion(s) and language(s) of the acquirer and target's countries. Consider a case where an acquirer's home country has two religions, Hinduism and Islam, and the target's country also has two religions, Judaism and Buddhism. In this scenario, the diversity in the acquirer's home country is unlikely to reduce the challenges it faces in the other country, since the religions between these countries do not overlap. The acquirer would still have to consider two *unfamiliar* religions. As shown elaborately in the transfer theory and the literature on experience, experience does not transfer easily from one setting to another, and it often offers limited or no benefits at all in other settings (e.g., Cormier & Hagman, 1987; Ellis, 1965; Zollo & Reuer, 2010). Hence in the scenario we consider above, having experience with Hinduism and Islam is unlikely to reduce the uncertainty when interacting with Judaism and Buddhism. However, the acquirer will have better knowledge of the generic challenges and consequences of having to deal with different religions. So unless there is overlap between the acquirer and target's countries, diversity in the acquirer's country will not increase familiarity with the target country, and therefore diversity in the acquirer country will not "lessen" the impact of distance between the two countries or diversity in the target country. Again as we will discuss in the empirical section of the article, we

empirically deal with the possible effects of overlap between the acquirer and the target's home countries in terms of religion and language by using the Dow and Karunaratna (2006) linguistic and religious distance scales, which capture the incidence of each country's major language(s) in the other countries.

## METHODOLOGY

### Data set

We use data from the Thomson Financial Security Data Corporation (SDC) database to test our hypotheses. Research on both domestic and cross-border acquisition research has frequently made use of this extensive database (Aybar & Ficici, 2009; Capron & Shen, 2007; Halebian & Finkelstein, 1999; Hayward, 2002; Reuer, Shenkar, & Ragozzino, 2004). There is information on a wide range of deals collected in the SDC. We arrived at our estimation sample for this study by applying the following filters. First, we focused on cross-border deals only. Therefore we removed all domestic acquisitions. Second, SDC contains information on completed as well as uncompleted deals. We excluded all uncompleted deals, since the database contains no information on whether or not these deals subsequently materialized, nor on the acquirer's level of ownership if any of them in fact did. Third, we omitted acquisitions of remaining stakes, leveraged buyouts, spin-offs, recapitalizations, self-tenders, repurchases, and privatizations. Fourth, we excluded deals that had acquirers or targets (or both) from countries where data were not available to calculate linguistic distance, religious distance, or host country uncertainty. After applying these filters, our estimation sample included 59,092 cross-border acquisitions completed between 1995 and 2012 where the acquirer had no prior stake in the target.

This sample is well suited for studying the effects of linguistic and religious distance, and the linguistic and religious diversity of the acquirer's and target's home country. Most quantitative research that has studied the effects of language or religion on governance choices have focused on either a single home country (e.g., Lopez-Duarte & Vidal-Suarez, 2010) or a single host country (e.g., Demirbag et al., 2007). While these studies certainly provide valuable contributions, considering language differences from/to one particular country may yield results that are influenced by country-specific effects, which might reduce the generalizability of their findings. Our sample, on the other hand, covers a large number of home and host countries. The acquirers in our

sample come from 67 home countries while the targets are located in 69 host countries (Appendix). This makes our sample well suited to study the effects of linguistic and religious distance, and the linguistic and religious diversity of the home countries of the two parties, while limiting the extent of country specific influences.<sup>4</sup>

### Dependent Variable

Our dependent variable is the percentage of ownership the acquirer takes in the target firm. This measure is bounded between 1% (which indicates that the acquirer has taken the minimum level of equity in a deal for that deal to be classified as an acquisition) and 100% (which indicates that the acquirer has fully acquired the target). We also demonstrate the robustness of our results by using a binary dependent variable later in our analyses.

### Independent Variables

*Linguistic Distance (Hypotheses 1a and 3a):* In order to measure linguistic distance, we adopt a composite index created by Dow and Karunaratna (2006). This index is based on three items, the first of which (L1) is a 5-point scale measuring the distance between any two countries' major languages. This scale measures the number of levels one must go up in Grimes and Grimes' (1996) dendrogram of language families before two languages are in a common group. The second and third items in Dow and Karunaratna's composite scale (L2 and L3) are 5-point scales that measure the incidence of one country's major language(s) in another country. These three items were then combined into a single scale by Dow and Karunaratna (2006) using factor analysis. As a result, in the case of the linguistic distance between the United States and Mexico, the overall scale takes into account the "distance" between English and Spanish (L1), as well as the incidence of Spanish in the United States (L2) and the incidence of English in Mexico (L3). Hence the overall scale at least partially controls for the concerns articulated by Beugelsdijk et al. (2013) by taking into consideration minority groups that may deviate from the national average.

*Religious Distance (Hypotheses 1b and 3b):* In a similar manner, we measure religious distance using the corresponding scale created by Dow and Karunaratna (2006). Their composite measure once again is a combination of three 5-point scale items collapsed into a single factor. The first item (R1) measures the distance between any two countries' major religions using a dendrogram based on a variety of sources (Barrett, 1982; Harris, Mews,

**Table 1** Summary of the main dependent and independent variables

Variable	Description	Data source
Acquirer Equity Stake	Single item – Percentage of equity held by the foreign-based acquiring firm	Thompson Financial Security Corporation
Linguistic Distance	Factor score of three items: (all 5-point scales) L1 – Distance between major languages of the respective countries L2 – Incidence of acquiring firm’s major languages in the target firm’s country L3 – Incidence of target firm’s major languages in the acquiring firm’s country	Dow & Karunaratna (2006) – Factor scores directly downloaded December 2013 from <a href="https://sites.google.com/site/ddowresearch/">https://sites.google.com/site/ddowresearch/</a> . The based data underlying these factor scores come from Gordon (2005)
Religious Distance	Factor score of three items: (all 5-point scales) R1 – Distance between major religions of the respective countries R2 – Incidence of acquiring firm’s major religions in the target firm’s country R3 – Incidence of target firm’s major religions in the acquiring firm’s country	Dow & Karunaratna (2006) – Factor scores directly downloaded December 2013 from <a href="https://sites.google.com/site/ddowresearch/">https://sites.google.com/site/ddowresearch/</a> . The based data underlying these factor scores come from Barrett (1982)
Linguistic Diversity	Single item based on the incidence of each major language (%) in the respective county: $Diversity = 1 - \sum (\%)^2$	Diversity figures taken directly from Gordon (2005). These percentages are the same data that underlies the L2 and L3 indicators above that make up the linguistic distance scale
Religious Diversity	Single item based on the incidence of each major religion (%) in the respective county: $Diversity = 1 - \sum (\%)^2$	Percentages based on Barrett (1982) but provided directly by Professor D Dow. These percentages are the same data that underlies the R2 and R3 indicators above that make up the religious distance scale

Morris, & Shepherd, 1992; O’Brien & Palmer, 1993; Whaling, 1987). The second and third items (R2 and R3) measure the incidence of one country’s major religion(s) in other countries. These three items were then collapsed into a single factor score by Dow and Karunaratna (2006) in the same manner as the linguistic distance variable.

More details on the methodology for both measures of distance can be found in Table 1 and in Dow and Karunaratna (2006: 597–598).<sup>5</sup> These measures have been used in a variety of contexts ranging from predicting trade flows (Dow & Karunaratna, 2006), to entry mode (Dow & Larimo, 2009), establishment mode (Dow & Larimo, 2011; Slangen, 2011; Slangen, 2013), FDI performance (Dow & Ferencikova, 2010), and knowledge transfer (Castellani et al., 2013; Malik, 2013).

*Linguistic Diversity of Acquirer Country (Hypotheses 3a and 4a) and Target Country (Hypotheses 2a and 4a):* In order to measure the linguistic diversity within each country, we have adopted the scale developed by Gordon (2005). This scale is based on the same data (i.e., the incidence of the major languages in each country) as the second and third items of Dow and Karunaratna’s (2006) linguistic distance index (L2 and L3). The incidence of each language in a country, as a percentage of the population, is squared and then

summed. This is essentially a slight variation on a Herfindahl index. This sum is then subtracted from 1 so that a value of 1 represents a perfectly heterogeneous country where everyone speaks a different language, and a value of 0 represents a perfectly homogeneous country where everyone speaks the same language. This index has been employed extensively in a number of settings (e.g., Luiz, 2015; Maffi, 2005), but to our knowledge has not been used to date in the international business literature in relation to managerial decision making.

*Religious Diversity of Acquirer Country (Hypotheses 3b and 4b) and Target Country (Hypotheses 2b and 4b):* In order to measure the religious diversity within each country, a second Herfindahl-type index was constructed in a similar manner to the linguistic diversity index. This scale is based on the same base data as the second and third items (R2 and R3) of Dow and Karunaratna’s (2006) religious distance scale. The population count for each of the main religions by country is converted into a percentage of the total population. Each religion’s percentage share of the total population is then squared and summed. This number is subtracted from 1 so that a value of 1 represents a perfectly heterogeneous country where everyone professes a different religion, and a value of 0 represents a perfectly homogeneous country where

everyone adheres to the same religion. Atheism and agnosticism were treated as unique religions in this process. APPENDIX provides the respective diversity indices for all countries included in the analyses.<sup>6</sup>

### Control Variables

We introduced a number of control variables to account for the possible effects of factors that might affect the level of ownership an acquirer takes in the target. First, we control for the possible effects of other distance measures on ownership levels. In particular, we control for *cultural distance*, as measured by Kogut and Singh's (1988) cultural distance measure, which is based on Hofstede's (1980) four cultural dimensions. Then, we control for geodesic *physical distance*, in thousands of kilometers, between the capitals of the home countries of the two parties. We also control for the *socio-economic distance* between the acquirer and target's home countries, by using a composite index based on Dow and Karunaratna's (2006) dimensions of psychic distance, after excluding language and religion (i.e., using differences in education, industrial development, democracy, and political ideology, and calculating an index from these dimensions using the same procedure as that described in Dow & Ferencikova, 2010: 50). Second, research on real options has found that, when faced with higher levels of exogenous uncertainty, firms tend to take lower ownership levels (e.g., Cuypers & Martin, 2010; Folta, 1998). Accordingly, we control for *host country uncertainty* using the International Country Risk Guide's (ICRG) composite index, which captures a host country's economic, financial, and political uncertainty. We reverse-coded the ICRG index so that higher values indicate higher levels of uncertainty, to make interpretation more intuitive. Third and fourth, we also control for the host country's size and growth. We capture the host country's size by using its population (in millions) and host market growth is operationalized as the country's GDP growth. Fifth and sixth, we use separate count measures to control for the *acquirer's level of diversification* and the *target's level of diversification*, using the number of industries (at the four-digit SIC industry code level) in which each party operated (e.g., Barkema & Schijven, 2008). Seventh and eighth, we control for the *acquirer industry R&D intensity* and *target industry R&D intensity*. We use dummy variables to capture whether or not the acquirer's and the target's industries were R&D intensive. The variable is set to 1 if a particular industry has been classified in previous studies

(e.g., Chari & Chang, 2009; Loughran & Ritter, 2004; Ranft & Lord, 2002) as a high-tech industry, that is, one with considerable average R&D expenditures, and 0 otherwise. Ninth and tenth, we also control for *acquirer industry marketing intensity* and *target industry marketing intensity*, again using dummy variables, as consistent with our R&D intensity measures. In particular, the dummy variable here is set to 1 if the acquirer's industry has marketing expenditures that are considerably above average, and 0 otherwise, and similarly for the dummy variable for the target's industry. Eleventh, we use a count measure of the number of firms bidding for the focal target firm to control for the effect of *number of bidders*. Twelfth, while research suggests that the effect of experience on entry mode choices is ambiguous (e.g., Brouthers, 2002; Lopez-Duarte & Vidal-Suarez, 2010), to account for a possible effect in either direction we control for the *acquirer's experience in the target's host country*, by using a count of the acquirer's previous acquisitions and equity joint ventures in the host country up to the year preceding the focal deal. Thirteenth, we control for *unrelatedness between the acquirer and target*, that is, the extent to which the industries in which the acquirer and the target operate differ. To calculate this measure, we use the proportion of the number of industries both parties operate in to the total number of distinct industries in which they operate (as described, this produces a measure of relatedness, therefore we reverse it by subtracting this proportion from 1). Fourteenth and fifteenth, we control for the possible effects of whether the acquirer and the target are *service firms* by entering a dummy variable for each party. Finally, to account for the effects of possible heterogeneity across years we also include year fixed effects for the year in which the acquisition was announced in all our models.

### Model Specifications

Not incorporating the censored nature of our dependent variable, which ranges from 1% to 100%, into our estimations is likely to lead to inconsistent results (Greene, 2011: 851). Therefore we use Tobit regression models to incorporate this information in testing our hypotheses. Tobit models account for the censored nature of a dependent variable and have been used by previous research that studies ownership levels in a variety of settings (e.g., Chari & Chang, 2009; Cuypers & Martin, 2010; Pan, 2002). As mentioned previously, we also do take into account possible temporal effects by including year fixed effects. Finally, we also report the robustness of

our findings from this main approach to alternative specifications, as detailed in the robustness section that follows after the results.

## RESULTS

The correlation matrix and descriptive statistics are reported in Table 2. The correlations indicate that collinearity does not pose a problem. This is confirmed by the variance inflation factors (VIFs) in all models. In the fully specified model without interaction terms (Model 2) the largest VIF we observe is 3.06 and the average of the VIFs in this model is 1.94. In the model including all interaction terms together (Model 6) the maximum VIF is again 3.06 and the average of the VIFs is 1.86. These values are well below the accepted rule-of-thumb value of 10 (Neter, Wasserman, & Kutner, 1985).

In Table 2 we observe negative correlations between the percentage of ownership acquirers take and our measures of both linguistic and religious distance, which is consistent with Hypotheses 1a and 1b. Similarly, we find a negative correlation between our dependent variable and our two target country diversity measures, that is, target country linguistic diversity and target country religious diversity. This is consistent with Hypotheses 2a and 2b. Finally, an examination of the distribution of the equity stakes taken by the acquirers shows that the values are normally distributed and broadly dispersed over the possible range of 1%–100%, except for an expected peak at the maximum of 100%. The average percentage of ownership foreign acquirers take in their local targets is 87%, which is similar to the average level in other studies (e.g., Chari & Chang, 2009).

Table 3 presents the results of the Tobit regression models. Model 1 is the baseline model that includes all of the control variables. In Model 2, we add our distance variables of interest, that is, linguistic distance and religious distance (i.e., Hypotheses 1a and 1b). Next, in Model 3, we add the target country linguistic diversity and the target country religious diversity measures (i.e., Hypotheses 2a and 2b). In Model 4, we introduce the corresponding interaction terms between our two distance measures and our two acquirer country diversity measures (i.e., Hypotheses 3a and 3b). Similarly, we introduce the interaction terms between our two target country diversity measures and our two acquirer country diversity measures (i.e., Hypotheses 4a and 4b) in Model 5. Finally, we add all interaction terms together in Model 6. The likelihood ratio tests show that every model produces a significant

improvement in fit ( $p < 0.001$ ) compared with the intercept-only model. Similarly, the likelihood ratio tests comparing the model with only control variables (Model 1) to the models including the independent variables of interest (Models 2 through 5) are significant ( $p < 0.001$ ) which suggests that including our variables of interest improves the explanatory power of our models.

Several of the control variables are worth discussing. First, we find that physical distance ( $p < 0.001$ ), cultural distance ( $p < 0.001$  in Model 1), and socio-economic distance ( $p < 0.001$ ) all have a negative and significant impact on our dependent variable. We also find that acquirers take lower levels of ownership when they face more uncertainty in the host country ( $p < 0.001$ ) which is consistent with real option predictions (e.g., Cuypers & Martin, 2010). In addition, we find a significant ( $p < 0.001$ ) negative relationship between the acquirer's equity stake and the level of diversification of the target. Similarly, we find that acquirers tend to take less equity when the target is more unrelated ( $p < 0.001$ ). These results are both consistent with the predictions of information economics, which suggests that more diversified and more unrelated targets are harder to value.

In Hypotheses 1a and 1b, we propose that linguistic distance and religious distance will have a negative effect on our dependent variable. Consistent with both hypotheses, we find in Models 2 through 7 that linguistic distance ( $p < 0.001$ ) and religious distance ( $p < 0.001$ ) have a consistent negative and significant impact on the level of ownership acquirers take in their targets. Models 3 through 7 also show a negative and significant ( $p < 0.001$ ) relationship between the level of linguistic diversity in the target's home country and the acquirer's equity stake. This is consistent with Hypothesis 2a. Similarly, we find a negative and significant relationship between the level of religious diversity in the target's home country and our dependent variable which is consistent with Hypothesis 2b; although the statistical significance of this relationship varies from  $p < 0.001$  to  $p < 0.01$  depending on the moderators included in the model.

We also calculated the marginal effects to examine the practical magnitudes of these hypothesized direct effects. In particular, we compared the magnitudes of the effects of linguistic distance, religious distance, target country linguistic diversity, and target country religious diversity with the effect of cultural distance, by calculating the marginal effects of a 1 standard deviation change of these variables in Model 3. Cultural distance is particularly suited to



**Table 2** Descriptive Statistics and Correlations

	Variables	Mean	Standard Deviation	1	2	3	4	5	6	7	8	9	10
1	Acquirer Equity Stake	86.71	26.96										
2	Linguistic Distance	-1.38	1.72	-0.14									
3	Religious Distance	-0.66	0.77	-0.16	0.14								
4	Cultural Distance	1.50	1.47	-0.15	0.64	0.34							
5	Physical Distance ('000 km)	5.00	4.60	-0.08	-0.07	0.32	0.09						
6	Socio-Economic Distance	1.40	1.83	-0.18	0.18	0.49	0.37	0.29					
7	Acquirer Country Language Diversity	0.34	0.20	0.01	-0.07	0.06	-0.07	-0.04	0.18				
8	Acquirer Country Religious Diversity	0.30	0.14	-0.11	0.19	0.41	0.22	0.10	0.09	-0.14			
9	Target Country Language Diversity	0.33	0.22	-0.06	-0.03	0.21	-0.03	-0.06	0.20	0.00	0.09		
10	Target Country Religious Diversity	0.29	0.14	-0.04	0.13	0.34	0.14	0.07	0.06	0.04	0.02	-0.01	
11	Acquirer Industry Marketing Intensity	0.40	0.49	0.10	-0.04	0.00	-0.05	0.01	-0.04	-0.01	-0.03	0.00	0.01
12	Target Industry Marketing Intensity	0.43	0.50	0.07	-0.04	0.00	-0.05	-0.01	-0.04	-0.01	-0.03	0.01	0.01
13	Acquirer Service Firm	0.48	0.50	-0.05	-0.06	0.01	-0.05	-0.01	-0.03	-0.01	-0.01	-0.01	0.02
14	Target Service Firm	0.47	0.50	0.04	-0.08	-0.01	-0.07	-0.02	-0.06	-0.02	-0.01	-0.01	0.01
15	Unrelatedness	0.73	0.35	-0.06	0.01	0.05	0.02	0.04	0.00	-0.03	0.03	0.01	0.03
16	Target Industry R&D Intensity	0.45	0.50	0.09	-0.05	0.06	-0.04	0.05	-0.03	0.00	0.03	0.04	0.03
17	Host Country Uncertainty	21.14	6.35	-0.14	0.10	0.14	0.17	0.17	0.41	0.04	0.00	-0.03	-0.08
18	Target Country GDP Growth	0.07	0.10	-0.03	0.03	0.09	0.07	0.05	0.18	-0.01	0.02	0.01	0.02
19	Target Country Population Size	151.72	272.02	-0.10	0.00	0.45	0.08	0.18	0.59	0.05	0.13	0.29	0.20
20	Acquirer Diversification	3.65	3.30	0.00	0.06	0.06	0.05	0.06	0.02	-0.07	0.05	0.00	0.01
21	Target Diversification	2.18	1.73	-0.07	0.03	0.03	0.02	0.01	0.04	0.00	0.01	0.03	0.01
22	Acquirer Industry R&D Intensity	0.44	0.50	0.16	-0.04	0.05	-0.04	0.05	-0.04	0.00	0.03	0.03	0.03
23	Number of bidders	1.00	0.04	0.00	-0.02	0.00	-0.01	0.01	0.00	0.01	0.00	0.01	-0.01
24	Acquirer Country-specific Experience	0.71	2.30	0.02	-0.10	0.00	-0.07	-0.01	-0.07	-0.07	0.01	-0.01	-0.01

Variables	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Acquirer Equity Stake													
2 Linguistic Distance													
3 Religious Distance													
4 Cultural Distance													
5 Physical Distance ('000 km)													
6 Socio-Economic Distance													
7 Acquirer Country Language Diversity													
8 Acquirer Country Religious Diversity													
9 Target Country Language Diversity													
10 Target Country Religious Diversity													
11 Acquirer Industry Marketing Intensity													
12 Target Industry Marketing Intensity	0.55												
13 Acquirer Service Firm	0.13	0.12											
14 Target Service Firm	0.16	0.20	0.59										
15 Unrelatedness	-0.09	-0.04	0.01	-0.02									
16 Target Industry R&D Intensity	0.20	0.27	0.06	0.07	-0.02								
17 Host Country Uncertainty	-0.05	-0.04	-0.03	-0.06	-0.04	-0.06							
18 Target Country GDP Growth	-0.01	-0.02	0.00	-0.02	-0.01	-0.03	0.03						
19 Target Country Population Size	0.00	0.01	-0.02	-0.03	0.03	0.04	0.24	0.14					
20 Acquirer Diversification	0.02	-0.01	-0.24	-0.12	0.18	0.01	0.02	0.02	0.01				
21 Target Diversification	0.00	0.02	-0.03	-0.12	-0.03	0.02	0.06	0.03	0.03	0.14			
22 Acquirer Industry R&D Intensity	0.29	0.19	-0.03	0.10	-0.05	0.64	-0.08	-0.02	0.02	0.07	0.00		
23 Number of bidders	-0.01	-0.01	-0.01	-0.01	0.01	-0.01	-0.01	0.00	-0.01	0.01	0.01	-0.01	
24 Acquirer Country-specific Experience	0.01	0.01	-0.03	0.02	0.07	0.02	0.01	-0.03	0.08	0.18	0.02	0.01	0.01

n = 59,092

**Table 3** Results of Tobit Models Predicting Percentage of Equity Acquired

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	176.316*** (10.867)	167.898*** (10.795)	169.884*** (10.775)	169.726*** (10.792)	168.227*** (10.752)	168.376*** (10.768)	169.766*** (10.739)
Acquirer Diversification	-0.050 (0.136)	0.191 (0.136)	0.174 (0.136)	0.249† (0.136)	0.199 (0.136)	0.255† (0.136)	0.281* (0.137)
Target Diversification	-3.634*** (0.236)	-3.629*** (0.234)	-3.585*** (0.234)	-3.616*** (0.234)	-3.582*** (0.234)	-3.606*** (0.233)	-3.633*** (0.234)
Acquirer Industry R&D Intensity	29.784*** (1.191)	30.240*** (1.189)	30.240*** (1.188)	30.075*** (1.188)	30.283*** (1.187)	30.131*** (1.187)	30.099*** (1.196)
Target Industry R&D Intensity	0.257 (1.141)	0.312 (1.135)	0.391 (1.133)	0.270 (1.132)	0.329 (1.132)	0.227 (1.131)	0.389 (1.131)
Acquirer Industry Marketing Intensity	11.081*** (1.088)	10.959*** (1.082)	10.906*** (1.080)	10.619*** (1.079)	10.781*** (1.079)	10.568*** (1.078)	10.987*** (1.079)
Target Industry Marketing Intensity	2.396* (1.060)	2.844** (1.054)	2.847** (1.053)	2.846** (1.052)	2.831** (1.052)	2.831** (1.051)	2.891** (1.051)
Acquirer Service Firm	-17.122*** (1.095)	-16.599*** (1.090)	-16.568*** (1.088)	-16.515*** (1.087)	-16.546*** (1.087)	-16.500*** (1.086)	-16.164*** (1.088)
Target Service Firm	8.969*** (1.083)	8.238*** (1.077)	8.165*** (1.076)	7.962*** (1.074)	8.080*** (1.074)	7.923*** (1.073)	7.951*** (1.074)
Acquirer Country-specific Experience (Mean-centered)	0.559** (0.199)	0.230 (0.199)	0.143 (0.198)	0.204 (0.198)	0.071 (0.198)	0.130 (0.198)	0.422† (0.221)
Number of bidders	14.797 (10.417)	10.501 (10.346)	11.212 (10.323)	12.126 (10.343)	11.112 (10.301)	11.816 (10.318)	10.559 (10.286)
Host Country Uncertainty	-1.716*** (0.073)	-1.693*** (0.072)	-1.797*** (0.074)	-1.779*** (0.073)	-1.744*** (0.074)	-1.735*** (0.074)	-1.802*** (0.073)
Target Country GDP Growth	-46.570*** (5.237)	-47.373*** (5.203)	-50.682*** (5.215)	-49.974*** (5.211)	-49.558*** (5.207)	-49.008*** (5.205)	-49.703*** (5.207)
Target Country Size	0.003 (0.002)	0.009*** (0.002)	0.014*** (0.002)	0.014*** (0.002)	0.015*** (0.002)	0.015*** (0.002)	0.014*** (0.002)
Unrelatedness	-9.152*** (1.290)	-8.504*** (1.282)	-8.358*** (1.280)	-8.312*** (1.279)	-8.309*** (1.279)	-8.288*** (1.278)	-8.467*** (1.278)
Socio-Economic Distance	-4.796*** (0.332)	-4.113*** (0.334)	-4.021*** (0.340)	-4.146*** (0.339)	-3.834*** (0.341)	-3.994*** (0.341)	-4.077*** (0.339)
Physical Distance	-0.542*** (0.097)	-0.640*** (0.101)	-0.773*** (0.102)	-0.742*** (0.103)	-0.874*** (0.102)	-0.828*** (0.103)	-0.753*** (0.102)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Cultural Distance	-5.778*** (0.317)	-0.037 (0.388)	-0.364 (0.390)	-0.355 (0.390)	-0.144 (0.390)	-0.189 (0.391)	-0.235 (0.389)
Acquirer Country Language Diversity (Mean-centered)	0.277 (2.161)	1.996 (2.157)	0.799 (2.163)	2.835 (2.193)	1.086 (2.165)	2.990 (2.198)	0.365 (2.162)
Acquirer Country Religious Diversity (Mean-centered)	-58.927*** (3.059)	-35.065*** (3.273)	-37.042*** (3.311)	-27.020*** (3.586)	-30.314*** (3.366)	-23.097*** (3.608)	-35.891*** (3.314)
Linguistic Distance (Mean-centered)	<i>H1a</i>	-7.456*** (0.335)	-7.378*** (0.336)	-7.400*** (0.336)	-7.812*** (0.339)	-7.770*** (0.339)	-7.290*** (0.336)
Religious Distance (Mean-centered)	<i>H1b</i>	-9.078*** (0.687)	-7.054*** (0.730)	-5.585*** (0.748)	-7.816*** (0.734)	-6.463*** (0.757)	-7.222*** (0.730)
Target Country Language Diversity (Mean-centered)	<i>H2a</i>		-18.870*** (2.031)	-20.477*** (2.037)	-20.523*** (2.034)	-21.642*** (2.038)	-19.105*** (2.142)
Target Country Religious Diversity (Mean-centered)	<i>H2b</i>		-14.646*** (3.081)	-16.909*** (3.086)	-10.084** (3.109)	-12.817*** (3.124)	-19.192*** (3.204)
Linguistic Distance x Acquirer Country Language Diversity	<i>H3a</i>			-3.311* (1.419)		-3.212* (1.418)	
Religious Distance x Acquirer Country Religious Diversity	<i>H3b</i>			-27.196*** (2.944)		-22.792*** (3.009)	
Target Country Language Diversity x Acquirer Country Language Diversity	<i>H4a</i>				-34.895*** (8.960)	-37.441*** (8.951)	
Target Country Religious Diversity x Acquirer Country Religious Diversity	<i>H4b</i>				-166.151*** (17.300)	-138.372*** (17.634)	
Linguistic Distance x Acquirer Country-specific Experience							-0.648*** (0.122)
Religious Distance x Acquirer Country-specific Experience							-0.941*** (0.250)
Target Country Language Diversity x Acquirer Country-specific Experience							-0.593 (1.699)
Target Country Religious Diversity x Acquirer Country-specific Experience							-9.715*** (2.237)
Year Effects	Included	Included	Included	Included	Included	Included	Included
Number of Observations	59092	59092	59092	59092	59092	59092	59092
Log-Likelihood	-96591.65	-96256.99	-96206.33	-96162.86	-96153.67	-96124.05	-96149.41
Chi-squared	6536.47***	7205.78***	7307.11***	7394.04***	7412.42***	7471.67***	7420.95***

Notes: All tests are two-tailed: †  $p < 0.10$  \*  $p < 0.05$  \*\*  $p < 0.01$  \*\*\*  $p < 0.001$ . The standard error of the estimate is reported in parentheses and italics below each coefficient. All interaction terms are calculated using mean-centered variables. Model 7 provides additional results, which we discuss in the Additional Analyses and Robustness Section.

use as a benchmark as it is one of the most commonly used variables in the entry mode literature (e.g., Tihanyi, Griffith, & Russell, 2005). Among our four variables of interest, linguistic distance has the largest effect, with an effect that is 23.7 times larger than that of cultural distance, religious distance 10.2 times larger, target country linguistic diversity 7.6 times larger, and target country religious diversity 3.9 times larger, although these comparisons should be interpreted with caution as the cultural distance coefficient was not statistically significant in every model.

We proposed in Hypothesis 3a that the negative effect of linguistic distance on the level of ownership acquirers take in their targets would be negatively moderated, that is, amplified, by the level of linguistic diversity in the acquirer's home country. As predicted we find in Models 4 and 6 that the interaction term between these two variables is negative and significant ( $p < 0.05$ ). Hence higher levels of linguistic diversity in the acquirer's home country amplify the negative effect of linguistic distance on the acquirer's equity stake. Similarly, we find that the interaction term between religious distance and acquirer country religious diversity is negative and significant ( $p < 0.001$  in both models). In other words, the negative effect of religious distance on equity taken is stronger the greater the religious diversity in the acquirer's home country.

In Hypothesis 4a we proposed that the negative effect of target country linguistic diversity on our dependent variable would be negatively moderated by acquirer country linguistic diversity. Similarly, in Hypothesis 4b we predicted that the negative effect of target country religious diversity on the acquirer's equity stake would be negatively moderated by target country religious diversity. Consistent with these predictions, we find that both interaction terms are negative and significant ( $p < 0.001$ ) in Models 5 and 6. In sum, the negative effects of the level of linguistic and religious diversity in the target's home country on equity taken are stronger when, respectively, the levels of linguistic and religious diversity in the acquirer's home country are higher.

To further assess the findings regarding the interaction terms, we plotted the main effects at different levels of the moderating variables. These graphical representations of the interaction effects are available upon request and show patterns consistent with the inference based on the coefficients and provide further support for Hypotheses 3a through 4b. In addition, we calculated the partial derivatives of

the main effects in the equations with the interaction terms, as recommended by Aiken and West (1991). This revealed that the main effects are monotonic and do not reverse over the entire range of the moderator variables in our sample, again offering additional support for Hypotheses 3a through 4b.

### **Additional Analyses and Robustness Checks**

To ensure the robustness of our results and to explore some of our results further, we performed a number of additional analyses. First, in the theoretical section of our study we focus on acquirer country diversity as the source of greater cognitive complexity, which raises awareness of particular factors, and thus acts as a moderator. However, another factor which may increase "awareness of particular factors" is prior international experience. As a firm operates in a particular country and gains experience operating in that linguistic and religious environment, it becomes more aware of the challenges associated with the distance from its home country to the host country, as well as the challenges associated with the higher levels of diversity in that host country. In other words, just as the linguistic and religious diversity in the acquirer's home country strengthen the effects of our first two sets of hypotheses, we would likewise expect the acquirer's experience in the target's home country to have a similar effect. To explore this further, Model 7 in Table 3 replaces the various "diversity" moderators with interaction effects with the acquirer's country-specific experience. The results are largely similar. The negative effects of linguistic distance, religious distance, and religious diversity on equity taken are significantly ( $p < 0.001$ ) stronger when the acquirer has more experience in the target's home country. However, we fail to find such an effect for the interaction with target country linguistic diversity. Nevertheless, these additional findings provide additional support for the theoretical mechanisms we put forward in the article.

Second, we checked the robustness of our results by using a number of alternative model specifications. We checked the robustness of our results by clustering the standard errors for possible non-independence across different deals involving the same acquirer. In addition, we included fixed effects to control for target industry effects (at the two-digit SIC code level). To be able to perform this robustness check we had to remove the variables for the R&D and the marketing intensity of the target industry. Similarly, we included fixed effects to control for acquirer industry effects. All these alternative model

specifications yielded results that are consistent with those reported in the main models.

Third, to control for time invariant heterogeneity that might be present among different acquirer or target countries, we checked the robustness of our results where possible with a number of alternative model specifications that include country fixed effects. Specifically, we test Hypotheses 1a and 1b with acquirer country fixed effects and still found a significant negative relationship between linguistic distance ( $p < 0.001$ ) and religious distance ( $p < 0.001$ ), respectively, and equity share. Similarly, linguistic distance ( $p < 0.001$ ) and religious distance ( $p < 0.001$ ) are both negatively related to equity share when we include target country fixed effects. Next we also tested Hypotheses 2a and 2b using acquirer country fixed effects. Consistent with our predictions this yielded negative and significant coefficients for linguistic diversity in the target's country ( $p < 0.001$ ) and religious diversity in the target's country ( $p < 0.001$ ) as they relate to equity stake taken. We were not able to test Hypotheses 2a and 2b with target country fixed effects as this would result in the dropping out of the variables whose very effects are hypothesized in these predictions. We were also not able to check the robustness of our interaction hypotheses (Hypotheses 3a, 3b, 4a, and 4b) because including acquirer or target country fixed effects would lead to the first-order terms for these interactions to be dropped from the regression. Removing the first-order term in regression equations with interaction terms is justified only when there are strong theoretical arguments why the first-order effect must be equal to 0 (Aiken and West, 1991: 61) which is not the case in our situation, as we in fact predict the first-order effects to be of theoretical importance (and empirically find them to be so). In summary, the hypotheses that we were able to test using fixed country effects yielded results consistent with those we report in the main models.

Fourth, we used an alternative dependent variable to check the robustness of our results. Instead of the continuous ownership variable that we used for our main analyses, we now use a dummy variable, which takes a value of 1 for a full acquisition and 0 for a partial one. To account for the dichotomous nature of this dependent variable, we use logistic regression to estimate our models. This again yields results that fully support all our hypotheses.

Fifth, we reran our main analysis after adding measures that capture the degree of religiosity of the home and host country, which may have a direct impact on the acquirer's ownership levels and may

also moderate the role that religions plays in acquisitions (i.e., differences in religion may play a stronger role in countries where people place more emphasis on religion). We explored this using the religiosity data from the World Values Survey (2015). We found that religiosity was not a statistically significant predictor in our models, either as a direct effect or a moderator. Moreover, adding these religiosity measures also had no material effect on any of our religion variables of interest, while reducing our useable sample to a third of its original size.

Sixth, another potential concern is that not controlling for global diaspora may affect our results. In order to test for this, we repeated our analyses three times – on each occasion by removing observations from our estimation sample where the acquirer or target come from countries that have been major sources of migration. First we excluded China and Hong Kong, then we excluded India, and finally we excluded the Philippines, Thailand, and Vietnam (this was done to exclude South East Asian countries where Chinese form an economic powerful minority).<sup>7</sup> In each instance, despite the reduced sample sizes, there was no material effect on the testing of our hypotheses.

Seventh, some countries might impose ownership restrictions on foreign investors. Therefore we tested the robustness of our results using the Fraser Institute's Economic Freedom data. Specifically, from this data we use the item that captures *foreign ownership/investment restrictions*. Despite reducing our sample size by a quarter, all our results remained robust after the inclusion of this measure.

Finally, although our theoretical mechanisms do not pertain directly to any control related issues, acquirers' ownership choices might also be driven by control issues and acquirers' might also have other means to establish control than through ownership. We do not have measures to directly control for any and all of these possible complications. However, we instead replicated our results using two subsamples, constructed so that the acquirer unambiguously has a sufficiently high level of ownership to have control. Specifically, we check the robustness of our results first using a subsample that consists of observations where the acquirers' ownership levels are above 50% and second using another sample that consists of observations where the acquirers' ownership levels are above 66%. In both of these subsamples all of our hypotheses remain supported.

## DISCUSSION AND CONCLUSIONS

This study represents significant advances in several aspects with respect to the calls of Shenkar (2001)

and others (e.g., Ambos & Håkanson, 2014; Harzing, 2003; Tung, 2009; Tung & Verbeke, 2010; Zaheer et al., 2012) for a more nuanced treatment of the distance construct in IB research. In particular, we add to the work of Beugelsdijk et al. (2013) in developing and confirming what role within-country diversity might play in international management decisions. With respect to the equity structure of cross-border acquisitions our results indicate that within-country diversity might play two distinct roles. The diversity within the target country appears to be another source of behavioral uncertainty and information asymmetry, in addition to distance, resulting in a direct negative impact on the proportion of equity that foreign acquirers tend to hold. Conversely, the diversity within the acquirer's home country may be linked to higher levels of cognitive complexity, creating higher awareness of the challenges of distance between the acquirer's and target's countries, as well as of the challenges of diversity in the target's country. This seems to cause firms to embrace the normative behaviors more strongly.

These results are robust across two distinct forms of distance – linguistic and religious; resulting in all four predicted moderating relationships to be statistically significant. Moreover, an additional check involving the use of international experience confirms the underlying logic we have used in proposing these relationships. The robustness of the results is also enhanced by the extensive bilateral nature of the data set that allows us to fully discriminate between acquirer country characteristics, target country characteristics, and cross-national differences.

The extensive moderating relationships proposed and confirmed in this article also address an additional concern raised by both Shenkar (2001) and Tung and Verbeke (2010). The vast majority of empirical distance literature has in general characterized distance as a negative factor. Birkinshaw, Brannen, and Tung (2011) in particular lament this practice. Our direct effect results (i.e., Hypothesis 1a through to 2b) still find distance and host market diversity to have a 'negative' and constraining impact on firm behavior (i.e., firms tend to take a lower equity share and tie in more strongly local partners in order to compensate for the additional difficulties that the distance and host market diversity create). However, we argue that our moderating effects seem to indicate that acquiring country diversity may play a beneficial role in terms of higher levels of cognitive complexity that assist firms in their international expansion. Home market diversity appears to raise awareness to an existing

problem, which is why we are modeling it as a moderating relationship rather than a direct relationship. The problem must already exist in order for the awareness to have any impact. With heightened awareness of the problem, the firms appear to more readily take action (i.e., a lower share).

Our findings also speak to another source of criticism of how researchers have conceptualized and operationalized various forms of distance: namely the criticism that the effect of distance is often assumed to be symmetric without considering whether this assumption is appropriate (e.g., Shenkar, 2001). While our empirical investigations do not directly explore asymmetries in perceptions, our findings with respect to Hypotheses 3a and 3b do highlight a set of factors, which may be a source of asymmetry – within-country diversity. We find that linguistic and religious diversity in the acquirer's home country appears to moderate the effect that the corresponding type of distance has on the acquirer's ownership stake. Thus if two countries do not share a similar level of within-country diversity on a particular dimension, then they may also differ in terms of the cognitive complexity on that dimension, and therefore the perceived distances between the two countries are likely to be asymmetric. This is particularly important given that our data also indicate that home country diversity indeed varies considerably from country to country.

A final contribution of this article that we want to highlight relates to the commonly sounded criticism (e.g., Harzing, 2003; Shenkar, 2001; Zhao et al, 2004) of an excessive focus in the literature on national cultural distance as defined by Kogut and Singh (1988). In this respect this study is by no means the first to highlight and test the impact of linguistic and religious distances, but it does add significantly to a relatively small base of prior research on the topic, and more significantly, our results indicate that both linguistic and religious distance have a greater impact on firm behavior than the more traditional measure of cultural distance.

Our study is not without its limitations. First, while the results presented here are robust, it is important to note that they pertain to one specific type of managerial decision – ownership choices in acquisitions. We feel that these results need to be confirmed with respect to other managerial decisions, such as market selection, and by looking at foreign subsidiary performance. Testing relating to this later dependent variable (i.e., performance) is particularly important in light of the cognitive complexity literature, which suggests that choices based

on higher cognitive complexity should improve firm decision making. At the moment this is an untested assertion with respect to our work. Similarly, for the purposes of this study we have not distinguished between types of cross-border acquisitions in our sample in the belief that communication difficulties, behavioral uncertainty, information asymmetry, and cognitive complexity are applicable to all of them; however there may be differences which need to be explored (Bower, 2001).

A second limitation of this study is that there are mediating constructs that are inherent in our third and fourth sets of hypotheses which are also untested. Specifically, we do not directly measure the cognitive complexity of the decision makers, but rather infer its presence from their environment and prior experience. Research designs need to be developed to explicitly test the micro-level mechanisms of the relationships that we are proposing. For example, do managers from more diverse countries actually have a higher level of cognitive complexity, and thus are more aware of and responsive to the difficulties that arise from such diversity? Here, experimental methods that allow a deeper investigation of the respondent's attitudes and beliefs may be appropriate.

A third and fourth limitation of this work concern the measurement of distance. At the moment we look at only two forms of distance (and diversity): namely differences in language and religion. While these are particularly salient factors in international business, future research could also look at other dimensions such as culture. In addition to that, while we do include diversity as a moderator, we are still forced to rely to some extent on national averages of distance. At the moment, given the relatively large number of individuals involved on both sides in any given acquisition (i.e., the buyer and the seller), we consider this to be the best available option, but it is still a compromise. Ideally one would want to control directly for the actual characteristics of each and every individual involved in the process. However, even then the issue of how to weight each of those is a challenging task.

The implications here for managers are both cautionary and optimistic. On the one hand, managers need to be aware that diversity in a potential target market may represent an additional hurdle that they need to take into consideration. On the other hand, however, the good news for managers is that diversity in the home market does seem to increase one's cognitive complexity, and arguably the quality of their decision making. This may also highlight the

value of having bicultural or internationally experienced managers as they are likely to add to the cognitive complex applied to the top management team.

In terms of implications for future research, this study both highlights the importance of taking within-country diversity into consideration, and starts to provide a framework of how and why such diversity matters. However, that is only the beginning. As mentioned in the discussion of limitations, our predictions need to be confirmed across a variety of settings (e.g., for different types of acquisitions and for different types of managerial decisions), and the underlying assumptions, such as the role of cognitive complexity, need to be explored. As such we believe that empirical research on the role of diversity in international business is still in its infancy.

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### NOTES

<sup>1</sup>*Global Strategy Journal, International Business Review, International Marketing Review, Journal of International Business Studies, Journal of International Management, Journal of International Marketing, Journal of World Business, and Management International Review.*

<sup>2</sup>The sole paper to date that addresses within-country diversity Beugelsdijk et al. (2013) only investigates the impact of cultural diversity on aggregate US MNE sales, not entry mode choice.

<sup>3</sup>Nokia's difficulties in negotiating a joint venture in Malaysia are documented in a case by Ainuddin (2006); however subsequent interviews with particular participants from the original negotiation indicate that differences in religion may have played an even greater role than indicated in the published case study.

<sup>4</sup>To further illustrate that our results are unlikely to be driven by any country specific influences, we also calculated the Herfindahl index (HHI) for the distribution or concentration of the countries of the acquirers, countries of the targets, and acquirer-target country pairs (dyads) in our data. The HHI ranges from 0 to 1, where 0 corresponds to a perfectly equal distribution across the countries, and 1 corresponds to a single country or country-pair accounting for all the observations. The HHI for the concentration of the countries of the acquirers is



0.12 and the HHI for the concentration of the countries of the targets is 0.07. Finally, the HHI for acquirer–target country pairs is a very low 0.01. These low concentration indices confirm that the large sample we use does not display high concentration patterns.

<sup>5</sup>This data was downloaded from <https://sites.google.com/site/ddowresearch/home/scales> in December 2013 and is based on a bilateral sample of 120 countries. Dow's distance measures are standardized on his entire sample and since our sample consists of fewer countries our mean is different. Specifically the mean scores

for the distance measures are slightly negative in our sample, indicating that acquisition activity in our sample consists of more proximate dyads of countries (as compared with the set of dyads that can be constructed using all countries for which measures are available).

<sup>6</sup>Linguistic and religious diversity indices for 120 countries are also available in downloadable form from <https://sites.google.com/site/ddowresearch/>.

<sup>7</sup>Other South East Asian countries where Chinese form a minority such as Malaysia were not part of our estimation sample in the first place.

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## APPENDIX

**Table A1** Summary of countries: Frequency counts and diversity indices

Panel A: Acquirer home countries					Panel B: Target home countries				
Country	Frequency	Percentage of total	Linguistic diversity	Religious diversity	Country	Frequency	Percentage of total	Linguistic diversity	Religious diversity
The United States	16,279	27.55	0.353	0.258	The United States	11,179	18.92	0.353	0.258
The United Kingdom	7668	12.98	0.139	0.319	The United Kingdom	7104	12.02	0.139	0.319
Canada	5534	9.37	0.549	0.269	Canada	4073	6.89	0.549	0.269
France	3728	6.31	0.272	0.443	France	3548	6.00	0.272	0.443
The Netherlands	2708	4.58	0.389	0.337	Australia	2546	4.31	0.126	0.313
Sweden	2355	3.99	0.167	0.541	Spain	1937	3.28	0.438	0.106
Australia	1960	3.32	0.126	0.313	The Netherlands	1891	3.20	0.389	0.337
Switzerland	1689	2.86	0.547	0.146	Italy	1810	3.06	0.593	0.376
Japan	1587	2.69	0.028	0.646	Sweden	1798	3.04	0.167	0.541
Spain	1315	2.23	0.438	0.106	China	1575	2.67	0.491	0.505
Belgium	1239	2.10	0.734	0.273	Brazil	1427	2.41	0.032	0.169
Italy	1104	1.87	0.593	0.376	Belgium	1212	2.05	0.734	0.273
Denmark	1099	1.86	0.051	0.101	Switzerland	1120	1.90	0.547	0.146
Ireland-Rep	1045	1.77	0.223	0.015	Denmark	1003	1.70	0.051	0.101
Singapore	1020	1.73	0.748	0.675	India	986	1.67	0.930	0.403
Finland	1010	1.71	0.140	0.185	Norway	983	1.66	0.657	0.058
Norway	1000	1.69	0.657	0.058	Finland	942	1.59	0.140	0.185
India	812	1.37	0.930	0.403	Mexico	934	1.58	0.135	0.096
Austria	716	1.21	0.540	0.103	Argentina	890	1.51	0.213	0.101
Luxembourg	464	0.79	0.498	0.149	New Zealand	824	1.39	0.102	0.249
China	438	0.74	0.491	0.505	Ireland-Rep	769	1.30	0.223	0.015
Israel	416	0.70	0.665	0.213	Russian Fed	738	1.25	0.283	0.409
South Africa	390	0.66	0.869	0.318	Poland	688	1.16	0.060	0.192
New Zealand	374	0.63	0.102	0.249	Czech Republic	605	1.02	0.069	0.550
South Korea	370	0.63	0.003	0.742	South Africa	593	1.00	0.869	0.318
Russian Fed	276	0.47	0.283	0.409	Japan	591	1.00	0.028	0.646
Brazil	261	0.44	0.032	0.169	Singapore	531	0.90	0.748	0.675
Portugal	257	0.43	0.022	0.185	Austria	465	0.79	0.540	0.103
Mexico	257	0.43	0.135	0.096	South Korea	470	0.80	0.003	0.742
Taiwan	227	0.38	0.488	0.604	Chile	463	0.78	0.034	0.174
Greece	189	0.32	0.175	0.054	Portugal	430	0.73	0.022	0.185
Chile	158	0.27	0.034	0.174	Israel	427	0.72	0.665	0.213
Poland	125	0.21	0.060	0.192	Hungary	378	0.64	0.158	0.320
Argentina	120	0.20	0.213	0.101	Turkey	372	0.63	0.289	0.013
Thailand	104	0.18	0.753	0.152	Thailand	346	0.59	0.753	0.152
Colombia	98	0.17	0.030	0.069	Colombia	323	0.55	0.030	0.069
Czech Republic	88	0.15	0.069	0.550	Romania	303	0.51	0.168	0.330
Hungary	80	0.14	0.158	0.320	Peru	296	0.50	0.376	0.054
Philippines	63	0.11	0.849	0.117	Taiwan	282	0.48	0.488	0.604
Turkey	54	0.09	0.289	0.013	Philippines	235	0.40	0.849	0.117
Panama	49	0.08	0.324	0.190	Bulgaria	186	0.31	0.224	0.574
Peru	44	0.07	0.376	0.054	Luxembourg	183	0.31	0.498	0.149
Estonia	41	0.07	0.476	0.810	Estonia	179	0.30	0.476	0.810
Slovenia	37	0.06	0.174	0.483	Vietnam	167	0.28	0.234	0.689
Slovak Rep	36	0.06	0.307	0.288	Slovak Rep	162	0.27	0.307	0.288
Venezuela	31	0.05	0.026	0.102	Venezuela	124	0.21	0.026	0.102
Romania	20	0.03	0.168	0.330	Croatia	109	0.18	0.087	0.152
Lebanon	16	0.03	0.161	0.551	Greece	103	0.17	0.175	0.054
Uruguay	13	0.02	0.092	0.527	Costa Rica	88	0.15	0.050	0.082
Croatia	13	0.02	0.087	0.152	Uruguay	90	0.15	0.092	0.527
Costa Rica	13	0.02	0.050	0.082	Panama	93	0.16	0.324	0.190
Bulgaria	11	0.02	0.224	0.574	Ecuador	77	0.13	0.264	0.050
Malta	11	0.02	0.016	0.045	Morocco	49	0.08	0.466	0.009
Guatemala	11	0.02	0.691	0.039	Slovenia	53	0.09	0.174	0.483
Pakistan	10	0.02	0.762	0.062	Guatemala	43	0.07	0.691	0.039

Table A1: (Continued)

Panel A: Acquirer home countries					Panel B: Target home countries				
Country	Frequency	Percentage of total	Linguistic diversity	Religious diversity	Country	Frequency	Percentage of total	Linguistic diversity	Religious diversity
Vietnam	9	0.02	0.234	0.689	Nigeria	35	0.06	0.870	0.531
Ecuador	8	0.01	0.264	0.050	El Salvador	34	0.06	0.004	0.035
Jamaica	7	0.01	0.011	0.230	Ghana	32	0.05	0.805	0.402
Nigeria	6	0.01	0.870	0.531	Zambia	31	0.05	0.855	0.277
Trinidad & Tobago	5	0.01	0.696	0.502	Pakistan	27	0.05	0.762	0.062
Morocco	5	0.01	0.466	0.009	Tanzania	30	0.05	0.965	0.584
Ghana	4	0.01	0.805	0.402	Malta	18	0.03	0.016	0.045
Bangladesh	4	0.01	0.332	0.209	Jamaica	22	0.04	0.011	0.230
El Salvador	4	0.01	0.004	0.035	Trinidad & Tobago	22	0.04	0.696	0.502
Zambia	3	0.01	0.855	0.277	Lebanon	13	0.02	0.161	0.551
Libya	3	0.01	0.362	0.053	Bangladesh	17	0.03	0.332	0.209
Tanzania	1	0.00	0.965	0.584	Sierra Leone	8	0.01	0.817	0.589
					Libya	7	0.01	0.362	0.053
					Ethiopia	3	0.01	0.843	0.531

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