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**LOCAL PARTNERING IN FOREIGN VENTURES:  
UNCERTAINTY, EXPERIENTIAL LEARNING, AND SYNDICATION  
IN CROSS-BORDER VENTURE CAPITAL INVESTMENTS**

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**ABSTRACT**

If partnering with local firms is an intuitive strategy with which to mitigate uncertainty in foreign ventures, then why don't organizations always partner with local firms, especially in uncertain settings? We address this question by unbundling the effects of uncertainty in foreign ventures at the venture and country levels. We contend that, while both levels increase the need for partnering with local firms in foreign ventures, country-level uncertainty increases the difficulty of partnering with local firms and decreases the likelihood of such partnerships. We also posit that experiential learning helps firms manage the two types of uncertainty, and thereby reduces the need for partnering—yet, experience in the host country makes partnering more feasible and increases the likelihood of such partnerships. To test our hypotheses, we conceptualize the decision to partner with a local firm in a foreign venture as a multilayered decision, and model it accordingly. Using a global sample of venture capital investments made between 1984 and 2011, we find support for the distinct effects of venture- and country-level uncertainty as well as for corresponding levels of experiential learning. These findings have implications for the literature on cross-border venture capital investment and international business in general.

**Keywords:** cross-border venture capital, interorganizational relationships, uncertainty, experience

Firms engaging in foreign ventures regularly face significant uncertainty, that is, difficulties predicting the future due to incomplete knowledge. In international business, partnering with local firms is considered an important means by which firms can manage such uncertainty in their foreign ventures (Makino & Delios, 1996), and the same holds true in cross-border venture capital (VC) investments (Dai, Jo, & Kassicieh, 2012). Given the intuitive appeal of this strategy, and the positive performance effects of partnering with local VC firms identified in cross-border VC investments (Dai et al., 2012; Nahata, Hazarika, & Tandon, 2014), why do VC firms not always syndicate<sup>1</sup> their investments with local partners when investing abroad? Furthermore, why do they often syndicate less frequently abroad than in their home countries?<sup>2</sup> We address these questions by unbundling the effects of different types of uncertainty and the corresponding levels of international experience on the need for and the feasibility of syndication with local VC firms in cross-border VC investments.

Although the early international business literature on modes of market entry linked uncertainty and partnering (i.e., choosing a collaborative market-entry mode; see, e.g., Anderson & Gatignon, 1986; Erramilli & Rao, 1993; Gomes-Casseres, 1989; Hennart, 1988), previous research has not examined the different roles of local and foreign partners in managing uncertainty in foreign ventures (Clarke, Tamaschke, & Liesch, 2013). Second, although prior international business research on entry modes, which largely relies on transaction cost economic theorizing, has frequently considered uncertainty in general, it has not differentiated and contrasted the roles of

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<sup>1</sup> VC syndication (Bygrave, 1987; Guler & Guillén, 2010a; Lerner, 1994) is a co-investment of equity in a venture by two or more VCs, and is a form of alliance that is common in the VC industry (Wright & Lockett, 2003).

<sup>2</sup> For instance, this pattern was observed in a sample of 1,871 cross-border VC investments in six Asian countries (Dai et al., 2012). Of the investments, 1,160 (62.0%) were made by one or more foreign VCs without the participation of local VC firms, compared with only 711 (38.0%) investments made in partnership with local VC firms. Similarly, in a sample of 7,947 cross-border VC deals globally (Tykvová & Schertler, 2014), 2,779 (35.0%) were made alone, 645 (8.1%) were made with other foreign VC(s), and 4,523 (56.9%) included partnerships with local VCs. In domestic VC investment samples, syndication frequency has normally varied between 40% and 80%, depending on the country (Jääskeläinen, 2012).

different types of uncertainty. Finally, previous research has not investigated the roles of different types of international experience in influencing the need for and the feasibility of partnering, especially with local partners. Realizing that partnering decisions in foreign ventures (whether to partner and whether to do so with local or foreign firms) are highly strategic choices and that venture- and country-level uncertainty and the corresponding levels of international experience can have very different effects on the need for and the feasibility of partnering, we seek to contribute to the existing literature on partnering decisions in cross-border VC and international business. This is done by focusing on the particular needs for and feasibility of partnering with local firms in foreign ventures (rather than investing alone or only with other foreign firms) and by unbundling the effects of these two levels of uncertainty and the corresponding levels of international experience on such choices.

Thus, the goal of this study is to examine the organizational response to different levels of uncertainty and international experience in foreign ventures by focusing on VC firms' decisions to partner with local VC firms in their foreign ventures. We consider this decision to be a multilayered choice, rather than a simple either-or proposition. First, the firm must choose whether to enter into the foreign market; second, it must decide whether to partner; third, if it does decide to partner, it must choose among potential partners. Although these layers can and do operate simultaneously, prior research has generally focused on each layer separately (for an exception, see Guillén, 2003). In our analysis, though, we explicitly model partnering with local firm(s) as a multilayered decision and consider the potential simultaneity of these layers (Hennart & Slangen, 2014).

In developing our arguments, we build on the organizational learning literature (Levitt & March, 1988) to explain partnering decisions in foreign ventures (Guillén, 2003; Inkpen & Tsang, 2007; Johanson & Vahlne, 1977; Kogut, 1988). To unbundle the effects of uncertainty on partnering decisions, we identify two distinct levels of uncertainty in foreign ventures, occurring at the venture

level and the country level, which both increase the knowledge gaps (Petersen, Pedersen, & Lyles, 2008) related to foreign ventures. We also distinguish among corresponding levels of experiential learning, which helps to narrow such knowledge gaps. From the organizational learning perspective, partnerships in foreign ventures—and, particularly, with local partners in focal countries—should be more highly valued when uncertainty increases at either level and less highly valued when international experience increases at the corresponding level (Makino & Delios, 1996).

Moreover, to complement these learning-based arguments concerning the need for partnering with local firms, we also consider the feasibility of such a strategy. For example, partnerships with local firms in foreign ventures may not always be feasible when they are most needed—that is, in highly uncertain settings. Unbundling uncertainty into two levels allows us to argue that, while venture-level uncertainty in foreign ventures creates a need for partnering and does not severely hinder the creation of partnerships, country-level uncertainty also increases the need for partnering but simultaneously makes partnering with local firms less feasible and therefore reduces partnering with local firms.

Similarly, when considering the acquired experience in managing venture-level uncertainty and country-level uncertainty in foreign ventures, we propose, based on learning arguments, that international experience in managing the former decreases the need for partnerships with local firms. However, concerning experience in managing the latter, we establish the importance of unbundling it into (a) international experience in managing country-level uncertainty (i.e., non-location-bound international experience from investments in foreign countries with high country-level uncertainty) and (b) international experience in the host country (i.e., location-bound international experience from prior investments in the focal foreign country) (Clarke et al., 2013). While both types of international country-level experience are predicted to mitigate country-level

uncertainty and the need for partnering, the local embeddedness resulting from the local host-country experience overrides the basic learning mechanism, resulting in an opposite effect—that is, greater prior host-country experience facilitates partnerships with local firms. We formulate hypotheses concerning the effects of these two levels of uncertainty and international experience at these levels on partnering with local firms in foreign ventures. We then test these hypotheses using a large and longitudinal global sample of cross-border VC investments.

This paper makes several contributions to the literature on cross-border VC and to the international business literature on partnering with local firms in foreign ventures. Our findings on the different roles played by venture- and country-level uncertainty—particularly the inhibiting role of country-level uncertainty on partnering with local partners—demonstrate the limitations of generalizing the use of partnering to manage diverse types of uncertainty (Delios & Henisz, 2003). By unbundling uncertainty to venture and country levels and identifying their unique effects on partnering with local firms, we extend and complement organizational learning-based arguments on partnering in foreign ventures (Kogut, 1988; Petersen et al., 2008). We demonstrate that, when considering these, in addition to the need for partnering with local firms, we also need to consider its feasibility, which can differ greatly between venture- and country-level uncertainty.

Likewise, by unbundling the effects of venture- and country-level international experience on partnering and analyzing their effects on the need for and the feasibility of partnering with local firms in foreign ventures, we contribute to the literature on experiential learning in international partnering. Again, the effects of venture- and country-level experiential learning—and, particularly, the positive effect of host-country-specific experience on the likelihood of choosing local partners—suggest limitations to the existing theories that focus on the role of experience in reducing the need for partners (Hamel, 1991; Khanna, Gulati, & Nohria, 1998). Our findings on the role of host-country experience in facilitating partnerships with local firms in foreign ventures

(through learning, greater local embeddedness, improved legitimacy, and stronger local networks) help explain the mixed results in the existing literature on market entry mode choice and international partnering (Brouthers & Hennart, 2007). Our analysis of the effects of different types of experience on partnering also highlights the importance of considering the relevance of experience (Finkelstein & Halebian, 2002) in the international business context (Jandhyala, 2013; Perkins, 2014).

Methodologically, our analysis advances the research on firms' partnering decisions in foreign ventures by distinguishing among three interrelated layers of firm partnering decisions in foreign ventures, and by considering and testing the effects of these sequences of choices (Hennart & Slangen, 2014). Our analysis demonstrates that these layers are not independent, which suggests that it is important to consider the multilayered nature of market entry mode decisions and the appropriate empirical modeling of these decisions in future research (Guillén, 2003). Furthermore, our research employs an extensive global sample that includes 61 countries over 28 years with multiple ventures per firm and per focal country, and it thereby responds to calls for additional studies in institutional settings that vary by home and host countries (Hennart & Slangen, 2014).

## **THEORY AND HYPOTHESES**

We argue that, in the choice of partnering with a local firm in foreign ventures, knowledge mechanisms play a central role in influencing the need for such partnerships (Delios & Henisz, 2003; Guillén, 2003; Johanson & Vahlne, 1977; Kogut, 1988; Makino & Delios, 1996). Prior research has demonstrated that active interorganizational learning occurs through knowledge transfers between partners in international interorganizational partnerships (Inkpen & Dinur, 1998; Simonin, 2004). These knowledge transfers often relate to indigenous business operations, contacts, culture, and other local factors. Learning from partners has long been recognized as a key motive for interorganizational relationships (Hamel, 1991; Inkpen, 2000; Inkpen & Tsang, 2007). Recently,



the need to address knowledge and information gaps in foreign countries through partnerships has emerged as a central explanation for the use of collaborative entry modes in foreign markets (Meyer, Wright, & Pruthi, 2009b; Xu & Hitt, 2012; Yeniyurt, Townsend, Cavusgil, & Ghauri, 2009). Knowledge gaps refer to perceived uncertainty in foreign ventures (Petersen et al., 2008). They are influenced by the nature of the venture and the related experience and expertise possessed by the focal firm, and they can be mitigated by partnering (Makino & Delios, 1996). In foreign ventures, we argue that it is important to recognize not only the uncertainty related to the venture itself (Matusik & Fitza, 2012; McMullen & Shepherd, 2006) but also that pertaining to the venture's host country. Importantly, these two levels of uncertainty can have very different effects on partnering behavior in foreign ventures through their different effects on the need for and the feasibility of partnering with local firms in foreign ventures. In cross-border VC, we argue that, although uncertainty about the prospects of a particular venture increases the number of scenarios to be considered in investment contracts, VCs are experts in writing such contracts and can generally enforce them. However, country-level uncertainty that influences the enforceability of any contract is more difficult to mitigate and can severely hinder partnerships with local VCs.

Furthermore, while firms generally seek to reduce uncertainty in foreign ventures by forming partnerships with their local counterparts, the need for such partners decreases as experience is acquired (Makino & Delios, 1996). As firms accumulate knowledge from their experiences and learn skills and capabilities from their partners that enhance their competitive advantage (Hamel, 1991; Hitt, Dacin, Levitas, Arregle, & Borza, 2000), these experiences reduce firms' incentives for partnering overall (Guillén, 2003; Johanson & Vahlne, 1977; Yeniyurt et al., 2009). However, unbundling international experience into more granular types of venture and country level experience suggests that different kinds of experience can have different effects on partnering with local firms. In particular, experience in the focal host country can have very different effects than

general international experience in managing country-level uncertainty, as the former improves the feasibility of partnering with local firms. Experience in the focal host country reduces the liability of foreignness and outsidership (Hymer, 1976; Johanson & Vahlne, 2009; Zaheer & Mosakowski, 1997) for the focal VC operating in the host country, and significantly facilitates and increases partnerships with local VC firms. In the following section, we illuminate the mechanisms through which venture- and country-level uncertainty—coupled with corresponding levels of experiential learning—influence the propensity of firms to partner with local firms when engaging in foreign ventures.

### **Venture- and Country-Level Uncertainty and the Decision to Partner with Local Firms in a Foreign Country**

Uncertainty has significant effects on organizational decisions. Various streams of literature on uncertainty hold that it stems from incomplete knowledge that makes predicting the future difficult (Milliken, 1987). Research on the effects of uncertainty on organizational decisions has gradually begun to distinguish among its different levels. For instance, Miller (1992) proposed three categories of uncertainty that firms encounter in international business: general environmental factors, industry-specific factors, and firm-specific factors. Similarly, in their study on international plant locations, Henisz and Delios (2001) differentiated the uncertainty stemming from organizational unfamiliarity with a country from the uncertainty stemming from the characteristics of the policymaking apparatus of the country. In a more recent study, Beckman, Haunschild, and Phillips (2004) demonstrated that firms react to firm-specific and market uncertainty with varying partner-selection behaviors. Research on international market entry modes has also demonstrated that distinguishing between venture- and market-level uncertainty is beneficial (Brouthers, Brouthers, & Werner, 2008). In our study, we follow this line of reasoning and draw a distinction between two levels of uncertainty encountered when firms engage in foreign ventures: venture-level uncertainty and country-level uncertainty. In this study, venture-level uncertainty centers on

specific ventures (investment targets) and is therefore substantially influenced by the activities of the focal venture. Uncertainty at the country level relates to the institutional environments with which organizations interact and by which they are affected.

In VC investments, the key venture-level uncertainty concerns the target venture's prospects (Sahlman, 1990). This uncertainty is greater the earlier the venture's investment stage is (Matusik & Fitza, 2012). In other words, the less mature the venture is at the time of the investment, the more difficult it is to assess the future payoffs from the investment (Sorenson & Stuart, 2001). VC firms that face venture-level uncertainty frequently reach out to other VC firms to obtain external information to mitigate the uncertainty stemming from their lack of knowledge (Brander, Amit, & Antweiler, 2002; Lerner, 1994). In the VC context, uncertainty about a venture's prospects has been identified as a primary driver of partnering—the earlier the venture's stage of development, and, therefore, the more uncertain the prospects of the venture, the more likely VCs are to seek second opinions and complementary knowledge from other VCs by syndicating the investment (Bygrave, 1987; Dimov & Milanov, 2010). Managing venture-level uncertainty in foreign countries requires access to local information networks in the country in which the venture is situated (Wright, Lockett, & Pruthi, 2002), which makes local VC firms preferred partners due to their direct access to such networks (Mäkelä & Maula, 2008).

Thus, whereas the inherent uncertainty of a venture increases the propensity of firms to partner in general, the need of foreign firms to access local information networks to evaluate ventures without formal track records creates a unique need for foreign firms to partner with local firms (Dai et al., 2012). Therefore, we hypothesize:

*Hypothesis 1. Venture-level uncertainty is positively related to VC firms' propensity to partner with local VC firm(s) rather than to invest alone or with other foreign VC firm(s) when investing in a foreign venture.*

In addition to venture-level uncertainty, in which the characteristics of target ventures play a central role, uncertainty related to the host country also affects firms' decisions to partner in general and to form partnerships with local firms in particular in a foreign country (Morschett, Schramm-Klein, & Swoboda, 2010). Prior international business research has linked host-country uncertainty to an increased likelihood of engaging in cooperative market entry modes rather than entering a foreign country by means of wholly owned subsidiaries, and has argued in favor of the greater flexibility of collaborative modes under country-level uncertainty (Anderson & Gatignon, 1986; Erramilli & Rao, 1993; Gatignon & Anderson, 1988). Although risk sharing and flexibility are important theoretical mechanisms for explaining this entry mode preference in the transaction cost economics-based research on market entry mode choices, other streams of literature have emphasized knowledge-based arguments in managing country-level uncertainty through market entry mode and partnering choices (Delios & Henisz, 2003; Kogut, 1988). For foreign firms facing country-level uncertainty in international markets, the acquisition of knowledge and information about the local institutional environment (Meyer, Estrin, Bhaumik, & Peng, 2009a; Meyer et al., 2009b; Petersen et al., 2008)—including information about rules and regulations, business practices, reliable information sources, and contacts—is of significant importance.

Country-level uncertainty resulting from weak institutions also increases the role of informal networks (Batjargal, Hitt, Tsui, Arregle, Webb, & Miller, 2013) and increases the need for institutional learning through partnering (Makino & Delios, 1996; Xu & Hitt, 2012). The organizational learning perspective implies that information and knowledge transfers between partners will assist foreign firms in learning and neutralizing the negative effects of country-level uncertainty resulting from the host country's institutional environment (Delios & Henisz, 2003; Makino & Delios, 1996). Compared with other foreign firms, local firms are better sources of such local information (Dai et al., 2012; Mäkelä & Maula, 2008; Makino & Delios, 1996; Wright et al.,

2002). In the context of international VC, the following quote from Kevin Fong (then the Mayfield Fund's managing director) illustrates the benefits of a local partner: "Partnering with GSR gives us an on-the-ground presence in China through a team with deep China experience and a shared investment philosophy" (Business Wire, 2005).

However, while prior organizational learning-based entry mode research generally recognizes the role of uncertainty, including its country-level form, in increasing the need for partnerships with local firms in foreign ventures, it frequently ignores the potential negative effects of country-level uncertainty on the feasibility of partnering with local firms. Dependable local partners are not always easy to locate in foreign countries, especially when country-level uncertainty is high. Recent studies on partnering have started to pay more attention to this flip side of partnering: it is not always feasible when it is most needed (Dimov & Milanov, 2010; Sorenson & Stuart, 2008). In the context of domestic VC investments, Dimov and Milanov (2010) noted that, when partnering in investments, VC firms not only face uncertainty concerning the venture itself ("egocentric uncertainty") but also about the partner ("altercentric uncertainty"). While egocentric uncertainty increases the need for partnership, altercentric uncertainty about a potential partner's trustworthiness constrains new partnerships (generally favoring existing prior partners; e.g., Meuleman & Wright, 2011; Sorenson & Stuart, 2008). We argue that country-level uncertainty exacerbates this problem. In particular, when country-level uncertainty is high because of weak regulatory institutions and the subsequent weak enforcement of contracts, the feasibility of partnering is significantly reduced.

Prior research on cross-border VC has highlighted the importance of legal settings on foreign VCs' investment decisions (Dai et al., 2012; Guler & Guillén, 2010b). For instance, Lerner and Schoar (2005) found that, in countries with weak legal enforcement, contracting does not function in private equity investments, and majority ownership is therefore often required for sufficient

control. Moreover, Cumming et al. (2010) found, in a large sample of primarily domestic VC investments in 39 countries, that the frequency of VC syndication was positively related to the quality of regulation. In the context of cross-border VC investments, higher country-level uncertainty stemming from the weak enforcement of contracts and low levels of investor protection increases the risks in collaborating with local partners and makes it less feasible. In sum, we argue that, while high country-level uncertainty increases the need for partnering with local firms to acquire knowledge and information in a focal foreign country, it often makes partnering with local VC firms unfeasible and therefore less likely:

*Hypothesis 2. Country-level uncertainty is negatively related to VC firms' propensity to partner with local VC firm(s) rather than invest alone or with other foreign VC firm(s) when investing in a foreign venture.*

### **Experiential Venture- and Country-Level Learning and the Decision to Partner with Local Firms in a Foreign Country**

During the process of entering a new country, firms may realize that there is a considerable gap between the knowledge they possess and that required to operate successfully (Petersen et al., 2008). Overcoming such knowledge gaps is viewed as fostering organizational learning (Levitt & March, 1988). Levitt and March (1988) defined organizational learning as learning from organizations' direct experiences and from the experiences of others. Partnering with local firms to overcome uncertainty in foreign ventures, as discussed in the previous section, provides an example of the latter. Firms use the knowledge and information they have acquired from their partners to reduce the negative influence of uncertainty.

However, firms can also learn directly from their own experience, which reduces their dependence on the experiences of others (De Clercq & Dimov, 2008). Thus, with more experience, there will be less partnering. In VC, a central area of expertise is the management of venture-level

uncertainty, or the accumulation of experience over time in coping with the differences, fluctuations, and potential conflicts in investing in and managing uncertainty in ventures. Prior research has shown that VCs tend to manage uncertainty through specialization, such as in early-stage ventures (Gupta & Sapienza, 1992; Matusik & Fitza, 2012; Norton & Tenenbaum, 1993). Given that venture-level uncertainty primarily originates from firm immaturity (Sahlman, 1990), which makes the prediction of prospects difficult, we argue that past experience managing highly uncertain ventures in their early stages will best help firms acquire the information and resources that are necessary to reduce these knowledge gaps.

When such experience is accumulated in foreign countries, it not only reduces the importance of partnering with others in foreign ventures in general, but also reduces the relative importance of local VC firms as partners relative to other foreign VC firms. For a foreign VC firm, the direct benefits of partnering with local firms include reducing information asymmetry and improving the effectiveness of the monitoring of local ventures (Dai et al., 2012). Accumulating more experience in managing immature ventures abroad, VC firms can develop long-standing repertoires for managing these types of firms in foreign countries; that is, knowledge about coping with similar problems when investing in younger foreign ventures can be generalizable. Consequently, the VC firms will be less eager to seek managerial and operational knowledge from external sources and from local VC firms in particular. Furthermore, as VC firms amass international experience in managing early-stage ventures, there is less need for them to affiliate themselves with local partners to strengthen their legitimacy in foreign countries. In syndicated investments, the value-adding benefits of experience are shared with participating VCs, which makes syndication less beneficial for more experienced VCs (Casamatta & Haritchabalet, 2007). When partnering with local VCs, the value-adding benefits from experience in managing venture uncertainty in foreign ventures would be shared with local VCs who are often less experienced (Dai et al., 2012). Controlling for other

factors influencing syndication, these learning-related arguments suggest that the more experience a focal VC firm has in managing uncertain ventures, the less it benefits from partnering with local partners. Thus:

*Hypothesis 3. International experience in managing venture-level uncertainty in foreign ventures is negatively related to VC firms' propensity to partner with local VC firm(s) rather than invest alone or with other foreign VC firm(s) when investing in a foreign venture.*

In addition to experiential learning in managing venture-level uncertainty, experience in managing country-level uncertainty also affects partnering choices in foreign ventures (Erramilli, 1991; Guillén, 2003). In the first market entry into a foreign country, experience in the particular host country is, by definition, missing. Therefore, international experience in other foreign countries can be a highly important driver of the foreign market entry mode choice.

International business research examining international interorganizational partnerships such as joint ventures primarily as a market entry strategy has found that, as a firm continues to internationalize, its propensity to use collaborative forms of market entry decreases as alternative forms become available (Brouthers et al., 2008; Yeniyurt et al., 2009). In particular, with increasing experience operating in foreign markets, full ownership becomes a more common mode of market entry (Gatignon & Anderson, 1988). Recently, scholars have started to consider the relevance of different types of experience in more detail (Perkins, 2014) and to distinguish between location-bound and non-location-bound (i.e., country-specific versus general) benefits from different types of international experience (Clarke et al., 2013). For instance, Yeniyurt et al. (2009) found that prior experience from alliances with culturally distant partners influenced future partnering with culturally distant partners—a distinct effect from overall international experience. Arguing for the importance of regulatory institutions in offshoring location choice (Jandhyala, 2013), multinational corporation subsidiary ownership structure (Powell & Rhee, 2013), and multinational corporation



subsidiary performance in the telecommunications industry (Perkins, 2014), previous studies have developed measures of relevant international experience based on the regulatory institutions in the host countries of prior operations.

Given the importance of regulatory institutions in VCs as well, including in domestic VC syndication (Cumming et al., 2010) and foreign private equity investments (Lerner & Schoar, 2005), we argue that experiential learning from foreign VC investments in contexts with a limited rule of law (and, thereby, weaker contractual enforcement) should increase a VC firm's capability and confidence in identifying foreign investment targets and in managing the investments with less help and local knowledge from local partners—hence, decreasing partnering with local firms. In other words, because the key benefit of partnering with local firms (instead of only with other foreign firms) in foreign ventures stems from the learning benefits related to the local partners' domestic knowledge, a focal firm's own international experience reduces this relative strength of local VC firms over other foreign VC firms. Thus, we hypothesize:

*Hypothesis 4. International experience in managing country-level uncertainty in foreign ventures is negatively related to VC firms' propensity to partner with local VC firm(s) rather than invest alone or with other foreign VC firm(s) when investing in a foreign venture.*

From the learning perspective, prior experience in the host country should also influence the need for partnering with local firms for subsequent entries into that country. Although interactive learning through partnering in the initial stages of market entry provides foreign firms with the opportunity to gain knowledge about the peculiarities of local ventures and the domestic market from resident firms (Makino & Delios, 1996; Xu & Hitt, 2012), such interfirm relationships are likely to be more useful during the initial stages of market entry, when foreign firms are unfamiliar with the specific market. Guillén (2003) found that firms escalate their commitments in a given foreign country over time, and shift from joint ventures to full ownership as they gain experience in

the country. Indeed, as the effects of collaboration-based knowledge creation and knowledge transfer accumulate, interfirm relationships become simply an alternative for foreign firms; that is, firms can choose to operate alone in a foreign country or form interfirm relationships. While prior research considering the effects of host-country experience on partnering has generally recognized the decreased need for partnering with accumulating experience of operating in a particular foreign country (Makino & Delios, 1996; Powell & Rhee, 2013), less attention has been paid to the effects of this experience on the feasibility of partnering with local firms. This omission might be one of the reasons for the mixed findings on the effects of host-country experience in prior market entry mode research. We argue that, in addition to the need, the feasibility of partnering with local firms should be considered. Concerning this, host-country experience is likely to have very different effects on partnering compared with other types of international experience (Clarke et al., 2013). During an initial market entry without prior experience in a new country, trusted local partners might be impossible to identify. However, experience in the focal host country reduces these challenges. Drawing these ideas together, we argue that international experience in a particular host country increases embeddedness in local networks (Taussig & Delios, 2014), improves the legitimacy of the focal VC among potential local partners, and results in a larger pool of trustworthy potential partners over time—and all increase the feasibility of partnering with local VC firms. Thus:

*Hypothesis 5. International experience in the host country is positively related to VC firms' propensity to partner with local VC firm(s) rather than invest alone or with other foreign VC firm(s) when investing in a foreign venture.*

## **METHODS**

### **Research Context**

For several reasons, the global VC industry is an attractive context within which to study the

effects of different types of uncertainty and experience on partnering choices in foreign ventures. First, VC firms syndicate frequently, and syndication has been identified as an important aspect of VC investing that helps VCs gain informative second opinions and utilize complementary skills (Bygrave, 1987; Dimov & Milanov, 2010; Lerner, 1994; Wright & Lockett, 2003). Second, high uncertainty is a key aspect of VC investments (Matusik & Fitza, 2012; Sahlman, 1990). Typically, a VC investment takes years before an exit can be achieved. Thus, VCs face significant uncertainty about the cost of completion and potential success of a venture in which they invest because it is not always clear how much time and effort will ultimately be required or whether the investment will be recouped. In cross-border VC investments, this uncertainty is heightened because the knowledge required for a firm to operate in a foreign environment is different from that accumulated in the home country (Mäkelä & Maula, 2008). Third, cross-border VC investments are relatively unconstrained by geographic boundaries or economic development-level inequality (Dai et al., 2012; Guler & Guillén, 2010a, 2010b; Nahata et al., 2014). Our global sample includes cross-border VC investments within the developed world as well as between developed and emerging economies. The variances in country-level uncertainty in addition to venture-level uncertainty allow us to compare the effects of the two levels and the related levels of international experience on partnering.

### **Data and Sample**

To test the effects of uncertainty and experience on VC firms' partnering decisions in foreign ventures, we used the investment by a focal VC in a venture (i.e., the VC firm–venture dyad) as the unit of analysis. Our main source of data was Thomson Reuters' VentureXpert, the most comprehensive database of global VC investments, and one that has been used extensively in VC syndication research (Hochberg, Ljungqvist, & Lu, 2007; Ozmel, Reuer, & Gulati, 2013; Petkova, Wadhwa, Yao, & Jain, 2014) and in cross-border VC research in both developed and emerging

markets (Dai et al., 2012; Guler & Guillén, 2010a; Mäkelä & Maula, 2006; Nahata et al., 2014).

We tested our hypotheses using the longitudinal data of VC firms that invested globally (including in their home countries) from 1984 to 2011. We constructed the sample by retrieving, from the VentureXpert database, all domestic and international investments that were made globally between 1984 and 2011. We chose 1984 as the study period's start year because the VentureXpert database was known to be less reliable and complete prior to that year, and cross-border VC activity was less prevalent until recently (Dai et al., 2012). Due to our focus on VC firm–venture dyads, we excluded observations in which the VC firm's nation, VC firm's name, venture's nation, or venture's name was not disclosed. Furthermore, we limited our sample to VC firms that were classified in VentureXpert as private equity firms (i.e., independent VC firms), thus excluding bank affiliates, corporate affiliates, government affiliates, and unspecified investors. We also limited our sample to ventures the company stages of which VentureXpert classified as “Startup/Seed,” “Early Stage,” “Expansion,” or “Later Stage,” which excluded ventures at the “Buyout/Acquisition,” “Real Estate,” or “Other” stages.

To avoid survivorship bias and to exclude the possibility of local investors' prior investments in the venture, we selected firm–venture pairs only for the first round (i.e., the first investment round received by the focal venture from any VC). This choice also helped us test our learning-based arguments, because the learning motivation is emphasized in these initial financing decisions compared with subsequent investment rounds (Dimov & Milanov, 2010; Lerner, 1994). To avoid selection bias, we included in our sample not only foreign transactions but also local investment rounds made by VC firms in their home countries. We only considered a case foreign if the focal VC firm was investing in a non-home country, and considered it syndicated if at least two VC firms had invested in the venture together in the first round. The final data set for 1984 to 2011 with complete data for the variables used in the analyses consisted of 30,395 first-round investments

(i.e., VC firm–venture dyads), including 2,673 VC firms and 20,885 ventures. This full sample is tested in Model 1, and subsamples excluding domestic transactions are tested in Models 2–4 (see the Results section, below).

### **Dependent Variable: Whether to Partner (or Not) with a Local VC Firm**

A firm’s decision about whether to partner or not to partner with local firms in a foreign country is multilayered, and can be broken down into three levels: first, a firm decides whether it will internationalize (i.e., whether it will enter a foreign country); second, it decides whether to partner or internationalize on its own; and third, it must decide with whom to partner (i.e., with a local firm or another foreign firm). Acknowledging that these decisions are interrelated, we contend that the logic of temporal sequence among them may not be as clear as first appears. Firms might decide not to invest in a foreign country if they fail to find appropriate partners, and may invest in their home countries instead (Dai et al., 2012; Guler & Guillén, 2010b; Mäkelä & Maula, 2008). In this way, a firm’s decisions not to internationalize and not to partner might be concurrent.

Thus, to test our hypotheses, we classified the VC investments in our full sample into four categories, using the dependent variable to separate firms’ decisions into one of the following classifications: investing in a venture in the home country (0), investing in a venture in foreign country alone (1), investing in a foreign venture with other foreign VC firm(s) (2), or investing in a foreign venture with at least one local VC firm (3). This nominal taxonomy ensured that we would be able to analyze the partnering choices in foreign ventures by modeling the multilayered decision as sequential using a sequential logit model, and, alternatively, as unordered using a multinomial logit model. Given our dyadic unit of analysis (VC investment in a venture), the same venture could be observed more than once if more than one focal VC invested in the same venture.

### **Independent Variables**

The explanatory variables in this study measured venture- and country-level uncertainty in

addition to the corresponding categories of experience.

*Venture-level uncertainty.* While uncertainty is generally understood as stemming from incomplete knowledge and the consequent difficulty of predicting the future (Milliken, 1987), in the context of the VC industry, uncertainty at the venture level is manifested as VC firms' challenges in accurately estimating the investment returns from investing in the ventures (Sahlman, 1990). In other words, for each investment, there is uncertainty regarding the future payoff from the investment (Sahlman, 1990; Sorenson & Stuart, 2001). This venture-level uncertainty decreases as a portfolio company develops from an early-stage venture with limited commercial operations to a late-stage venture with significant revenue (Dushnitsky & Shapira, 2010; Sahlman, 1990; Sorenson & Stuart, 2001). In line with existing VC literature that uses VentureXpert data to measure venture uncertainty (Dushnitsky & Shapira, 2010; Gompers, 1995; Matusik & Fitza, 2012; Podolny, 2001; Sorenson & Stuart, 2001), we applied the VentureXpert classification of the maturity of the venture at the time of the focal investment. Following Dushnitsky and Shapira (2010), we set the value of our venture-level uncertainty variable to 4 for "Startup/Seed" investments, in which the target venture is usually still at the R&D stage without established commercial operations; 3 for "Early Stage" investments, in which the target venture is still developing the product or has just launched it; 2 for "Expansion"-stage investments, in which the target venture is already shipping products and generating revenue; and 1 for "Later Stage" investments, in which the target venture already has significant sales volume and may already be profitable. We discuss the robustness of this choice in the robustness analysis section, below.

*Country-level uncertainty.* For this variable, we focused on the characteristics of the host country that are most important for the particular decision, which follows the logic of Brouthers (2013). In the empirical context of cross-border VC, prior research has highlighted the importance of legal institutions in host countries and their influence on foreign VCs' investment decisions (Dai

et al., 2012; Guler & Guillén, 2010b; Nahata et al., 2014). Recent studies on the influence of the law on VC governance and exits have also found that effective legal institutions mitigate the agency problem between outside shareholders and entrepreneurs as a central mechanism (Cumming, Fleming, & Schwienbacher, 2006; Cumming et al., 2010). As a dynamic country-level measure that was available on an annual basis for the full 1984–2011 study period for all of our focal countries, we operationalized country-level uncertainty using a reverse scale from the *International Country Risk Guide*'s law and order index (Jandhyala, 2013). This index has been used extensively in international studies to measure governance and institutional quality (e.g., Holcombe & Rodet, 2012; Jandhyala, 2013; Knack & Keefer, 1995). It not only assesses the strength and impartiality of a legal system but also the popular observance of the law on an annual basis. We reverse-coded the index to represent the country-level uncertainty intuitively. The measure ranged from 0 to 6, with higher values indicating greater country-level uncertainty. To ensure robustness, we tested several alternative measures, as reported in the robustness analysis section.

*International experience in managing venture-level uncertainty.* This dimension of a VC firm's international experience reflects the knowledge stock that the firm has accumulated by investing in early-stage ventures in non-domestic countries. We defined early-stage ventures as ventures that were recorded in the VentureXpert database as "Startup/Seed" or "Early Stage" ventures at the time of the transaction. A venture at the former stage is a portfolio company that has not yet fully established commercial operations and may involve continued research and product development, while a venture at the latter is a portfolio company that has started to focus on product development, initial marketing, and manufacturing and sales activities. We measured the VC firms' early-stage experience as the cumulative number of early-stage ventures that each VC firm had invested in abroad prior to the year in which the focal investment was made. The significance of prior experience decreases over time as a result of organizational forgetting, and older experience is

expected to be less influential than recent experience. Therefore, we considered the impact of time on all experience-related measures (Meschi & Métais, 2013). Following Blundell, Griffith, and Van Reenen (1995) and Dushnitsky and Lenox (2005), we decreased the weight of experience depending on its recency using an annual depreciation rate of 30%.

*International experience in managing country-level uncertainty.* This dimension of a VC firm's international experience reflects the knowledge stock that it has accumulated by investing in foreign countries with high country-level uncertainty. We considered country-level uncertainty to be high in countries with a value on the reverse law and order index over 1, which is in the top 75th percentile of all host countries in our sample. We measured experience in managing high country-level uncertainty as the cumulative number of ventures located in foreign countries with high country-level uncertainty that each VC firm had invested in prior to the year when the focal investment was made. Again, an annual depreciation rate of 30% was employed to capture the decreasing effect of experience over time for country-level learning.

*International experience in the host country.* This variable reflects firms' knowledge of and experience with prior ventures in the focal host country (Barkema & Vermeulen, 1998; Kogut & Singh, 1988; Perkins, 2014). We measured host country-specific experience as the total number of previous ventures in which a foreign VC firm invested in a host country up to the year of the focal transaction. As with the other experience variables, an annual 30% depreciation rate was applied to account for decay in the effect of the experience over time. Finally, a natural logarithm was used for all three experience measures.

## **Control Variables**

We included a number of control variables in the models to address the characteristics of VC investments, ventures, VC firms, and countries that might be related to syndication or to the above-detailed variables of theoretical interest. First, to disentangle the information-sharing mechanism



from the risk-mitigation logic in partnering in foreign ventures, we controlled for *investment round size* and *VC total capital under management*. Without a reason, VCs might not want to share the deal. Prior research has suggested that a greater need for financing increases the likelihood of VC syndication (Brander et al., 2002)—*investment round size* controls for that likelihood and is operationalized as a natural logarithm of the total amount invested in a venture in the first investment round based on VentureXpert data. At the VC firm level, we controlled for *VC total capital under management* to capture the size of the VC firm and its investment capital. Larger VC firms usually have access to a greater pool of resources, and thus have the ability and need to deploy more capital per investment. For that reason, they might be less inclined to syndicate their transactions (Brander et al., 2002). We took the logarithm of this measure because it is highly skewed. Together with the experience variables, this control variable also helped to reduce potential endogeneity issues related to omitted variables because prior VC research has shown that capital under management and experience are related to the investment stage, which we use in our operationalization of venture-level uncertainty.

We also controlled for *venture high-tech focus* because uncertainty is likely to be higher when a desired innovation requires substantial advances beyond current technologies (Hoetker, 2005). Research on VC syndication suggests that VC firms tend to syndicate their transactions more frequently when they invest in high-tech ventures (Bygrave, 1987). We used a binary measure and assigned a value of 1 for high tech-focused ventures operating in either the information technology or medical/health/life sciences sectors and 0 for non-high tech ventures.

To control for potential effects of the status of the focal VC firms in their syndication networks on their internationalization and partnering opportunities and behavior (Guler & Guillén, 2010a; Milanov & Shepherd, 2013), we followed Podolny (1993, 2001, 2005) in using Bonacich's (1987) centrality measure  $c_i(\alpha, \beta)$ , which is defined as:

$$c_i(\alpha, \beta) = \sum_j (\alpha + \beta c_j) R_{ij}$$

where  $R_{ij}$  is an element of the relational matrix  $R$ , and each element of  $R$  is the number of ventures in which the firms  $i$  and  $j$  invested together during the preceding five-year period before the focal year;  $\alpha$  is an artificial scaling coefficient that does not influence the normalized centrality scores we use; and  $\beta$  is the degree to which the centrality of  $i$  is a function of the centralities of other firms. We followed earlier studies and set  $\beta$  as three-quarters of the reciprocal of the largest eigenvalue of  $R$  (Podolny, 1993; Sorenson & Stuart, 2001). The centrality measures were normalized for each year to range between 1 and 0 to create an annual measure of status order for the VC firms in our sample (Milanov & Shepherd, 2013; Podolny, 2001).

Several control variables were also included to account for heterogeneity at the country level. First, we included the *number of active local VC firms in the same country* in all models to control for the availability of potential local partners in host countries (Guler & Guillén, 2010a). We considered local VC firms active and potential partners if they had syndicated at least once with a foreign VC firm during the same year, because many local VC firms operate solely with other local VCs or might have become inactive and thus unavailable as potential partners for foreign VC firms seeking a local partner. Given the distinction made between partnering with either local or foreign VC firms in this study, we also calculated the *number of active foreign firms in the same country* to account for the availability of potential foreign partners. As an additional robustness test, we also counted active local VCs without the syndication criteria, and obtained consistent results.

Second, distance has been found to be an important dimension of interfirm collaborations, because growing distance implies increased uncertainty (Berry, Guillén, & Zhou, 2010). Therefore, we controlled for the *geographic distance* between the foreign VC firm's home country and the host country. We measured the distance by calculating the natural log of the kilometers (great-circle

distance) between the host and home countries (Berry et al., 2010). The data on the coordinates of the geographic centers for all countries were retrieved from the *CIA World Factbook*.

*Cultural distance* is another widely acknowledged dimension of distance that affects international interfirm relationships. Cultural distance reflects the national differences in attitudes toward authority, trust, individuality, and the importance of work and family (Tihanyi, Griffith, & Russell, 2005). Although there are debates in international business research concerning the proper measurement of cultural distance, due to the severe limitations of the available measures (Shenkar, 2001, 2012; Tung & Verbeke, 2010), a number of frequently used operationalizations have been shown to be highly correlated. Hofstede's four dimensions of culture (2001) has been the standard tool for measuring cultural differences in many business disciplines (Chakrabarti, Gupta-Mukherjee, & Jayaraman, 2008). However, the data used to determine this measure are relatively old and limited (Hofstede, 2001), particularly considering that our sample includes recent data. Therefore, we followed Kogut and Singh (1988) in measuring cultural distance and chose to use more current data from the GLOBE project (House, Hanges, Javidan, Dorfman, & Gupta, 2004). We used the practice scores of the nine dimensions of culture to assess the degree of cultural distance between countries (Reus & Lamont, 2009).<sup>3</sup> In Model 1, both geographic and cultural distance measures are omitted because a value of zero would perfectly predict firms' decisions to invest in their home countries.

Third, to control for the uncertainty that derives from fluctuations in the economy, we controlled for the *GDP annual growth rate*. Foreign firms may tend to enjoy higher investment returns during an economic boom in the host country by investing alone. Conversely, a downturn in an economy may drive local investors to seek additional financial resources from foreign partners.

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<sup>3</sup> We also estimated the models using a measure based on the Hofstede data and obtained qualitatively similar results.

The data on this measure were retrieved from the World Bank.

### **Analytical Methods**

The categorical nature of our dependent variable—through which firms’ international partnering decisions are grouped into four categories—suggests the use of unordered-choice models, such as a multinomial logit model, which considers a choice to be a single decision among alternatives (Greene, 2011). However, such a model assumes that adding or deleting alternative choices does not affect the odds for the remaining alternatives, which is known as the assumption of the independence of irrelevant alternatives (IIA) (Greene, 2011; Long & Freese, 2006). Using a generalized Hausman test, we tested whether the IIA assumption held in our full sample. The test results indicated that the IIA assumption was violated in the full sample, suggesting that the multinomial logit model would be inappropriate given its assumption that the four choices were made independently of one another in the study’s full sample (i.e., including domestic deals).

Therefore, in our main analyses, we employed a sequential logit model (Maddala, 1983; Tutz, 1991), which estimates the effect of explanatory variables on decisions by passing through a sequence of stages; each outcome level can be reached through one, and only one, sequence of transitions (Van Ophem & Schram, 1997). In our context, this model assumes that VC firms’ market entry and partnering decisions in foreign countries are not made simultaneously but that the subchoices are based on previous choices. Firms decide first whether to invest in a foreign country or in their home country. When they have decided to invest in a foreign country, they then decide whether to partner or to invest alone. When they have decided to partner, they decide whether to partner with local firms or only with other foreign firms. In addition to the IIA test conducted on the full sample, we further tested whether the IIA assumption would hold in the subsample that excluded domestic transactions. The results showed that the IIA was not rejected within the subset, which suggested that a firm’s partnering decisions in foreign countries (whether to invest alone,

whether to partner with a local firm, or whether to partner only with other foreign firms) were made independently and could have been made simultaneously, whereas a firm's market entry and partnering decisions were interrelated and appeared to be multilayered. Hence, in the subsample of foreign investments, in addition to a sequential logit model that assumes a sequential decision tree, we also used a multinomial logit model that estimates binary logit models for all comparisons among the alternative decisions and assumes the simultaneity of the three subdecisions (Long & Freese, 2006; McFadden, 1974) as a robustness test (and to further disentangle the underlying logic of firms' partnering decisions). A comparison of the model fits using the Akaike and the Bayesian information criterion indices for the models estimated on the subsample suggested that the two models have close Akaike and Bayesian information criterion values, indicating that both are suitable in fitting the subsample data.

Because our sample included instances of the same VC firm investing in multiple ventures and one venture possibly receiving investments from multiple VC firms, the observations may not have been fully independent. In the absence of two-way clustering of standard errors for sequential logistic and multinomial logistic regression, and because the observations in our sample were more clustered toward the firm level, we computed robust standard errors clustered at the firm level.

## **RESULTS**

Table 1 reports the descriptive statistics and correlations for all of the independent variables and control variables used in our main analysis. The correlations were generally low and the variance inflation factor values (ranging between 1.09 and 3.89) were well below 10 (a common rule of thumb to identify potential multicollinearity problems), which, together, suggest that multicollinearity should not pose a problem in our analyses.

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 Insert Table 1 about here  
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Table 2 presents the results of the regression models that we estimated to test the hypotheses explaining VC firms' propensity to partner with local firms over other foreign firms or to invest alone. Models 1 and 2 are the main models, and they present the sequential logit regression results separately by testing a three-stage decision process on the full sample in Model 1 and a two-stage decision process on the subsample in Model 2. Model 3 presents the multinomial logit regression results, which estimate the three partnering decisions simultaneously, where the "investing alone" category is the baseline of the econometric estimates. A Wald test was performed to test the differences in the coefficients by comparing the outcome of "partnering with other foreign VC firms" with that of "partnering with local VC firms" in Model 3. By focusing on a subset of cross-border investments in Models 2–4, we were able to include the two distance variables in the analysis and assess the relative effects of the venture- and country-level antecedents of firms' partnering decisions in foreign countries. Model 4 presents the second-stage results of our robustness test using a two-stage model (Leung & Yu, 1996; Manning, Duan, & Rogers, 1987; Puhani, 2000), which consists of a separate probit model for sample inclusion (made a foreign investment) followed by a multinomial logit regression that explains the partnering decision.

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 Insert Table 2 about here  
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Hypothesis 1 posited that uncertainty increases the probability of partnering with local firms, in comparison with other partnering choices. In support of Hypothesis 1, the effect of venture-level uncertainty is statistically significant and positive in Model 1 in both the second stage ( $\beta = .28, p < .001$ ) and the third stage ( $\beta = .25, p < .001$ ), indicating that, while partnering is in general preferred to investing alone, partnering with local firms is preferred to partnering only with other foreign firms. This result is further validated with the subsample of cross-border transactions in Model 2 ( $\beta = .27, p < .001$  in the first stage and  $\beta = .25, p < .001$  in the second stage). Thus, the higher the

venture-level uncertainty is, the more likely that VC firms investing in a venture abroad will prefer to syndicate, and to do so with local firms rather than only with other foreign VC firms.

Hypothesis 2 proposed that country-level uncertainty is related to a lower likelihood of partnering with local VC firms, as opposed to investing alone or with other foreign VC firms. The effect of country-level uncertainty is shown to be statistically significant and negative in both the second ( $\beta = -0.11, p < .10$ ) and third stages ( $\beta = -0.27, p < .001$ ) in Model 1. The results from Models 2 and 3 regarding the effect of country-level uncertainty further validate our findings. Therefore, the results support Hypothesis 2, which suggests that, with greater country-level uncertainty, foreign firms are less likely to partner in general, and less likely to partner with local firms in particular. In other words, foreign firms tend to distance themselves from potential local partnerships in such a context.

Hypothesis 3 suggested that a firm's likelihood of partnering with local VC firms, instead of with other foreign firms or investing alone, is negatively influenced by the accumulation of firms' learning from managing venture-level uncertainty. Supporting Hypothesis 3, the effect of experiential venture-level learning on partnering with local firms instead of only with other foreign VC firms is negative and weakly significant, as shown in the third stage in Model 1 ( $\beta = -0.17, p < .10$ , two-tailed test). The result is similar in Model 2. In other words, as foreign firms' international experience from managing high-uncertainty ventures increases, their preference to partner with local firms is lower than their preference to partner only with other foreign firms. When contrasted with investing alone in Model 3, the coefficient for "partnering with local VC firms" is negative and weakly significant ( $\beta = -0.19, p < .10$ , two-tailed test), which suggests that "investing alone" is preferred to "partnering with local VC firms." The test comparing the coefficients of partnering with local VC firms and with other foreign firms only is significant at the 5% level in Model 3 and at the 10% level in Model 4 (two-tailed tests), in the direction predicted in Hypothesis 3.

Hypothesis 4 predicted that firms' preferences for partnering with local firms will decrease as a VC firm's experiential learning from managing ventures in foreign countries with high uncertainty accumulates. Our results show that experience in managing country-level uncertainty is in fact negatively related to partnering with local firms as opposed to investing alone ( $\beta = -0.32, p < .001$  in Model 3), but not significantly more than is partnering with other foreign firms. The tests of the difference in partnering with local firms versus only other foreign firms are insignificant both in the sequential logit models (Models 1 and 2) and in the multinomial logit models (Models 3 and 4).

Hypothesis 5 advanced that partnering with local VC firms will increase as a VC firm's experiential learning from managing ventures in the same host country accumulates. Supporting Hypothesis 5, the coefficients of international experience in the host country are both statistically significant and positive ( $\beta = .16, p < .05$  in second stage in Model 1 and  $\beta = .61, p < .001$  in third stage in Model 1), and similar results are found in Model 2. By further exploring the host country-specific experiential learning effect on firms' partnering decisions in Models 3 and 4, we find that, while the effect on partnering with local VC firms is positive and highly significant, its effect on partnering with other foreign VC firms is negative, resulting in a significant difference in these two choices. In other words, as foreign VC firms' host country-specific experience increases, they tend to reduce their partnering with other foreign VC firms and increase their partnering with local VC firms. These patterns are robust to various operationalizations of the variables and to other robustness tests, as discussed below in more detail.

The results concerning the control variables are also shown in Table 2. At the venture level, as predicted, foreign firms tend to partner rather than to invest alone in larger investment rounds and high-tech ventures. At the VC firm level, firm size is negatively related to partnering, which indicates that smaller VC firms are likely to share their deals due to a lack of financial resources. A VC firm's status increased the likelihood of partnering both with local and with other foreign VCs,



but less with local firms than with other foreign firms. At the country level, the availability of active local partners in a specific foreign country explains firms' propensity to partner in general and to partner with local firms in particular. Cultural distance is negatively related to partnering in general, which validates previous findings regarding the discouraging role of cultural distance in forming partnerships (Dai et al., 2012). A foreign market's annual GDP growth predicts firms' foreign expansion into that specific country and a decrease in firms' propensity to partner in that country.

### **Robustness Tests**

We sought to investigate the robustness of our results in various ways. First, as an alternative approach to the sequential logit model and to directly address the potential self-selection of cross-border investments (assuming a sequential decision-making process in which firms first decide to invest abroad and then choose whether to partner when investing and whether to partner with local or only foreign partners), we adopted Heckman's two-stage approach as a robustness test (Leung & Yu, 1996; Manning et al., 1987; Puhani, 2000), which includes a separate probit model for sample inclusion followed by a multinomial logit regression. In the first stage, we constructed panel data consisting of VC firm–country–year observations. We modeled a firm's likelihood of entering a specific foreign country during a given year using the annual stock market developments in the home country and the host country as the exclusion restrictions. Stock market development is relevant to market-entry decisions because it is a close proxy for the relative performance of the VC industry in the home and host markets, and firms are more likely to seek investment opportunities in foreign markets that are outperforming their home markets. We collected data on stock market development using the S&P Global Equity Indices from the World Bank; this indicator is not available for the earlier years of the sample, and so the tests use data only from the 1991–2011 period, which also explains the varying sample sizes for Models 3 and 4. The development of the host stock market predicts selection into the market at the significance level of 0.1. Although the

smaller sample size reduces the power of these tests, the results were qualitatively similar to those that we obtained in the main analysis; that is, the results of the hypotheses tests did not change. The second-stage results are presented in Table 2 as Model 4.

Second, recognizing that the sequential logit model used in Models 1 and 2 is relatively sensitive to unobserved heterogeneity (Cameron & Heckman, 1998), we conducted a sensitivity analysis following the method proposed by Buis (2011). This diagnostic test examines the consequences of unobserved variables by specifying a set of plausible scenarios of unobserved heterogeneity, estimating the firm-level effects within each scenario, and comparing them across scenarios. The results of this sensitivity analysis indicated that our findings are robust; that is, they are not sensitive to the assumptions made regarding unobserved heterogeneity.

Third, we tested alternative measures for venture- and country-level uncertainty in Models 1 and 2. The results were qualitatively similar to those from the main analysis; that is, the results of the hypothesis tests did not change. Concerning the measurement of venture-level uncertainty, we re-estimated the analyses using a venture age-based uncertainty measure expecting that the younger the venture, the higher the venture-specific uncertainty would be. In line with our main analyses, venture age was negatively related to partnering in general and to partnering with local firms in particular. Country-level uncertainty was operationalized in the main analysis using a dynamic measure of property rights protection (Jandhyala, 2013) that was available for all of the sample countries during the entire sample period of 1984–2011. We obtained consistent results in our robustness tests using three alternative measures—the legality index (Berkowitz, Pistor, & Richard, 2003; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998), a measure of the instability of the political environment (Delios & Henisz, 2003; Henisz, 2002; Henisz & Delios, 2001), and a broad measure of the strength of a country’s institutions (Batjargal et al., 2013; Holmes, Miller, Hitt, & Salmador, 2013)—which suggests that the findings we obtained for country-level uncertainty are

robust and are not substantially dependent on a particular measure of that uncertainty.

Fourth, we constructed an alternative measure of a VC firm's host-country experience by measuring such experience as a dummy variable that differentiated foreign firms with host-country experience from those that have not (yet) entered the country. A value of 1 indicated that the VC firm had entered the specific foreign country, and a value of 0 indicated otherwise. The results were consistent with those of the main analysis, which further suggests that firms with no prior experience in a foreign country are the least likely to partner with local firms.

Fifth, to investigate the effects of alternative operationalizations of country-level international experience used to test Hypothesis 4 (as opposed to country-specific international experience in Hypothesis 5), we constructed an alternative measure of a VC firm's country-level international experience by measuring how many foreign markets the focal foreign VC firm had entered prior to the focal deal. Like the country-level measure of international experience in managing country uncertainty in the main analyses, this more generic measure was found to reduce partnering with locals as opposed to investing alone, which is consistent with the arguments supporting Hypothesis 4. However, as for the primary measure, this alternative measure had a similar effect for partnering with other foreign firms, resulting in an insignificant coefficient for the difference between these effects. Using this alternative measure, all of the other hypotheses remain supported.

Finally, because a VC firm's past syndication may affect its future syndication, we added a control of the share of prior cross-border deals in which the focal VC firms have syndicated with local VC firms. We included this as a robustness test only because it is correlated with the experience variables in our models. The effect was positive and significant on both partnering in general and on partnering with local firms. The hypothesized results remained consistent.

In conclusion, the results of a number of sensitivity analyses and robustness tests indicate that our findings are consistent independent of the alternative operationalizations of country- and

venture-level uncertainty and experience measures as well as the analytical method employed.

## DISCUSSION

The goal of this study was to examine how uncertainty and experience influence the choice of collaborating with a local partner when engaging in foreign ventures in cross-border VC. Whereas learning-based arguments would generally suggest that uncertainty increases the need for partnering and experience reduces this need, unbundling and analyzing the effects of venture- versus country-level uncertainty and corresponding levels of experience revealed significantly different effects regarding the hitherto largely ignored role of uncertainty and experience on the feasibility of partnering with local firms in foreign ventures. In our analysis, we conceptualized the decision to partner with a local firm in a foreign venture as a multilayered decision about engaging in a foreign venture, partnering (if engaging), and (finally) choosing a local partner. In testing the effects of venture- and country-level uncertainty and experience on these choices using a global sample of VC investments between 1984 and 2011, we found that venture-level uncertainty increases the need for partnering with local VC firms, whereas country-level uncertainty reduces the feasibility of partnering with local firms and decreases the need for it. Similarly, whereas experience in managing venture-level uncertainty was predicted and found to reduce the need for partnering with local VC firms in foreign ventures, the effects for country-level experience were found to be different. For general international experience of managing country-level uncertainty in foreign investments, we predicted a negative effect on partnering with local firms, given the reduced need—but we did not find such an effect. Examining this result in more detail, we found that general international experience of managing country-level uncertainty reduces the need for partnering equally (and significantly) with local VC firms and with other foreign VC firms. For prior experience in the focal host country, we predicted and found a positive effect stemming from a greater feasibility of partnering with local VC firms as result of greater local knowledge, networks, and legitimacy; that

is, a reduced liability of foreignness among local VCs.

Overall, our study makes several contributions to the literature on international business and cross-border VC. First, by considering the effects of uncertainty and experience on the feasibility of partnerships, in addition to their effects on the need for local partnering, our analysis assists in the understanding of why many foreign market entries are made alone when partnering need-focused learning arguments suggest significant benefits from collaborating with local firms.

Concerning the effects of uncertainty on partnering with local firms, by unbundling the repercussions of venture- and country-level uncertainty and demonstrating their opposite effects, we extend the existing literature on firm responses to uncertainty in foreign ventures through partnering with local firms. Specifically, our finding that uncertainty at the venture level encourages partnering with local firms while country-level uncertainty has the opposite effect highlights the importance of differentiating between the origins of uncertainty to understand firm responses to such uncertainty. While learning-based arguments suggest that uncertainty increases the need for partnering with local firms, we contend that high country-level uncertainty in a foreign country also makes it more difficult and risky for foreign investors to partner with local investors, which decreases its feasibility and reduces partnering. Whereas a lack of investor protection reduces foreign firms' anticipation of fully retaining their rights in the ventures in which they have invested, more importantly, this lack of protection also prevents foreign firms from effectively enforcing cooperative agreements with local partners. The similar effects found using a broader legality index, a measure of political instability, and a broad-based measure of the strength of a country's institutions further strengthen the robustness of this finding and argument, which implies that the uncertainty inherent in the institutional settings of a focal foreign country alters the subtle balance of costs and benefits from international interfirm relationships and might pose an obstacle for foreign firms that seek to build cooperative relationships with local partners.

We also contribute to research on the role of experiential learning in decision making on interorganizational partnerships. Prior research on interorganizational relationships that builds on organizational learning theory (Gulati, 1999; Inkpen & Tsang, 2007) has suggested that the interactive learning that occurs through experiences with partners in interorganizational relationships helps firms add to their capabilities and gain knowledge of markets (Hamel, 1991; Petersen et al., 2008), which reduces their reliance on local partners in foreign countries (Hitt et al., 2000; Johanson & Vahlne, 1977; Yenyurt et al., 2009). Extending this theorizing, our study demonstrates that the *types* of experience matter. The different effects of various types of international experience have not yet been widely considered in international business research (Perkins, 2014). In a cross-border VC context, our findings indicate that, while country-level international experience leads to a reduced need for partnering and less partnering in general, host country-specific international experience simultaneously also leads to a greater local embeddedness and the availability of higher-quality local partners,<sup>4</sup> thus increasing partnering with local VC firms in the focal foreign country.

Finally, by considering firms' partnering decisions in foreign countries as multilayered in nature and modeling them accordingly, our paper also contributes methodologically to the existing entry model literature (Hennart & Slangen, 2014). Whereas prior studies have largely examined these decisions separately, ours considers the simultaneity of these decisions and empirically models them without strict assumptions of sequential decision making. Comparing models that assume either sequential or simultaneous decisions based on model fit revealed that, while the decision to invest in a foreign country can generally be distinguished from partner choices, the decisions to partner or to invest alone, or to partner with a local firm or only with other foreign firms in a foreign

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<sup>4</sup> In a post hoc analysis, we found that the host country-specific experience of focal VC firms is significantly positively correlated with the status of the local partners.

host country, are better explained by a model that assumes hierarchical decisions. However, the differences between these two models are subtle. More generally, our study offers an example of how a seemingly simple research question such as ours (“*To partner or not with local firms in foreign ventures?*”) actually consists of a number of related choices that require careful consideration and diagnostic tests to be modeled appropriately. Although the key results of our analysis do not depend significantly on whether the related partnering choices were modeled as sequential or simultaneous choices, in other empirical settings, these modeling choices might yield different empirical results and significantly influence the emerging conceptual insights and understanding of the focal question. Also strengthening the empirical contribution of our paper to the existing international business literature, we tested our hypotheses using a large, longitudinal, global sample that included variation both in source and destination countries (Hennart & Slangen, 2014) and measured for both venture- and country-level uncertainty and experience in order to unbundle the effects of these two levels.

In addition to making these theoretical and empirical contributions, our findings have several implications for practitioners. First, the question of whether to partner with local firms is an important strategic decision that firms must make when entering into or doing business in foreign countries. A better understanding of the factors that affect such decisions is important in order for firms to appropriately assess and address disadvantages caused by unfamiliarity with either an investment target or an investment environment. Second, a weak and inefficient formal institutional environment—which typically manifests as a lack of property rights protection (Jandhyala, 2013), a weak legal framework (Berkowitz et al., 2003; Cumming et al., 2010; La Porta et al., 1998), instability of the institutional environment (Delios & Henisz, 2003; Henisz, 2002; Henisz & Delios, 2001), or as generally weak formal institutions (Batjargal et al., 2013; Holmes et al., 2013)—acts as an inhibiting influence on foreign firms that might otherwise seek relationships with local firms. It

suggests that policy makers actively seeking foreign investment and international cooperation should work efficiently to improve the country's institutional settings. Third, recognizing that firms might counterbalance the negative effects of country-level uncertainty by accumulating country-specific knowledge, this paper enhances an understanding of the institutional barriers among markets and the need for firms to develop their knowledge sets and capabilities to cooperate with potential local business partners and operate independently in such institutional settings.

Our study has several limitations that provide opportunities for future research, the first of which relates to the generalizability of our findings. While the use of a global sample of VC investments allowed us to examine partnering decisions in 61 developed and emerging markets, with multiple ventures per firm, per country, and measures for both venture- and country-level uncertainty, the VC sector is a professional service industry that relies on intense social relationships, and that requires limited physical infrastructure (Guler & Guillén, 2010a). Given prior findings of differences in the drivers of entry-mode choice in service and manufacturing industries (Hennart & Slangen, 2014), this limitation should prompt future researchers to identify and collect data regarding other organizational populations with both project- and country-level variances in uncertainty, and to examine the extent to which the findings of this study can be generalized beyond the international VC industry. Furthermore, while the regulatory environment has been considered to be important to the VC industry and was therefore our focal institutional dimension, future research could examine a broader set of institutions and their potential interactions in more detail (Batjargal et al., 2013; Xu & Hitt, 2012). Overall, further exploration of the contextual factors at the country level or at the dyadic level between countries continues to be a fruitful area for future research on cross-border VC and international business. Finally, while we have attempted to carefully disentangle the predicted knowledge-based need and feasibility-related effects from alternative explanations such as risk sharing, there remain many opportunities for future research to



improve our understanding of the complex drivers and their potential interactions in partnering decisions in foreign ventures.

In summary, this study set out to deepen our understanding of partnering with local partners in foreign ventures. In particular, given the intuitiveness of partnering with local firms as a strategy to mitigate uncertainty in foreign ventures, we considered why firms do not always partner with local firms in uncertain settings. To address this question, we unbundled uncertainty and international experience into venture and country levels, which were shown to have different effects on the need for and the feasibility of partnering with local firms, and, consequently, sometimes opposite effects on the likelihood of partnering with local firms. Whereas different types of uncertainty generally increase the need for partnering and experience decreases it, country-level uncertainty was found to reduce its feasibility and result in decreased partnering with local firms, while host country-specific international experience was found to improve the feasibility of partnering with local firms and increase it. By analyzing partnering in the global VC context, conceptualizing the partnering decision as multilayered, and demonstrating the importance of recognizing different levels of uncertainty and international experience and their effects on both the need for and the feasibility of partnering, we believe that this paper offers new fruitful avenues for improving our understanding of partnering decisions in global markets.

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**TABLE 1**  
**Descriptive Statistics and Correlations**

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Venture-level uncertainty	2.64	0.86												
2. Country-level uncertainty	0.79	0.80	-.15											
3. International experience in managing venture-level uncertainty (ln)	1.26	1.15	.07	.02										
4. International experience in managing country-level uncertainty (ln)	0.72	1.03	-.13	.41	.55									
5. International experience in the host country (ln)	1.06	1.10	.05	-.04	.73	.38								
6. Investment round size (ln)	8.57	1.37	-.20	.12	.03	.12	-.02							
7. Venture high-technology focus (0/1)	0.80	0.40	.22	-.20	.03	-.19	-.01	-.05						
8. VC firm total capital under management (ln)	6.68	2.12	-.07	.09	.50	.41	.31	.15	-.09					
9. VC firm status	0.21	0.23	.07	.08	.59	.37	.39	.02	.02	.53				
10. Number of active local VC firms in the host country	17.16	25.33	.13	-.33	.00	-.25	.23	.00	.18	-.20	-.20			
11. Host country GDP growth (%)	4.40	3.59	-.09	.35	.03	.34	.09	.08	-.18	.09	.07	-.05		
12. Geographic distance (ln)	8.54	0.98	-.00	.12	-.04	.03	.09	.02	.01	.07	.18	.27	.18	
13. Cultural distance (ln)	0.69	0.31	-.12	.32	-.00	.24	-.09	.03	-.13	.02	-.04	-.23	.29	-.01

<sup>a</sup>  $n = 3858$  (Model 2 sample). Correlations above .10 are significant at  $p < .05$  level.



**TABLE 2**  
**Sequential Logit and Multinomial Logit Estimates of the Likelihood of Partnering in Foreign Venture**

Variables	Model 1			Model 2		Model 3 <sup>b</sup>		Wald Chi <sup>2</sup> Test DV=3 vs. DV=2
	1st stage: Market entry or not	2nd stage: Partner or alone	3rd stage: Local or other foreign VC firms	1st stage: Partner or alone	2nd stage: Local or other foreign VC firms	Partnering with other foreign VC firms	Partnering with local VC firms	
	DV 0: 1 2 3	DV 1: 2 3	DV 2: 3	DV 1: 2 3	DV 2: 3	DV=2	DV=3	
<i>Independent variables</i>								
H1: Venture-level uncertainty	-0.07+ (0.04)	0.28*** (0.04)	0.25*** (0.06)	0.27*** (0.04)	0.25*** (0.06)	0.15** (0.05)	0.38*** (0.05)	13.05***
H2: Country-level uncertainty	0.17+ (0.09)	-0.11+ (0.06)	-0.27*** (0.08)	-0.06 (0.06)	-0.25** (0.08)	0.02 (0.06)	-0.21** (0.08)	9.14**
H3: International experience in managing venture-level uncertainty	2.41*** (0.13)	-0.07 (0.08)	-0.17+ (0.09)	-0.07 (0.09)	-0.16+ (0.09)	0.01 (0.10)	-0.19+ (0.10)	4.43*
H4: International experience in managing country-level uncertainty	0.12 (0.14)	-0.34*** (0.08)	-0.07 (0.08)	-0.33*** (0.08)	-0.07 (0.08)	-0.28** (0.09)	-0.32*** (0.08)	0.27
H5: International experience in the host country	-2.29*** (0.14)	0.16* (0.08)	0.61*** (0.08)	0.15+ (0.08)	0.60*** (0.08)	-0.17* (0.08)	0.45*** (0.09)	51.90***
<i>Control variables</i>								
Investment round size (ln)	0.17*** (0.04)	0.48*** (0.04)	0.09* (0.04)	0.47*** (0.04)	0.09* (0.04)	0.41*** (0.04)	0.54*** (0.04)	8.20**
Venture high-tech focus	0.05 (0.10)	0.72*** (0.10)	0.07 (0.15)	0.72*** (0.10)	0.08 (0.15)	0.67*** (0.12)	0.79*** (0.14)	0.64
VC firm capital under management (ln)	0.16*** (0.04)	-0.09** (0.03)	-0.04 (0.03)	-0.09*** (0.03)	-0.04 (0.03)	-0.08* (0.03)	-0.11*** (0.03)	0.86
VC firm status	2.24*** (0.53)	1.68*** (0.29)	-0.63* (0.29)	1.71*** (0.29)	-0.62+ (0.34)	2.03*** (0.35)	1.33*** (0.32)	4.01*
Number of active local VC firms in the host country	0.00 (0.00)	0.01* (0.00)	0.01* (0.00)	0.01* (0.00)	0.01+ (0.00)	0.00 (0.00)	0.01* (0.00)	2.67
Host country GDP growth	0.09*** (0.02)	-0.04** (0.01)	-0.01 (0.02)	-0.03* (0.01)	-0.01 (0.02)	-0.02 (0.01)	-0.04* (0.02)	2.02
Constant	-3.02*** (0.46)	-4.64*** (0.42)	-1.21** (0.46)	-3.79*** (0.61)	-0.87 (0.71)	-3.81*** (0.77)	-5.04*** (0.65)	2.83+
Geographic distance (ln)				-0.07 (0.06)	-0.02 (0.07)	-0.06 (0.07)	-0.08 (0.06)	0.04
Cultural distance (ln)				-0.48** (0.16)	-0.29 (0.19)	-0.39* (0.18)	-0.59** (0.19)	1.21
Inverse Mill's Ratio								
Chi-square	628.99***			358.02***		584.26***		
Log pseudo-likelihood	-8 720.34			-3 641.70		-3 643.66		
Observations	30 395			3 858		3 858		
Akaike information criterion	17512.69			7339.41		7343.32		
Bayesian information criterion	17812.28			7514.64		7518.55		

<sup>a</sup> Clustered standard errors in parentheses. Two-tailed tests reported for both hypotheses and controls. Dependent variable (DV) categories: 3 = cross-border investment with only other foreign partner(s); 1 = cross-border investment alone; 0 = domestic investment.

<sup>b</sup> Multinomial logit model. Base case: Investing alone in foreign countries (DV = 1).

<sup>c</sup> Time span: 1991-2011. Second-stage multinomial logit model of the Heckman two-stage approach.

+  $p < .10$

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

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