

Experience and FDI risk-taking: a microfoundational reconceptualization

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Experience and FDI Risk-taking: A Microfoundational Reconceptualization

Abstract

Studies of how firms respond to host country risk have assigned explanatory primacy to organizational capability and managerial risk preference. The organization-level account is built on the premise that capability is a prerequisite for risk-taking while the individual-level account focuses on the managers' intrinsic behavioral attitude. Without integrating one with the other, the former is open to many alternative explanations while the latter remains only a source of heterogeneity. We propose that employing the microfoundations approach can address the limitations of each account and yield a fuller understanding of FDI risk-taking. Drawing upon behavioral decision theory and the concept of risk propensity, we describe the lower-level mechanisms that generate the empirical regularity between firm experience and risk-taking, which has been attributed to the macro-level capabilities paradigm. We finalize the framework with an account as to how individual-level mechanisms can be incorporated into the context of organizational strategic decision-making.

Keywords: country risk, risk propensity, microfoundations, behavioral decision-making, experience

1 Introduction

Managing risk is one of the most important strategic objectives for managers of multinational enterprises (MNEs) (Ghoshal, 1987). Given the pervasiveness of risk and the significant resource commitments of cross-border venturing (Cosset and Roy, 1991), an extensive literature has been devoted to understanding the impact of risk and uncertainty on foreign direct investment (FDI) decisions (e.g., Delios and Henisz, 2003a; Delios and Henisz, 2003b). Globalization has given rise to new forms of risks, including cyber-attack, industrial espionage, governmental surveillance and public-private tension, among others. It is imperative for international business (IB) scholars to revisit the state of current knowledge and examine whether extant theoretical and empirical approaches can address the questions posed by the ever increasingly complex world.

The past two decades has seen a steady and remarkable growth of FDI into developing countries (Feinberg and Gupta, 2009). There is an incomplete explanation as to why MNEs engage rather than avoid weak institutions and policy hazards commonly found in these markets. The dominant explanation is predicated on an observed relationship between a firm's international experience and risk-taking, attributing this relationship to firm-level capabilities (Delios and Henisz, 2003b). This explanation further extends to home country experience, which is hypothesized to be one of the major sources of international competitive advantage for emerging multinationals (EMNEs) (Cuervo-Cazurra, 2011; Del Sol and Kogan, 2007; Luo and Wang, 2012). While it is true that repeated exposure to the same risk may help managers develop coping mechanisms to contain the effect of adversity and to recover from it so that they believe they can condition the odds suggested by external information (Oetzel and Oh, 2014), the firm-level capabilities are only inferred and often assumed to be an automatic result of experience. We question whether the organizational capability is real or a misconception of the decision makers, especially when generalizing experience from one context to another is often required for FDI decision-making, which involves the transfer of knowledge across the borders. This is not an unreasonable question given that cognition research suggests that individuals work within a framework constrained by numerous cognitive biases, leading

to misconceptions (Schoemaker, 1993). While the primacy of organizations is a prevalent assumption in FDI research, the study of risk particularly requires taking into account managers' own views (March and Shapira, 1987). The fact that IB scholars rarely engage in the discussion of risk-taking with, for example, cognitive psychologists, has deprived the literature of the benefits of cross-disciplinary conversation (Hill et al., 2012).

In this paper, we review the current empirical literature on FDI risk-taking and consolidate this field of study with a microfoundational framework. Different terms have been used to represent environmental risk in the home and host country, including country risk, institutional risk and political risk (see Table 1). While country risk is a multidimensional concept encompassing many types of country-specific conditions, institutional and political risk are more narrowly defined (Feinberg and Gupta, 2009). We focus on the theoretical account that could contribute to our understanding of MNEs' responses to any environmental risk. Our review points to two prevalent accounts in this field of study – the firm-level explanation based on organizational risk-taking and the individual-level explanation based on managerial risk preference. Both yield numerous insights into this phenomenon. Yet the lack of an integrative framework leaves the question open as to why economic theory of FDI has generally received empirical support while individual-level of analyses conclude that managers display idiosyncratic tendencies to take risks (Maitland and Sammartino, 2015a; Schotter and Beamish, 2013). The former argues that various behavioral assumptions may be suppressed by managers' fiduciary responsibility and organizational routines, so that the macro fact can be sufficiently accounted for by macro causality without appeals to individual actors (Greve, 2013). The latter contends that individual-specific histories explain variation in revealed preferences and firm decision-making (Buckley, Devinney, et al., 2007; Maitland and Sammartino, 2015b). Researchers focusing on one level of analysis will find it hard to agree with those focusing on the other as to what causes firms' differential risk-taking in FDI.

We bring these separate accounts together by employing the microfoundations approach as a meta-framework. In general, microfoundations are about locating the proximate causes of a

phenomenon at levels lower than those of itself (Foss and Pedersen, 2014). In line with previous studies (Felin et al., 2015), we refer to individual as “micro” or “lower-level” and organization as “macro” or “higher-level”. In macro management research, microfoundations are construed in a number of ways (Foss and Pedersen, 2014). We seek to understand organizational learning and capabilities in terms of managerial cognition and preference by proposing two forms of microfoundations closely aligned with previous studies. Firstly, the weak form emphasizes the explanatory primacy of the micro-level and casts spotlight on individuals as the nested antecedent to the macro-level phenomenon (Felin and Foss, 2005; Gavetti, 2005; Helfat and Peteraf, 2015). Drawing upon behavioral decision theory, we use the concept of risk propensity to represent individual managers’ current tendencies to take risk (George et al., 2006; Sitkin and Pablo, 1992). Despite the long-standing assumption of managers being risk neutral in FDI theories (Buckley and Casson, 2009), we posit that individual risk propensity changes and is more the result of contextual influences than it is of dispositional trait – i.e. one’s intrinsic risk preference. While in the studies of decision-making, researchers can practice infinite regress to the life history of the manager in search of the ultimate causes (Kish-Gephart and Campbell, 2015), our focus is to identify the microfoundations for the macro-level cause-effect relationship – i.e. the capabilities paradigm (Gavetti and Levinthal, 2004). We reformulate the relationship between firm experience and subsequent FDI by reference to the underlying cognitive processes at the micro level. A general theoretical account for FDI risk-taking is established that can be applied to any MNEs and has particular implications for understanding EMNEs’ behavior. Secondly, the strong form of microfoundations takes individuals as given and concerns the aggregation principles that scale individual cognition to organization-level decisions (Barney and Felin, 2013). We thus integrate individual-level mechanisms into the organizational context, and complete the logic chain flowing from firm experience through managerial cognition to firm FDI, leading to a comprehensive microfoundational framework for FDI risk-taking. Each link in this logic chain may be a promising research topic in its own right, and contributes separately to our understanding as to how relations between macro variables are mediated by micro-level actions (Felin et al., 2015). Yet focusing solely on individuals or solely on aggregation does not serve to articulate the lower level causal mechanisms.

Only when researchers can combine the study of managerial cognition with organization-level theories can we resolve the tension between the current macro-level and micro-level literatures and yield a fuller understanding of FDI risk-taking.

Table 1 Environmental Risk Concepts in the FDI Literature

Concept	Definition	Measurement	Examples of empirical studies
Country risk	A multidimensional concept of risk that exists in the host country environment	Perceived Environmental Uncertainty (PEU) (Miller, 1993; Werner et al., 1996)	Agarwal and Ramaswami (1992); Brouthers (2002); Brouthers and Brouthers (2001, 2003); Cui and Jiang (2009); Kim and Hwang (1992); Tseng and Lee (2010)
Institutional risk	Host country risk arising from the under-developed institutions, including regulatory quality, rule of law, control of corruption and political instability	World Governance Indicator (WGI) (Kaufmann et al., 2009)	Lu et al. (2014); Oh and Oetzel (2011); Ramasamy et al. (2012); Slangen and Beugelsdijk (2010)
Political risk	The discretionary policymaking capacities as a result of insufficient checks and balances upon political actors of the host country	Political Constraints Index (POLCON) (Henisz, 2000)	Alcantara and Mitsuhashi (2012); Delios and Henisz (2000); Delios and Henisz (2003a); Delios and Henisz (2003b); Demirbag et al. (2007); Garcia-Canal and Guillén (2008); Henisz and Delios (2001, 2004); Holburn and Zelner (2010); Slangen (2013)

This paper contributes to the literature on FDI decision-making in two respects. First, we reconcile the mixed findings by organizational risk studies, and provide a theoretical lens for managerial risk studies to search for the lower-level source of heterogeneity. This addresses the limitations of the organizational risk studies where direct causal relations between macro variables are assumed. By casting light on the missing role of the managers through the lens of risk-taking, we also complement the conventional economic determinism of FDI theories. Second, we internalize the individual-level account of risk-taking into the organizational context in order to propose a causal mechanism underlying the observed relationship between firm experience and firms' FDI risk-taking. Both social interactional and corporate contextual factors are considered. This addresses the limitations of the managerial risk studies where the way in which individual managers' perceptions and preferences are translated into firm-level outcomes remains under-specified (Powell et al., 2011), and is distinct from the behavioural strategy approach where individual-level concepts and mechanisms are directly borrowed and applied to the organization level (Gavetti et al., 2005). By taking into account firm experience as the proximate cause of managerial cognition and the way in which managerial cognition transforms to firm-level strategic decisions, this comprehensive framework has the potential to consolidate the current literature and resolve the tension between organizational risk and managerial risk research.

In Section 2, we review the extant empirical literature on risk in FDI, and discuss the tensions and limitations of the current approaches. In Section 3.1 and 3.2, we explore the nature of the risk to justify an individual-level theoretical mechanism, built on the concept of risk propensity drawn from behavioral decision theory. Section 3.3 describes the microfoundations of the dominant capabilities paradigm by reformulating the relationship between firm experience and FDI. This is not an alternative approach to the capabilities paradigm at another level of analysis, but a starting point for a holistic framework for understanding FDI risk-taking, which requires incorporating the social context in which FDI decisions are made. Section 4 illustrates how individual-level mechanisms may interact with organizational theories to aggregate to firm actions, leading to the comprehensive microfoundational framework. Implications for future research are discussed in Section 5, by

reference to the internalization theory and the Uppsala model, as well as new avenues for empirical inquiries.

2 Risk in the FDI literature

We review the extant empirical research that explicitly incorporates risk or uncertainty into theoretical development or that directly operationalizes the concepts in empirical testing, or both, in attempts to explain FDI entry, governance and commitment decisions. We started with a keyword search of “risk”, “uncertainty” and “hazard” in the abstracts to retrieve the relevant articles from five core IB journals (*International Business Review*, *Journal of International Business Studies*, *Journal of International Management*, *Journal of World Business*, and *Management International Review*) and used cross-citations to identify other papers that were not captured by the keyword search but fell within our sampling criteria. 93 articles are identified, covering the time period from 1976 to 2015 (see Appendix). We find that, chronologically, risk studies in IB move from aggregate analysis to firm heterogeneity and, most recently, shift toward managerial heterogeneity. Tensions exist as to whether organizational risk-taking and managerial risk preference is the most appropriate level of analysis.

2.1 Organizational risk-taking

Early international trade research spawned aggregate analyses of FDI flows. The underlying theoretical logic is that country risk is viewed as one of location disadvantages that firms try to avoid (Dunning and Lundan, 2008). Drawing upon country-level data, the aggregate analyses present mixed findings. Whilst some report a negative effect of political risk on FDI (Bekaert et al., 2014; Levis, 1979; Schneider and Frey, 1985), others fail to find a significant relationship (Asiedu, 2002; Bennett and Green, 1972; Globerman and Shapiro, 2003; Kobrin, 1976). The inconclusive evidence runs counter to the anecdotal evidence that political risk is of the most concern to managers in choosing investment locations (Kobrin et al., 1980; Nigh, 1985).

In response, IB researchers have cast the spotlight on the firms that make risky investments. The firm as the unit of analysis and firm-level data allow researchers to study the effect of risk on investment behaviors other than location choices, including entry mode, equity stake in subsidiary and various expansion patterns. These studies pay particular attention to firms' heterogeneous tendencies to take risks and ascribe the phenomenon to industry sector (Brouthers and Brouthers, 2003; Brouthers et al., 2002) and firms' capabilities (Tseng and Lee, 2010). Most notably, it is found that previous experience in risky environments has a positive effect on subsequent entry to risky countries (Del Sol and Kogan, 2007; Delios and Henisz, 2000; Delios and Henisz, 2003b; Fernández-Méndez et al., 2015; Holburn and Zelner, 2010). Researchers attribute this empirical regularity to the organization-level capabilities since organizational learning theory posits that economic agents and naturally, firms, gain informational advantages that can be redeployed in the neighborhood of their past courses of action (Cuervo-Cazurra, 2011; Cuervo-Cazurra and Genc, 2008).

2.2 Managerial risk preference

Most organization-level studies leave open the question as to what extent observable characteristics of the environment can sufficiently reflect managers' subjective perception of the environmental risk, which often vary with contextual factors and individual information processing abilities (Milliken, 1987). Risk-taking is, after all, a matter of strategic choice, and it is the managers who make the choice. This notion has led a number of studies to employ a more micro-level lens on managerial heterogeneity. International entrepreneurship (IE) researchers have examined the effect of managers' risk perceptions on entry mode choices (Forlani et al., 2008) and speed of internationalization (Acedo and Jones, 2007). Particular attention has been paid to the way in which managers define risk and employ perceptual measurement scales accordingly. Kiss et al. (2013), in particular, define internationalization risk bias as the difference between objective risk indicators and managers' subjective risk perceptions, which explains post entry international scope.

Perceptual studies of risk, Henisz (2000) argues, suffer from an endogeneity issue. This has led follow-up studies to focus on managers' and shareholders' intrinsic characteristics. Researchers

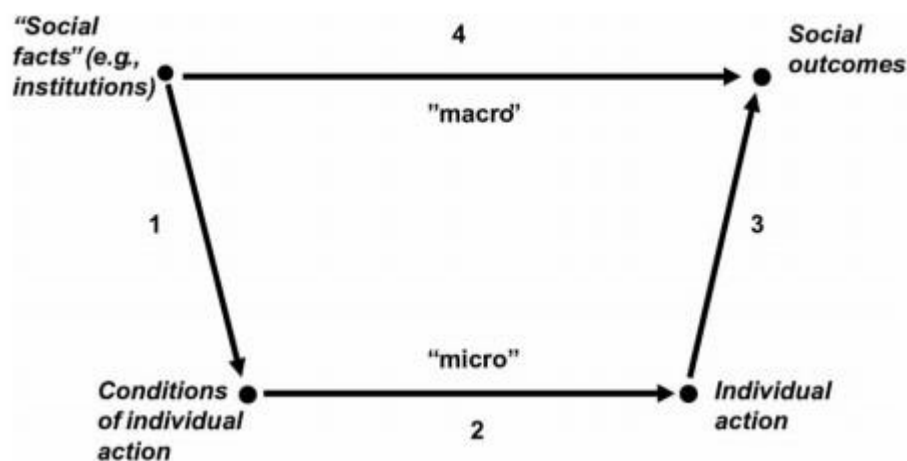
draw upon agency theory to delineate the heterogeneous risk preference of various groups of agents. Rather than being measured directly as an individual-level trait, risk preference is inferred from firm behavior in FDI, including equity stake in foreign subsidiaries (Filatotchev et al., 2007), scale and scope of internationalization (George et al., 2005), the act of internationalization and entry mode (Liang et al., 2012), and location choices (Strange et al., 2009). Most recently, the level of analysis has matched up with the level of theory. Building on cognition research, researchers focus on the heterogeneous ways in which individual managers evaluate host country political risk, and how individual-level experience accounts for this heterogeneity and compensates for the lack of organizational routines regarding risk-taking (Maitland and Sammartino, 2015a). This remedies the assumption by the capabilities paradigm that individuals are *a priori* homogeneous or individual characteristics are randomly distributed (Felin and Foss, 2005).

2.3 Limitations of the current approaches

Both organization-level and individual-level accounts have generated important insights and provided contingency perspectives as to why some firms are less deterred by host country environmental risk than others, thereby unveiling a distinct source of competitive advantage for MNEs (Oetzel and Oh, 2014). Yet both suffer from limitations that have hindered theoretical development. Coleman's (1990) "bathtub" model of social science explanation summarizes the tension between the current approaches (see Figure 1). The organization-level account, represented by arrow 4, is predicated on the assumption that macro mechanisms can sufficiently account for the macro fact to be explained, thereby attributing the differential risk-taking behavior to firm capabilities (Cuervo-Cazurra and Genc, 2011). This is, in fact, a *post hoc* rationalization of firms' behavior (Liesch et al., 2011). Analyzing a macro-level phenomenon without direct evidence of its generative mechanism would inevitably leave findings open to alternative explanations (Felin and Foss, 2005). Although capability by definition does confer a potential competitive advantage, it neither is directly observed nor would necessarily be an antecedent to FDI decisions (Hashai and Buckley, 2014). Insufficient attention has been paid to the decision-making process and a negligible role assigned to the decision makers. The individual-level account, in contrast, is predicated on the assumption that

managerial cognition is a non-trivial source of heterogeneity in macro outcomes and needs to be taken into account in variance analyses (Kiss et al., 2013; Schotter and Beamish, 2013). Individual heterogeneity is primarily accounted for by the most proximate causes – personal traits and life histories (arrow 2) (Buckley, Devinney, et al., 2007; Maitland and Sammartino, 2015a; Maitland and Sammartino, 2015b). This line of research lacks a coherent theoretical lens by which cause-effect relationship can be well explained, and the link between individual cognition and firms’ decisions is taken for granted rather than theorized or tested (arrow 3).

Figure 1 Coleman's General Model of Social Science Explanation



The two approaches run in parallel and each may account for some of the variance in the macro-level phenomenon. Unsettled is the question whether the individual-level account can provide a much needed causal mechanism for the observed macro-macro links. This question becomes particularly salient when researchers seek to explain the effect of experience on FDI risk-taking. While the organization-level account cannot reveal the underlying mechanism by which firm experience induces firm risk-taking, the individual-level account focuses only on how life histories affect managerial cognition in order not to conflate firm experience with individual experience (Buckley, Devinney, et al., 2007; Maitland and Sammartino, 2015a). It is also difficult for micro-level research to depict the way in which individual cognition contributes to firms’ strategic decisions *ex post* (cf. Schotter and Beamish, 2013). Put differently, arrow 1 and 3 remain missing, and the two

approaches remain paralleled sources of heterogeneity. Researchers focusing on one level of analysis will come to a very different conclusion as to what is behind FDI risk-taking, compared to those focusing on the other. The fact that IB literature has viewed FDI risk-taking as one of the major competitive advantages of EMNEs makes its explanations of particular theoretical importance. The lack of interaction between higher-level and lower-level accounts has deprived the literature of the opportunity to unveil the mechanisms through which firm experience influences FDI decisions, despite it being an enduring topic of interest in IB (Martin and Salomon, 2003).

3 Risk study in IB: In Search of Microfoundations

We argue that, to integrate the macro and micro accounts, the first and foremost step is to explore the role of the managers – the lower-level vehicle on which the observed higher-level actions are nested. Examining how individual managers' behavioral attitudes matter provide the most proximate mechanism through which organizational variables affect organizational decision-making. This goes beyond establishing the empirical regularity as though some identifiable firm characteristics would automatically lead to certain strategic decisions (Felin et al., 2015).

Our microfoundations approach is built on the discussion of the nature of risk. Review of the literature suggests that intuitive use of the risk concept has led it to being conflated with various location-specific characteristics such as cultural and historical ties (Strange et al., 2009), governance cost (Teece, 1983; Werner et al., 1996) and management challenges (Agarwal and Ramaswami, 1992). An unintended consequence is that risk studies in IB remain remotely connected with other disciplinary literatures, particular on behavioral strategy, which have proposed conceptual frameworks for risk-taking strategies based on sound decision theories and established causal understanding using experimental methods (Bateman and Zeithaml, 1989; Simon et al., 2000; Thaler and Johnson, 1990). Drawing on behavioral decision theory, we describe the microfoundations of risk-taking in FDI, which builds on the concept of risk propensity.

3.1 The nature of “risk”

In IB theory, there is a consensus that FDI decisions are made by MNE headquarters, who select from a discrete set of alternatives in the optimal interest of the MNEs based on a calculative analysis of projected revenues *vis-à-vis* transaction costs (Buckley and Casson, 1976). When investment return is known, risk should not matter (Buckley, Devinney, et al., 2007). Nevertheless, under most of the existing studies lies the risk aversion assumption in human nature held by neoclassical economists and agency theorists (Chiles and McMackin, 1996; Eisenhardt, 1989), as evidenced by the common hypothesis that country risk is negatively associated with foreign entry. An often unnoticed assumption in this approach is that risk is treated as an objective feature of the exogenous environment so that MNEs take risk as given and adjust the amount of resources to be committed to the specific market (Brouthers, 1995). While this implicit view is widely shared by previous studies, it leaves the role of managers negligible in the decision-making process (Devinney, 2011).

3.1.1 Subjectivity

In strategic choices including FDI, risk involves *ex-ante* evaluation of future outcomes (Yates and Stone, 1992) and “exists in the eyes of the beholder” (Chatterjee and Hambrick, 2011: 203). Under the uncertainty of disequilibrium, a location choice made to maximize risk-adjusted return may be judged as involving unwarrantedly high risk when assessed *ex-post* using country risk indicators developed by outside observers from a post equilibrium stance (Liesch et al., 2011). An immediate reflection of the subjective nature of risk is that the buyers of political risk insurance rarely agree on the price the issuers charge (Henisz, 2003).

According to behavioral decision theory, risk arises from both the probability and the magnitude of loss (George et al., 2006; March and Shapira, 1987). This definition departs from the instability of the environment *per se* and focuses on the adverse impact of environmental change on the firm. Weick (1979: 125) contends that “decision-makers in organizations intervene between the environment and its effects inside the organization, which means that selection criteria become lodged

more in the decision-makers than in the environment”. Managerial control over the environment constitutes the missing piece that previous studies of international risk have rarely considered. When managers evaluate an entry opportunity, they tend to rely on a biased overestimation of their own ability rather than external information of the unbiased performance distribution in a market (Wu and Knott, 2006). The predictions on the riskiness of a choice are colored by managers’ perceived ability to mitigate the negative consequences through reactive strategies and anticipatory plans (Bingham and Eisenhardt, 2011; Chatterjee and Hambrick, 2011; George et al., 2006; March and Shapira, 1987).

Further, different managers sacrifice different alternatives at the moment of choice as dependent on the choice set constructed. The observation that prior decision narrows down the range of the choices at a later stage of the FDI decision-making process is consistent with the nested structure discussed in the general choice modelling literature (Louviere et al., 2010; Tallman and Shenkar, 1994) and behavioral strategy theory (Gavetti et al., 2012). While managers commonly employ economic thinking to screen out inefficient options at the consideration stage, they tend to switch to a different set of criteria and focus on minimizing the risk when making the final location choice among the shortlisted alternatives (Buckley, Devinney, et al., 2007; Mudambi and Navarra, 2003). A range of individual-level factors may influence this selection process (Schotter and Beamish, 2013), such that a risky option in one choice set may be the least risky one in another. Without knowing the full choice sets it is hard to estimate the marginal contribution of risk in the final decision. Therefore, FDI studies need to take into account the “risk” as it appeared in the decision-making process rather than in the eyes of the researchers.

3.1.2 Exogenous and endogenous risk

In aggregate analyses of FDI, risk is entirely exogenous in that MNEs are assumed to respond passively to the environmental characteristics of the host countries. The organization-level accounts adopting the contingency perspective move one step forward to posit that, rather than purely assessing the environment *per se*, firms take into consideration their ability to enact a favorable firm-environment relationship and develop entry strategies in accordance (Ring et al., 1990). This view is

also consistent with behavioral decision theorists' focus on "control" in distinguishing managerial risk-taking from a gambling scenario (March and Shapira, 1987). Theoretically, one can draw a spectrum along which MNEs, at one extreme, passively accept all environmental risks as given and, at the other extreme, proactively seek to influence all risks to which they would be exposed. The distinction between exogenous environment that cannot be influenced and endogenous environment that results from firms' influential behavior has important theoretical implications (Alvarez and Barney, 2007; Weick, 1979). Conflating exogenous and endogenous risk has led to confusing conclusions on managers' risk-taking tendencies (Wu and Knott, 2006).

An illustrative example is the nature of political risk. The political institutions literature suggests that political risk is an endogenous variable as MNEs have "the ability to block adverse and/or promote favorable policy change" within the given political structure (Henisz, 2003: 181). Firms face such an eventuality in the *ex-post* policy environment that the favorable terms negotiated at the time of entry may be altered by the host country government in an obsolescing bargaining scenario, so that managers have to factor their ability to guard against the overturning, alteration or reinterpretation of policy commitments into the entry decision (Boddeyn and Brewer, 1994; Delios and Henisz, 2003a). A common "non-market" strategy is to leverage the influence of the relevant political actors, the local electorate and the international and multilateral lending agencies (Henisz, 2000). Differential lobbying skills to engage these actors as a surrogate may lead the identical location to pose varying level of risk to two otherwise similar MNEs. However, there are other types of political risk such as societal turmoil, ethnic conflict and civil warfare that result from the political dynamics between various branches of the government (Dai et al., 2013; Henisz, 2003). These risks arise when the power handover is contested via uprising by those who seek to challenge the political status quo, and often lead to asset seizure in the light of antiforeigner sentiment (Maitland and Sammartino, 2015a). Unlike the "status-quo" setting, MNEs may have little ability to forestall the occurrence of violence under turbulent circumstances and have to take the risk as given. Previous research suggests that firms respond to endogenous and exogenous risks in different fashion since the

capacity of using insurance to hedge against exchange (exogenous) risk vis-à-vis policy (endogenous) risk varies substantially (Henisz and Zelner, 2010).

3.2 Risk propensity – an integrating concept

Behavioral decision theorists have developed the construct of risk propensity to substitute for the trait approach predicated upon individual disposition (George et al., 2006; Sitkin and Pablo, 1992). Risk propensity refers to an individual's current tendency to take or avoid risk (Sitkin and Pablo, 1992). While individuals always hold a dispositional attitude toward risk-taking in general, the real tendency to take risk is overwhelmed by contextual factors (Sitkin and Weingart, 1995).

Behavioral research proposes that, to economize on the scarce attention capacity, boundedly rational managers form simplified cognitive representations of the complex environment in decision-making (Gavetti and Levinthal, 2000). In a similar vein, risk propensity reflects a coherent cognitive structure, or "heuristics", for dealing with a range of similar problems without reference to the details of any specific ones (Bingham and Eisenhardt, 2011). A risk situation can thus be reduced to workable dimensions so that a rational actor would maximize her utility against the overall risk propensity – the weighted sum of the constituent dimensions, be it exogenous or endogenous risk (March, 1981). Thus one might show more or less tolerance for risk depending on the decision domain (Weber et al., 2002) and the specific dimension of country risk being discussed (Wu and Knott, 2006). A straightforward manifestation of the power of the concept of risk propensity lies in the fact that it can be used to address the persistent myth that entrepreneurs are not fundamentally more inclined to risk than the others (Stewart and Roth, 2001) by identifying a context-specific risk-seeking orientation only devoted to chasing business opportunities but not in other life domains (Palich and Bagby, 1995).

Behavioral research has ascribed the variation in individuals' risk propensity to an array of cognitive factors (Schoemaker, 1993), the most prominent being performance feedback. As an integrating concept, risk propensity can accommodate competing theories that predict varied effect of previous performance on risk-taking. For instance, prospect theory suggests that framing creates a steeper utility curve on the loss side of a reference point than on the gain side so that poor

performance may induce decision-makers to bet on the upside potential and make risky choices (Bateman and Zeithaml, 1989; Bazerman, 1984; Weber and Milliman, 1997). Quasi-hedonic editing theory, in contrast, argues that prior failure in goal attainment leads decision-makers to set lower goals and take less risk in subsequent decisions (Slattery and Ganster, 2002). The most pertinent explanation in the strategic decision context may be the one provided by managerial decision research (March and Shapira, 1987). Studies show that managers will persist in taking risks if prior outcomes are positive, giving rise to a sense of potency and self-serving attribution (Osborn and Jackson, 1988; Sitkin and Weingart, 1995). The outcome history of forestalling the occurrence of unfavorable scenarios and mitigating the impact on the foreign affiliate provides readily available evidence to managers about the extent to which their skills, talents and capabilities can help control the risk in this particular task (March and Shapira, 1987). Appearing to be a satisficing rather than an optimizing solution, the tendency to follow experience when constructing the choice set can be regarded as a rational process of adaptive learning that aims to reproduce past successes (Denrell and March, 2001; Hutzschenreuter et al., 2007), and is coined “feedback strategy” in the behavioral strategy literature (Greve, 2013).

More importantly, risk propensity can account for the subjective nature of the risk, which is assumed away by macro-level studies. Past successes and failures of the individual managers are translated into stereotypes and provide them with a frame of reference and a habitual way of evaluating new situations (Garud and Rappa, 1994). For example, managers’ experience with a particular set of entry modes serves to constitute the “consideration set” for subsequent entry mode decisions in order to reduce the range of mode options to be evaluated (Benito et al., 2009). Risk propensity can also account for the distinction between endogenous and exogenous risk. As prospect theory was developed in such task settings that odds are exogenously given, the loss aversion thesis is more likely to hold when non-controllable, external threat is involved (Holmes et al., 2011). Conversely, risky behaviour is more likely when managers perceive a sense of control over the risk in question (George et al., 2006). This may explain why previous firm-level research has found mixed

results on the relationship between experience and risky entry (Oetzel and Oh, 2014; Oh and Oetzel, 2016).

While an organization-level account can only infer the mechanism from the empirical relations between two macro variables, individual-level theories emphasize individual actor-hood and specify the causal conditions for risk-taking behavior. In the light of multiple realization of a macro-level outcome, experimentation can test directly the competing hypotheses by different theories, and examine under what conditions any theory would prevail (Devinney, 2013). To illustrate the usefulness of the concept, we reformulate the theoretical mechanism between experience and FDI using risk propensity, and show how the individual-level account can complement the dominant capabilities paradigm.

3.3 Microfoundations of the capabilities paradigm

Existing FDI studies have primarily attributed the relationship between experience and FDI entry into risky locations to firm-level capabilities (Fernández-Méndez et al., 2015), not least in the case of EMNEs. A typical argument is that EMNEs have honed unique capabilities and expertise in dealing with poor institutional governance in the home country, and such capabilities are transferable to other developing countries of a similar level of institutional development (Cuervo-Cazurra and Genc, 2008; Del Sol and Kogan, 2007). This is not an unreasonable argument from the behavioral strategy perspective since the capacity to perform an activity tends to improve with experience (Zollo and Winter, 2002). However, research shows that simply gaining experience is not sufficient for creating capability (Haleblian et al., 2006; Hayward, 2002), and capability is not necessary for a firm to enter risky locations (Mitchell et al., 1992). What is learned from experience is not specified by this literature, calling for a micro-level explanation of what underpins the observed decisions (Bingham and Eisenhardt, 2011; Bingham et al., 2007).

The search for microfoundations is particularly germane when the decision context changes. Cognition research suggests that individuals' performance of mental activities depends on their

training and experience in the same task domain (Ericsson and Lehmann, 1996). As MNEs move from one country to another, the link between experience and capability may become tenuous. The specificity of a firm's routines hinders deployment of the existing capabilities outside its current geographic markets (Powell and Rhee, 2015). For MNEs, the inherited knowledge and home country imprint cannot always transfer to other similar markets (Giarratana and Torrasi, 2010), and experience of engaging with local stakeholders does not automatically lead to expertise in political hazard assessment (Maitland and Sammartino, 2015a). Experimental evidence suggests that even when we impose a utility maximization model on managerial decision-making, the behavioral postulate – i.e. experience affects risk-taking – is still evident (Buckley, Devinney, et al., 2007). If it is not capability, what induces the risky decisions?

Microfoundations research suggests that individual cognition poses a non-trivial source of heterogeneity for firm behavior (Foss and Pedersen, 2014). Individuals' mental representations shape decision heuristics concerning what informational cues are indicative of risk, where to find that information, and what constitutes the evaluation criteria for interpreting the information (Bingham and Eisenhardt, 2011; Bingham et al., 2007), so that managers adopting different heuristics to search for and analyze information would hold a higher or lower estimation of the probability of loss associated with investing in a given project. When the context changes and information is ambiguous, boundedly rational managers naturally employ analogical reasoning to extrapolate from their existing knowledge by making assumptions beyond what is firmly known (Gary et al., 2012; Jones and Casulli, 2014; Lipshitz and Strauss, 1997), in order to anticipate roughly the consequences of the alternative courses of action (Gavetti et al., 2005). The complexity of the individuals' mental representations, in terms of the number of causal actors, linkages and their directions, is a function of decision makers' context-specific experience (Maitland and Sammartino, 2015a; Maitland and Sammartino, 2015b). Whether managers can generalize their experience to another context depends on the nature of the risk. When managers have successful experience of dealing with the power structures and institutions similar to those in a particular host country, they place strong belief in their foresight related to identifying the pitfalls associated with regulations and contracting at the time of

deal negotiation and also in their precautionary strategies (Oh and Oetzel, 2016), including partnering with certain stakeholders, that can best block adverse policy changes and remove the firm's image of being an exploiter (Ring et al., 1990). The sense of confidence may be further amplified by social praise for managerial success and prowess (Chatterjee and Hambrick, 2011; Hayward and Hambrick, 1997; Hayward et al., 2004; Li and Tang, 2013). In contrast, the experience with exogenous risk is less of a cue to managers about their ability to control the risk and thus hardly transfers to other contexts (Oetzel and Oh, 2014). This explains the macro-level puzzle as to why experience has varying influence on MNEs' responses to endogenous political risk and exogenous macroeconomic turbulence of the host country (Garcia-Canal and Guillén, 2008).

However, analogical reasoning is not necessarily compatible with the capabilities argument for two reasons. First, the macro-level studies rightly point out that the usefulness of firms' prior experience hinges on the degree of structural commonality shared by two contexts (Delios and Henisz, 2003b; Li et al., 2015; Padmanabhan and Cho, 1999), e.g. regulatory environment (Cuervo-Cazurra, 2006; Perkins, 2014) and cultural similarity (Hong and Lee, 2015). At the micro level, when commonality is only superficial, managers' foresight resulting from analogical reasoning could be misleading (Miller and Ireland, 2005; O'Grady and Lane, 1996). For example, Heidenreich et al. (2015) find that managers tend to be overconfident about their ability to mitigate institutional uncertainty regarding a developing country market as they believe – based on prior experience in a developed country – that certain political strategies should work in their favor. This illusion of control over the environment induces managers to underestimate the external threats and drives an unwarrantedly risky entry decision. This is particularly prevalent when the new environment does not provide clear-cut information on the efficacy of the actions (Gavetti et al., 2012) and when an individual is deeply committed to an old domain (Helfat and Peteraf, 2015). Second, the risk propensity based on previous experience may itself be unwarranted. The assumed capability underlying the risk-taking tendency could be a result of self-serving bias and superstitious learning (Zollo, 2009), which prompt managers to rely on semi-automatic processing and prevent them from attending to the unique characteristics of the focal context (Castellaneta and Zollo, 2015). In these

cases, experience is not translated into capabilities or competitive advantages, yet may still induce managers to make risky FDI decisions.

Following this logic, we can reformulate the argument underlying EMNEs' entry into other risky countries. Since home country institutions shape managers' mental models, EMNE managers are more tolerant of the risk that contracts may not be enforceable, compared to MNE managers from developed countries where enforceable contracts are the norm (Hoskisson et al., 2000). The tendency to look at a novel environment through the lens of a domestic mindset is strengthened when the novel environment features noisy information (Nadkarni et al., 2011; Nadkarni and Perez, 2007) and when managers have an emotional attachment to successful past strategies (Gavetti, 2012). Compared to MNE managers, it is more difficult for EMNE managers, who in general have a shorter history of international venturing, to counter this tendency and adopt solutions that violate the domestic mindset (Contractor, 2013). *Ceteris paribus*, EMNE managers are more likely to opt for those countries where the local market institutions fit with their domestic mindsets. These countries are often rated as risky by institutional risk or political risk indices.

Nevertheless, this is not to deny that EMNEs may have a home-country-based advantage. As emerging markets see constant and rapid evolution of competitive and regulatory conditions, EMNE managers have been required to attend regularly to the environmental changes for emerging opportunities (Helfat and Peteraf, 2015) and to the threats brought by certain institutions – institutions commonly featured in emerging countries in general (Cuervo-Cazurra, 2006; Ramos and Ashby, 2013). Managerial attention, their interpretations of environmental cues, and responsiveness to institutional changes drive firms' tendency to act on opportunities in other similar fast-growing markets (Dau, 2012; Del Sol and Kogan, 2007). This tendency may be further reinforced by a self-serving attribution of the positive home country performance, which is likely to be driven by the pro-market reform rather than the internal skills (Cuervo-Cazurra and Dau, 2009). In contrast, opportunities for nurturing superior cognitive capabilities are limited in developed countries where markets are efficient. When evaluating emerging markets, managers are thus bounded by their ability

to overcome the behavioral failures that prevent them from sensing cognitively distant opportunities conditioned by a different set of institutions from what they are familiar with (Gavetti, 2012). That said, while this superior cognitive capability of information search and processing may be a source of advantage that helps EMNEs tap into the growing developing country markets, it may not necessarily guarantee better performance of the firm.

4 A Microfoundational Framework of Risk-taking in FDI

While employing the concept of managerial risk propensity can yield insights into the behavioral foundation of the firm-level internationalization, the microfoundations approach needs to go beyond assigning explanatory primacy to individual attitude and preference (Barney and Felin, 2013). It is likely that managers' preference accounts for a non-trivial portion of the variance in firms' internationalization behavior (Hutzschenreuter et al., 2007; Schotter and Beamish, 2013). Yet question remains as to whether and how the nature of the borrowed concept – e.g. cognition – and its associated micro-level mechanisms would change when applied to a specific social context (Felin et al., 2015). Behavioral strategy literature draws simple analogy between organizational routines and individuals' mental representations in that history is retrieved as representation and patterns by individuals and as routines by organizations (Levitt and March, 1988). In the IB context, the way in which managerial cognition influences firms' FDI decisions is, more often than not, assumed rather than theorized (Aharoni et al., 2011). Confusion arises as to whether individuals' cognitive capability and “mindfulness” (Levinthal and Rerup, 2006) remain a significant explanation in the organizational context (Gavetti, 2012). Although the risk propensity concept we draw upon has been tested in various managerial task settings (e.g., Sitkin and Weingart, 1995), a complete microfoundational framework would move one step further than attributing macro-level heterogeneity to observable micro-level characteristics, and require understanding of the micro-macro link specific to the focal social context (Barney and Felin, 2013) – i.e. how individuals' risk propensity transforms to organizational risk-taking decisions.

On the manager's side, a straightforward principle concerns how top managers formalise, legitimise, and alter decision rules at the organisation level. Individual decision heuristics imply a degree of codification and mindfulness (Bingham and Eisenhardt, 2011). Shared cognition is interpersonally negotiated in cases lacking the informational basis for foresight (Garud and Rappa, 1994). Transferring individual heuristics to organization-level decision rules requires managers to convince other internal stakeholders of the efficacy of the personal heuristics and change their worldviews when meeting resistance (Schotter and Beamish, 2013). Skills are needed to persuade stakeholders that the opportunity presented falls into a specific mental representation as per experience (Gavetti, 2012). The manager's cognitive capability of influencing others' mental representations creates an important source of heterogeneity in organization-level decisions. This capability may be of less importance in certain organizational structures – for example in firms controlled by owner-managers.

On the organization's side, the aggregation is hardly a linear function of its top managers' characteristics and backgrounds. Organizational context may both amplify and suppress the effect of individual cognition. Psychology research suggests that social interaction narrows the scope of cognitive thinking and analogy and thereby reduces the productivity of group discussion (Diehl and Stroebe, 1991). Diversity of beliefs among the top management team (TMT) may further hamper decision comprehensiveness and extensiveness (Miller et al., 1998). Moreover, the social context of the corporate elite commonly sees managers engage in flattery and opinion conformity toward CEOs who have high social status in order to advance personal interests. This tendency amplifies CEOs' overconfidence about the efficacy of their past actions in strategic decision-making (Park et al., 2011). In contrast, firm-level monitoring arrangements are often put in place to override cognitive biases and align managerial behavior to shareholders' interests. Monitoring is set to initiate controlled mental processing and a reality check on managers' personal beliefs as to the similarity of the focal context to previous ones and the validity of their self-serving attribution. A prominent monitoring arrangement is the board. CEO's power over the board determines the extent to which individual preference transfers to organization-level decisions. Research shows that when performance declines, board of directors

will increase their attention toward monitoring the CEO's behavior while CEO duality reduces this tendency (Tuggle et al., 2010).

Aggregation does not just include checks and balances at the boardroom. On the one hand, conflict between organizational members arises when the manager insists that heuristic processing is necessary and effective in such strategic decision situations that information is ambiguous and time is pressing (Helfat and Peteraf, 2015). The transition from lower-level to higher-level is thus complicated by the circulation of power and political coalition within the organization. Outcome history not only affects managers' risk propensity but also alters the distribution of power and influence among the members of the decision group. In the case of performance shortfall, the CEO's power will be contested by other senior management who seeks to redefine the firm's strategic agenda (Zhang, 2006). On the other hand, aggregation principles are not necessarily nested at the top management or board level. Traveling managers' personal preferences, particularly based on experience of inconvenience in previous trips, may affect the investment location shortlist by shaping the way in which the advantages and disadvantages of potential sites are compiled and communicated to other organizational members (Schotter and Beamish, 2013; Welch et al., 2007). This results in a different range of choice sets presented to top managers, which eventually contributes to the variance in the final decision.

Figure 2 summarizes the microfoundational framework of risk-taking in FDI. While the capabilities paradigm links the macro-level variables and organizational actions (arrow 1), the microfoundational framework (arrows 2–3) poses an alternative explanation based on individual-level cognition and risk propensity underlying the observed empirical regularity. Section 3.3 explicated how firm experience influences managerial cognition (arrow 2), which in turn may account for the heterogeneity in firms' FDI entry into risky locations. Section 4 complements this account by delineating the potential dynamics through which individual managers' cognition scales to organization-level decision-making. This seeks to open the black box of the micro-macro link (arrow 3), and does not undermine the value of individual-level concepts and mechanisms (Felin and Foss,

may benefit them in meaningful ways. We briefly illustrate how the microfoundational perspective based on risk propensity may alter their predictions on entry mode and location choice.

5.1.1 Internalization theory

Internalization theory views the firm as a stylized decision maker who makes the choice on organizational boundary while taking individuals' preferences and attitudes as given (Buckley and Casson, 1976, 2009). Nevertheless, Chiles and McMackin (1996) highlight the role of managers who make the decision and argue that there are other behavioral bases for managerial actions that may interact with the economic rationality of cost minimization. Others have explicitly called for relaxing the assumption of risk neutrality to enhance the validity of the theory in predicting the governance structure of MNEs (Buckley and Strange, 2011). Managers' risk preference may shift the switch point of asset specificity level at which hierarchical structure will be preferred. Yet in the FDI literature, little is known as to how managers' risk preference vary. Behavioral research on risk propensity effectively links experience with governance structure to provide an *ex-ante* predictor for boundary choice.

The difference between exogenous risk and endogenous risk suggests that not all experience can have an influence on risk propensity. Experience with natural disaster, technological failure and terrorist attack does not moderate the negative impact of such risk on subsequent foreign entry (Oetzel and Oh, 2014). For those who have beaten the odds in the past, successful passive response to exogenous risk may be attributed to luck rather than competence (Clapham and Schwenk, 1991). One implication for internalization theory is that the influence of experience on hierarchical structure *vs.* external market may be asymmetrical. Positive experience of partnerships, including joint venture, alliance and even low-integration acquisition can transfer from one of these contexts to another (Zollo and Reuer, 2010) so as to increase managers' tendency to take contractual risk, whereas dealing with exogenous risk for wholly owned subsidiary does not encourage managers to take a similar risk in another country (Oetzel and Oh, 2014). As experience spillover is more commonly observed in partnerships, the breadth and heterogeneity of previous experience may be particularly relevant to

contractual governance as opposed to hierarchical control (Jiménez et al., 2014; Powell and Rhee, 2015; Reuer et al., 2002), leading economic determinism to be less accurate in predicting international cooperative venture formation (Hennart and Slangen, 2015; Tallman and Shenkar, 1994). In contrast, when exogenous risks associated with market demand and macroeconomic turbulence become the dominant form of risk in an FDI decision, internalization theory is likely to remain a robust explanatory framework.

5.1.2 The Uppsala model

The Uppsala model claims that managers are risk averse and have an inherently low level of maximum tolerable risk, which serves as the behavioral base for cautious, stepwise internationalization patterns, in terms of both location and entry mode choice (Johanson and Vahlne, 1977). All else being equal, host country experience reduces liabilities of foreignness and enhances the probability of survival (Zaheer, 1995) whilst general international experience creates organizational routines, procedures and structures for cross-border venturing (Eriksson et al., 1997). Both experiences encourage risk-averse managers to increase foreign market commitment (Johanson and Vahlne, 1990). However, behavioral research shows that managers' tendency to take risk is a dynamic construct and a function of outcome history. As a descriptive theory, the Uppsala model should take into account variable risk preference, and examine what leads some managers to be more or less averse to risk than others, and how empirical anomalies can be accommodated in this view.

Risk propensity suggests that managers are not uniformly averse to all type of risk at the start of the internationalization process (Wu and Knott, 2006). MNEs can trade off one dimension of international risk against another while keeping the overall risk profile under control (Miller, 1992). Shrader et al. (2000) find that small firms, often reflecting the lead entrepreneurs' behavioral tendencies, are able to achieve accelerated internationalization in the absence of significant network resources by balancing out the risks of the country entered, the mode of entry used, and the proportion of total firm revenue exposed to the risks of that country. Following this logic, managers with successful inward internationalization experience – e.g. partnering up with foreign investors in the

home country – may be less averse to contractual or dissemination risk so that they are more inclined to venture into distant locations and balance the overall project risk by means of joint venture entry, compared to inexperienced managers. Moreover, EMNE managers with successful domestic internationalization experience – i.e. venturing into the heterogeneous regional markets within the national border (Wiedersheim-Paul et al., 1978) – may be less deterred by political and regulatory risks when expanding to another developing country. These microfoundational mechanisms rested on home country experience provide alternative but well-founded explanations for the empirical anomalies to the model prediction, which so far have been partly attributed to firms' entrepreneurial orientation and entrepreneurs' intrinsic risk seeking preference (Oviatt and McDougall, 2005). Moreover, performance feedback in certain host countries and organizational performance pressure may induce managers to reverse the progressive internationalization (Garcia-Canal and Guillén, 2008). It is reasonable to expect the proposed learning process to be more complicated and flexible when managers' cognitive processes, abilities and biases are accounted for (Petersen et al., 2008; Zollo, 2009).

5.2 Directions for empirical research

Current individual-level research agendas are driven by the contention that individual cognition accounts for a non-trivial portion of the variance in organizations' decisions. While this is by all means a valid claim, research is predicated on the automatic manifestation of lower-level actions in higher-level outcomes. We call for more process research for two reasons. First, cognition is essentially a process – a process of attending, remembering and reasoning (Helfat and Peteraf, 2015). Much of the heterogeneity occurs through different stages of this process. For example, when it is documented that outcome history influences risk propensity, what dimension of performance managers attend to is less clear. The attention-based view points to the plurality of goals (Ocasio, 1997), and a variety of performance metrics are considered relevant by different managers (Richard et al., 2009). Moreover, multiple realization is possible – meaning that different combinations of two or more accounts can lead to the same organization-level outcome (Greve, 2013). The positive relationship between experience and imitative behavior may be due to ritualistic response, local

search or performance-driven adaption (Haunschild and Sullivan, 2002; Zollo, 2009). Each is an internally consistent account at the cognition level. Experimental design is required to examine the competing explanations of risk-taking behavior in FDI so as to identify how they interact and under what conditions, or in what organizational contexts, any of them would prevail (Devinney, 2013). Second, aggregating individual-level cognition to group-level decisions requires in-depth investigations into the decision process. In cases lacking direct evidence of this process, the debate over the preferred level of analysis for behavioral strategies can never be settled (Greve, 2013). The process of social interaction within the decision-making group, of communicating the attribution of previous performance and of persuading other internal stakeholders is of much importance in and of itself, and can hardly be revealed by a correlational analysis. For instance, the shifting of attention among performance metrics has direct implications for risk propensity, and is a dynamic process to be captured only by longitudinal observations.

Two issues are left unaddressed by this paper, which nevertheless sets the direction for future research. First, before the analogical reasoning can adapt to performance feedback, managers may initially make unwarrantedly risky decisions based on erroneous assumptions about the usefulness of experience in other contexts (Nadolska and Barkema, 2007; Petersen et al., 2008; Zeng et al., 2013). This is ever increasingly likely under the legitimacy-based view on political risk, which argues that political risk is not entirely dependent on the bargaining power dynamic between the host government and the foreign investor or on the degree of political constraint on the host government's discretionary behavior (Stevens et al., 2015). Whether the host government and host society perceive the MNE as legitimate determines the level of political risk it faces. The socially constructed nature of legitimacy involves a complex interplay between host government, host society and home government. Successful experience in one country may even increase the political risk the firm would face in another country. The fact that MNEs misconceive their legitimacy and engage in unreasonable investments will be thus of greater theoretical and empirical salience.

Future research may benefit from the parallel development of two lines of inquiry. On the one hand, we need a descriptive account of how and why firms take risk in FDI decisions, as a complement to prediction by the conventional FDI theories. On the other hand, we need to continue the investigation as to when political risk or other country risk may arise, in addition to the traditional bargaining power approach and political institutions approach (Stevens et al., 2015). These two lines in combination provide a prescriptive account of the performance implications of certain FDI decisions. Only when the decision-making perspective matches with the performance perspective can we truly conclude that the contextual influence does confer on firms a distinct source of competitive advantage. Otherwise, the inferred “capability” may mask the mismatch between competence and confidence. Evidence has been found on superstitious learning and confidence trap in strategic and entrepreneurial decision-making (Miller, 2012; Perlow et al., 2002; Zollo, 2009), and not least in foreign investment (O’Grady and Lane, 1996; Petersen et al., 2008; Zeng et al., 2013). In the light of the emerging forms of risk such as cyber attack and social legitimacy, it is reasonable to conceive that MNEs are more likely than ever to misplace confidence in their ability to control the risks using conventional practices. These insights are yet to be incorporated in the studies of risk and FDI, which are currently biased toward the descriptive account.

Second, IB researchers often view risk and uncertainty as interchangeable and jump from one to the other arbitrarily (Liesch et al., 2011; Zhao et al., 2004). Employing different terminology and nonconvergent measures undermines the systematic building of knowledge (Hill et al., 2012). Identifying their conceptual distinctiveness and the implications for FDI theory building requires drawing upon a variety of relevant disciplinary literatures and lies beyond the scope of this study. We note in passing that the familiar argument that uncertainty stems from a lack of knowledge and risk is a result of such informational uncertainty (Carpenter et al., 2003; Figueira-de-Lemos et al., 2011; Johanson and Vahlne, 1977) seems too simplistic in view of Knight’s (1921) seminal work and recent entrepreneurship research (Alvarez and Barney, 2007). Questions remain as to whether opportunity discovery or opportunity creation theory best account for the role of risk and uncertainty in FDI decision-making (Alvarez and Barney, 2007), and whether viewing risk as “probability of loss” vs.

“affordable loss” influences the way in which experienced managers evaluate risky entry. Liesch et al. (2011) propose that the influence of risk and uncertainty on international involvement is intertwined with experience, cognitive biases and the context, and the result of the evolutionary process is inherently indeterminate due to the dynamic nature of multidirectional causality and nonlinear relationship. As both risk and uncertainty distinguish international settings from domestic ones, we suggest future research examine their different implications for FDI theories.

6 Conclusions

Explaining FDI has been the central inquiry of IB research for decades and risk and uncertainty are widely regarded as key determinants by researchers. In this paper, we draw attention to the extant empirical studies and seek to provide an alternative theorization. We conclude that a microfoundational perspective can advance the studies of international risk and contribute to the understanding of FDI.

Taking up the call by previous researchers to reconsider risk and uncertainty for IB inquiries (Liesch et al., 2011), we review the way in which IB scholars use *ex-ante* risk to explain FDI decisions. Two dominant approaches are identified – i.e. organizational risk-taking and managerial risk preference – through which the current knowledge on FDI risk-taking is generated. The organization-level approach suggests that MNEs’ responses to host country risk vary depending on their experience, which essentially reflects varying level of firm capability. This explanation dominates the current debate as to why EMNEs can compete on the global stage in the absence of conventional firm-specific resources (Cuervo-Cazurra, 2011). The individual-level approach suggests that managers’ traits and characteristics including personal history shape their cognition, which account for a significant portion of variance in the firms’ FDI decisions. Despite the numerous insights they yield, both approaches draw heavily on *post hoc* rationalization of firms’ behavior. The organization-level account is open to many alternative explanations whereas the individual-level

account does not unveil the theoretical mechanisms underlying the link between macro variables (cf. Schotter and Beamish, 2013).

In response, we draw upon the meta-framework of microfoundations to reformulate the theoretical relationship between firm experience and risk-taking. The first step is to recognize the importance of the managers as the most proximate cause of firm decisions. This is a legitimate microfoundations approach as we explain the collective phenomenon in terms of its constituent parts (Foss and Pedersen, 2014). Despite some scholars' persistent calls, individual-level research is still under-represented in IB (Aharoni et al., 2011; Buckley, Devinney, et al., 2007; Maitland and Sammartino, 2015b). We argue that the individual-level account is particularly necessary in the studies of FDI risk-taking since country risk or political risk indicators do not account for the fact that managers hold varying probability distributions of future outcomes as a result of their divergent perceived ability to control the risk. This suggests that we focus on managers' heterogeneous preferences and cognitive processes (Buckley, Devinney, et al., 2007; Helfat and Peteraf, 2015), as opposed to observable individual-level characteristics. Recent research on managerial mental representation has recognized the contribution of individual cognition to FDI decisions (Maitland and Sammartino, 2015b; Williams and Grégoire, 2015). However, theory is lacking in depicting the micro-level mechanism. To address this problem, we employ the concept of risk propensity to delineate how contextual variables and particularly experience influence individual managers' risk-taking tendency. Cognition research has proposed competing theories and established valid evidence on the causal effect of experience on risk propensity. The effect is most significant when the experience involves performance feedback in the same decision context and the risk situation is subject to managerial control rather than being strictly exogenous (Bateman and Zeithaml, 1989; Osborn and Jackson, 1988; Sitkin and Weingart, 1995). Interpretation of prior experiences as to how effective the coping mechanisms used would be in a given institutional environment underpins the change in risk propensity and leads to the imitation of previous actions when entering a new country (Henisz, 2003; Tallman, 1992). Individual-level overconfidence and erroneous generalization of experience are well documented in the literature, and may serve as microfoundations for the observed

regularity between organization-level collectives, which so far has been accounted for by the capabilities paradigm at the macro-level. We also show that nesting the relationship between experience and risky FDI at the individual-level does not negate EMNEs' unique advantages compared to their developed country counterparts when investing abroad.

While recent research examining the influence of personal experience on managerial preferences in making FDI decisions has yielded fresh insights (Buckley, Devinney, et al., 2007; Maitland and Sammartino, 2015a; Maitland and Sammartino, 2015b), this line of inquiry goes little beyond viewing individuals as a direct source of unexplained variance, or the critical “inputs”, in the firm-level decision calculus (Kiss et al., 2013; Schotter and Beamish, 2013). Although behavioral decision theory that we draw upon provides much needed guidance for the research on FDI risk-taking, it too does not explicate to what extent and how managerial cognition contributes to firm-level strategic decisions. The microfoundations approach calls for more explicit mechanisms as to how the lower-level account aggregates to higher-level outcome in a specific social context. Given the idiosyncratic experience at the individual-level, the simplest aggregation principle would be to weight each TMT member's personal experience (Athanassiou and Nigh, 2002). Yet it begs the question why individuals are found to have all sorts of biases while the economic theory based on rationality seems still supported by the data, implying more complex interactions and non-linear aggregation (Barney and Felin, 2013). We complete the logic chain from firm experience through managerial cognition to firm decisions by incorporating micro-macro transitional processes into our framework. For example, the power dynamics at the top management level determine the extent to which individual preferences and beliefs can transfer to the organizational decisions. In other words, group decision-making is not always less biased. Even if group discussion in the boardroom can effectively alleviate calculus flaw in the final decision, the information input to that calculus is often collected by frontline managers that carry cultural biases and self-interests motivations. This is particularly prevalent in MNEs' decision-making since location evaluation would inevitably require travels and the traveling managers can intervene organizational decisions at the early stage by filtering out the locations they dislike (Schotter and Beamish, 2013). Despite that we strive to propose some specific micro-macro

transitional mechanisms, the microfoundational framework does not rule out unobserved heterogeneity in this aggregation process that cannot be predicted due to its emergent nature (Barney and Felin, 2013).

Early research explicitly recognizes that internationalization decision-making is as much of a behavioral process influenced by managers' preferences and attitudes to risk-taking as it is of rational calculation (Aharoni et al., 2011; Reid, 1981). However, the resource-based view and the capabilities paradigm have directed researchers' attention away from micro-level mechanisms. It is our hope that the recent cognition research on FDI and the microfoundations approach can ignite the interest in the managerial processes underlying MNEs' global expansion.

6.1 Managerial relevance

There are a whole host of grounds for managers to justify the decision to expand to a high-risk country. Yet, we have argued that the risk averse or risk seeking preferences highlighted by researchers may be masking the biases in the decision process that managers themselves are unconscious of. Managers need to be aware that they are not unlike other human agents. Overconfidence, prospect theory bias, and erroneous generalization of previous experience are well documented in academic literature, and as commonly found among managers as they are in general population. These biases have incurred costs and losses, at least in early years of expansion in a foreign country (Petersen et al., 2008), that could have been avoided. Even if group decision making in the boardroom can effectively alleviate calculus flaw in the final decision, the information input to that calculus is often collected by frontline managers that carry cultural biases and self-interests motivations. Thus we advise managers to evaluate thoroughly the third party information about host country environment rather than rely on anecdotes and preconceptions; to specify organization routines for information collection rather than await sporadic investment opportunities to come along; and to follow a consistent decision model for a given group of strategic choice rather than base decisions on feelings and instincts.

At the firm level, research adopting the microfoundations approach is poised to offer practical implications. The weak form of microfoundations suggests that firms intervene at the micro level by recruiting managers with specific types of experience and traits and thus greater cognitive capability (Gary et al., 2012), which can compensate for the lack of firm-level routines regarding risk-taking (Maitland and Sammartino, 2015a) and improve firm performance in overseas venturing (Perkins, 2014). In group decision-making, self-confirming beliefs, competitive blind spots and internal causal attributions are as likely to be amplified as they are to be mitigated (Powell et al., 2011). Identifying the conditions under which managers are more or less biased, and economic efficiency is more or less compromised, is more meaningful than assuming that managers' idiosyncratic preferences and self-interests should matter. Organizational structures can also be designed in response to the political dynamics among the corporate elites, ensuring that the results of power contention are aligned with shareholders' interests. Both interventions are more tractable than it is to influence the unobserved "capabilities" when the underlying mechanisms are assumed rather than tested.

7 References

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Appendix. Summary of empirical research on risk and uncertainty in the FDI context

<i>Author(s)</i>	<i>Level</i>	<i>Key variable(s)</i>	<i>Definition</i>	<i>Measures</i>	<i>Data</i>	<i>Method</i>	<i>Major findings</i>
1) Acedo and Florin (2006)	Individual	Risk perception	Not defined	Managers' evaluation of the level of risk associated with internationalization, adapted from Sitkin and Weingart (1995)	Small and medium size Spanish firms from seven industries	Survey	CEOs' perceptions of risk mediate the effect of firm age, size and scope of national operations and the effect of individual international posture on the degree of internationalization.
2) Acedo and Jones (2007)	Individual	Risk perception	Not defined	Managers' evaluation of the level of risk associated with internationalization, adapted from Sitkin and Weingart (1995)	216 top managers of small and medium sized enterprises (SMEs)	Survey	Managers' risk perception is negatively associated with speed of internationalization.
3) Agarwal and Ramaswami (1992)	Firm	Investment risk; Contractual risk	Uncertainty over the continuation of environmental factors which are critical to the survival and profitability of a firm's operations in that country; Difficulties of writing and enforcing contracts that specify every eventuality due to external uncertainty	Managers' perceptions about environmental stability and host government's policies toward profit repatriation and asset expropriation; Perceptions about costs of making and enforcing contracts, risk of knowledge dissipation and risk of quality deterioration	97 US equipment leasing firms	Survey	Investment risk reduces the likelihood of investment while contractual risk increases the likelihood of choosing investment mode over exporting.
4) Agarwal (1994)	Firm	Country risk	The volatility of a host country's political and market conditions	International Country Risk Guide (ICRG)	148 foreign investment of US manufacturing firms over the period 1985-1989	Secondary	Country risk does not moderate the relationship between socio-cultural distance and choice of joint venture.
5) Ahmed et al. (2002)	Firm	Risk perception	The predictive accuracy on a changing event that might lead to negative organizational outcomes	Managers' perceptions of the differences between home and host country, and the level of predictability of a range of environmental dimensions	69 Malaysian public firms	Survey	Low risk perception leads to high ownership entry mode.

<i>Author(s)</i>	<i>Level</i>	<i>Key variable(s)</i>	<i>Definition</i>	<i>Measures</i>	<i>Data</i>	<i>Method</i>	<i>Major findings</i>
6) Alcantara and Mitsuhashi (2012)	Firm	Market opportunity risk; Political risk	Unpredictability of business prospects and institutional conditions that may affect business operations in the host country	Number of home country buyers or rivals; Political Constraints Index (POLCON)	FDI entries of Japanese auto parts manufacturers over the period 1978-2000	Secondary	Intense competition in home country induces MNEs to invest in foreign countries with high market opportunity risk and high political risk.
7) Amariuta et al. (1979)	Individual	Risk perception	Not defined	Three-item scale capturing perception of expropriation risk, attitude toward communist regime and perception of political risk	120 executives (VP-international) from 120 US firms	Survey	Increased knowledge about East Europe lowers managers' perception of political risk and raises perceived inconvenience of dealing with those countries.
8) Asiedu (2002)	Country	Political risk	Not defined	Average number of assassinations and revolutions	FDI into 71 African countries from 1988 to 1997	Secondary	Political risk is not significant to FDI.
9) Bekaert et al. (2014)	Country	Political risk	The risk that the government's actions or imperfections of the host country's institutions adversely affect the value of an investment in that country	Political risk spread based on ICRG	FDI inflows to 30+ countries from 1994 to 2009	Secondary	FDI is negatively related to political risk, and is much more sensitive to political risk than to economic outlook.
10) Brouthers (1995)	Firm	Risk perception	Not explicitly defined but with reference to Miller's (1992) framework	Managers' perceptions about control risk including cultural difference and managerial experience, and market complexity risk including political risk and competitive rivalry, all adapted from Miller (1992)	125 US MNEs from computer software industry	Survey	Greater control risk and market complexity lead to greater likelihood of independent entry mode like licensing.
11) Brouthers et al. (2000)	Firm	Perceived environmental uncertainty	Not defined	Perceived Environmental Uncertainty 2 (PEU2) by Werner et al. (1996), a perceptual measure on the unpredictability of 28 environmental factors	95 of 500 largest firms based in European Union nations	Survey	Satisfaction with performance is increased when firms take into account environmental uncertainty in entry mode choice.

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12) Brouthers and Brouthers (2001)	Firm	Investment risk	Not defined	Investment risk measure by Agarwal and Ramaswami (1992)	231 Dutch, German, British and US firms doing business in 5 Central and Eastern European countries	Survey	The relationship between cultural distance and entry mode is contingent on the level of investment risk in the host country.
13) Brouthers (2002)	Firm	Investment risk	Note defined	Perceptual question: (1) the risk of converting and repatriating profits, (2) nationalization risks, (3) cultural similarity, and (4) the stability of the political, social and economic conditions in the target market	178 entries of large European firms in 27 countries	Survey	Investment risk influences mode choice, which in turn affects financial and non-financial performance.
14) Brouthers et al. (2002)	Firm	International risk perception	Not defined	Perceived Environmental Uncertainty 2 (PEU2)	95 of 500 largest firms based in European Union nations	Survey	Service and manufacturing firms respond similarly to some dimensions of international risk but differ with the others regarding entry mode choices.
15) Brouthers and Brouthers (2003)	Firm	Environmental uncertainty; Behavioral uncertainty; Risk propensity	Environmental threat to the stability of business operation; Inability of the parent firm to monitor and control the performance of foreign subsidiary; Managers' tendency to take risk that varies with national culture	Investment risk by Agarwal and Ramaswami (1992); Contractual risk by Agarwal and Ramaswami (1992); Hofstede's (1980) uncertainty avoidance	227 European firms that have operations in Central and East European countries	Survey	High environmental uncertainty induces service firms to choose wholly owned entry mode while high behavioral uncertainty induces them to choose joint venture. For manufacturing firms, the effects are opposite. Manufacturing firms from home countries with low risk propensity cultures prefer joint venture modes.
16) Brouthers et al. (2008)	Firm	Country risk	Not defined, but is regarded as one component of the formal institutional environment with particular regard to governmental or political actions	Euromoney Country Risk	232 Dutch, Greek, German, and U.S. firms that have operations in the Central and Eastern Europe	Survey	Country risk distance moderates the relationship between firm-specific resources and entry mode choice as well as dynamic learning capabilities and entry mode choice.

<i>Author(s)</i>	<i>Level</i>	<i>Key variable(s)</i>	<i>Definition</i>	<i>Measures</i>	<i>Data</i>	<i>Method</i>	<i>Major findings</i>
17) Buckley, Clegg, et al. (2007)	Country	Political risk	Not defined	ICRG	Approved Chinese FDI to 49 countries from 1984 to 2001	Secondary	Chinese outward FDI prefer less developed and risky host countries between 1982 and 1991.
18) Coeurderoy and Murray (2008)	Firm	Political risk	Not defined	“Political risk” from Institutional Investor	First five foreign market entries of each of the 241 new-technology-based firms in the UK and 134 in Germany	Survey	Political risk is highly significant for both entry choice and the ranking of entry preferences. Large firms are more cautious of political risk.
19) Cui and Jiang (2009)	Firm	Country risk	The perceived discontinuity or unpredictability of the political and economic environment of a host country	Six-item scale questions adapted from Brouthers (2002), Agarwal (1994) and Bell (1996)	FDI entries of 138 Chinese firms from across 8 provincial areas	Survey	Country risk does not have significant impact on FDI entry mode choice of Chinese firms.
20) Cuypers and Martin (2009)	Firm	Exogenous uncertainty; Endogenous uncertainty	Uncertainty of which the resolution is unaffected by the actions of the firm; Uncertainty that is resolved (at least in part) by the actions of the firm itself over time	Economic uncertainty (Euromoney Country Risk), institutional uncertainty (Special Economic Zones or Coastal regions), exchange rate uncertainty (parallel market premium); Cultural uncertainty (Kogut and Singh), uncertainty about development capabilities (involvement of development activities), scope-related uncertainty (the number of activities performed)	6472 Sino-foreign joint ventures (JVs)	Secondary	Conventional real options logic is applicable when uncertainty is resolved exogenously, but not when it is resolved endogenously.
21) Datta et al. (2015)	Firm	Downside risk; Political risk	Not defined; The likelihood of political and social events in a country influencing the business climate in a way that negatively impacts investors	Greenfield investment, as compared to acquisition; ICRG	291 cross-border acquisitions and 105 greenfield start-ups by non-diversified US manufacturing firms	Secondary	Managerial equity ownership and the proportion of contingent pay in key managers’ compensation structures increase the likelihood of cross-border acquisitions over greenfield investments. Host country political risk positively moderates this relationship.

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22) De Beule et al. (2014)	Firm	Endogenous uncertainty; Exogenous uncertainty	Related to the investment itself and can often be found as relationship-specific uncertainty when firms are sourcing intangibles externally for new business development; Take the form of either environmental turbulence or technological newness	Proxied by investments by EMNEs, as compared to those by advanced country MNEs (AMNEs); Proxied by investments in high-tech industries, and by institutional distance	451 acquisitions by foreign firms in Italy between 2001 and 2010 in 78 manufacturing industries	Secondary	EMNEs acquire significantly less ownership than AMNEs, especially in high-tech industries. Institutional distance in trade and investment freedom increases the probability to undertake full acquisition for EMNEs as opposed to AMNEs.
23) Delios and Beamish (1999)	Firm	Country risk	Extent of political and economic risk	Euromoney Country Risk	1424 greenfield subsidiaries of Japanese manufacturing firms	Secondary	Weak evidence on the negative relationship between host country political and economic risk and ownership levels
24) Delios and Henisz (2000)	Firm	Public expropriation hazard; Private expropriation hazard	Threats to firms' revenue streams posed by the monopoly of the state on coercion; Opportunistic behavior of partners due to incomplete contract	Political Constraints (POLCON), and equity restrictions surveyed by World Competitiveness Report; R&D/advertising-to-sales	2827 greenfield FDI by 660 Japanese firms in 18 emerging economies	Secondary	Host country experience (industry experience) mitigates the effect of public (private) expropriation hazard, leading to higher (lower) equity ownership.
25) Delios and Henisz (2003a)	Firm	Policy uncertainty	Both the probability of a policy change and the likelihood that any change is likely to be adverse	POLCON (policy change), and the size of the host country's manufacturing sector as a percentage of GDP (competitors' lobbying effort)	6465 FDI of 665 Japanese manufacturing firms in 49 countries from 1980 to 1998	Secondary	As uncertainty in the policy environment increases, initial entry by distribution is replaced by an initial entry by a joint venture manufacturing plant.
26) Delios and Henisz (2003b)	Firm	Political hazard	Uncertainty in the host policy environment due to weak institutional constraints on policy makers	POLCON	3857 entries by 665 Japanese manufacturing firms from 1980 to 1998	Secondary	Experience with political hazard countries help firms to expand to high hazard countries whilst market- and cultural-based experience helps them enter low hazard countries.
27) Demirbag et al. (2007)	Firm	Political risk; Risk perception	Not defined; Not defined	POLCON; Linguistic distance	6838 foreign equity ventures in Turkey as of 2003	Secondary	Both political constraint and linguistic distance induce MNEs to opt for majority owned JVs.

<i>Author(s)</i>	<i>Level</i>	<i>Key variable(s)</i>	<i>Definition</i>	<i>Measures</i>	<i>Data</i>	<i>Method</i>	<i>Major findings</i>	
28) Demirbag et al. (2010)	Individual	Politically based uncertainty	Not defined		Perceptual measures based on PEU but extended to other institutional elements	Turkish firms investing in the transitional economies of the Central Asian Republics.	Survey	Perceived ethical-societal uncertainties is positively associated with the choice of joint venture over wholly owned subsidiary. Perceived risk of intervention increases the likelihood of joint venture.
29) Duanmu (2012)	Firm	Political risk; Economic risk	Not defined; Not defined		ICRG	264 entries by 189 Chinese MNEs investing in 47 countries from 1999 to 2008	Secondary	State owned enterprises (SOEs) respond to political risk less negatively than non-SOEs. Economic risk is insignificant to both SOEs and non-SOEs.
30) Duanmu (2014)	Firm	Expropriation risk	The deficiencies of a country's protection of private property rights, especially their protection against government expropriation		Property right protection index constructed by the Heritage Foundation	894 greenfield investment by Chinese firms from 2003 to 2010	Secondary	Political relations between home and host state mitigates the negative impact of expropriation risk on FDI. Both SOEs and private firms benefit, but SOEs benefit more. Only SOEs benefit from host country's export dependence on the home country.
31) Dunning (1981)	Country	Country risk	Not defined		Business Environment Risk Index (expert survey)	FDI flows from 67 countries from 1967-1978	Secondary	Country risk does not affect FDI flows.
32) Erramilli and Rao (1993)	Firm	Country risk	Volatility in the external environment of the host country		Categorical variable of high vs. low risk country	114 US service firms engaged in FDI	Survey	Country risk intensifies the negative relationship between asset specificity and shared ownership mode.
33) Fatehi and Safizadeh (1994)	Country	Political risk	Political-event-induced policy changes that could have a negative impact on foreign firms		Count of socio-political disturbance events	Annual flow of US manufacturing, mining, and petroleum FDI in 14 developing countries over the period 1950-1982	Secondary	The relationship between FDI flow and political risk is industry specific.

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34) Feinberg and Gupta (2009)	Firm	Country risk	A multidimensional construct encompassing many types of country-specific political and economic hazards that share common institutional drivers	The risk of contract repudiation in the IRIS dataset provided by ICRG	3739 subsidiaries of 1279 US-based MNEs in 19 countries, from 1983 to 1996	Secondary	Under uncertainty, MNEs increase the extent of their within-firm sales. Trade internalization as a response to country risk is weaker when MNEs have greater experience deploying political strategies.
35) Fernández-Méndez et al. (2015)	Firm	Governmental discretion	The degree to which governments can unilaterally alter the conditions in which firms operate in a country, in a way that affects investments' profitability	POLCONV	FDI location choices made from 1986 to 2008 by 105 Spanish firms listed on the Madrid Stock Exchange in 1990	Secondary	The willingness of regulated physical infrastructure firms to invest in countries with governmental discretion increases in countries having both a legal system from the same family as the one of the home country and infrastructure voids.
36) Figueira-de-Lemos and Hadjikhani (2014)	Firm	Risk and uncertainty	Uncertainty consists of two types; pure uncertainty is associated with the unpredictability of the future events and contingent uncertainty refers to the lack of knowledge. Risk is a function of commitment and uncertainty.	Illustrated with graphs	93 interviews with 25 Swedish and 17 Iranian managers involved in the nine Swedish MNEs' foreign operations in Iran before, during and after the 1978/79 Islamic Revolution	Case study	An environmental change is perceived as low risk induces incremental commitment of tangible assets, while firms decrease tangible assets and commit in a more intangible way when facing a detrimental change of environment.
37) Filatotchev et al. (2007)	Firm	Risk preference	Not defined	Inferred from the equity stake of different shareholders	285 FDI by 122 Taiwanese firms in China, 1999-2003	Secondary	Risk preferences of family and institutional shareholders determine equity commitment.
38) Fisch (2008a)	Firm	Uncertainty	A continuous variable reflecting environmental volatility, which can be resolved by a wait-and-see approach.	The standard deviation of the 6-month rate of change of the Composite Leading Indicator within a country and year	5379 entries in the manufacturing sector by 2282 German firms in OECD countries over 5 years	Secondary	Under the moderating influence of competition, the economic uncertainty in a host country has a U-shaped influence on the moment of entry. Uncertainty has a negative effect on the amount of capital at entry, but no effect on the share in capital at entry.

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39) Fisch (2008b)	Firm	Exogenous uncertainty; Endogenous uncertainty	The time-variant volatility of the host country environment; A disability of the investor to control the subsidiary	The standard deviation of the 6-month rate of change of the Composite Leading Indicator within a country and year; International experience – the number of foreign subsidiaries held by the investor prior to the focal entry	643 projects in the manufacturing sector by German firms in OECD countries	Secondary	The investment rate in new foreign subsidiaries depends negatively on the economic volatility of the host country but positively on the firm's international experience. The influence of uncertainty declines over time after the entry.
40) Forlani et al. (2008)	Individual	Risk perception; Risk propensity	Risk as capital losses; Not defined	Perceived riskiness rating on psychometric scales; Risk preference measured by Schneider and Lopes (1986)	187 export managers across a large mid-western metropolitan area in US	Field experiment	Managers in lower-capability firms see the least risk in the non-ownership entry mode whilst those in higher-capability firms see the least risk in the equal-partnership entry mode.
41) Garcia-Canal and Guillén (2008)	Firm	Policy risk	The likelihood that the government might change policies in a way that adversely affects the interests of the foreign investors.	POLCON	Entries of 25 Spanish listed companies in regulated industries into Latin American	Secondary	Firms from regulated industries prefer high policy risk. Firms with state equity (increased foreign experience) exhibit more (less) tolerance for political risk.
42) Gatignon and Anderson (1988)	Firm	Country risk	Environmental threat to the stability of business operation	Categorical variable featuring low, moderate and high risk countries	1267 entries of firms among the largest MNEs over the period 1960-1975	Secondary	In highly risky countries, firms avoid outright ownership of their subsidiaries.
43) George et al. (2005)	Firm	Risk propensity	Not defined	Inferred from scale and scope of internationalization	889 SMEs headquartered in Sweden	Survey	Increased ownership by SMEs' managers can induce risk aversion. The involvement of institutional investors in SMEs' strategic decisions reduces managers' risk aversion.

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44) Goerzen et al. (2010)	Firm	Environmental risk	Financial and economic risks defined as fluctuations in the overall level of economic activity and prices in a country; Political risk defined as the possibility of political change and the feasibility of policy change by a host country government; Cultural risk defined as the difficulty of predicting the actions of others	Economic, financial and political risk measured by ICRG, cultural risk measured by Kogut and Singh (1988) index	305 Japanese FDI announcements including 168 JVs and 137 wholly owned subsidiaries (WOS)	Secondary	Firms' direct and indirect experience plays a significant role in mitigating the stock market's responses to host country risk.
45) Globerman and Shapiro (2003)	Country	Foreign exchange risk; Political instability	Currency volatility; Not defined	The degree of exchange rate volatility against the US dollar over the sample period; World Governance Indicators' (WGI) Political Instability and Violence index	FDI flows from US to 88 countries over the period 1995-1997	Secondary	Political instability does not affect FDI flows at all while foreign exchange risk is rarely significant.
46) Heidenreich et al. (2015)	Individual	Uncertainty	Uncertainty involves both downside risks and upside potential.	Factor-market uncertainty, political-regulatory uncertainty, and socio-cultural uncertainty	Secondary data and interviews with two key decision-makers involved in a firm's investment in Ghana	Case study	The possible use of political strategies reduces entrepreneurs' perceived uncertainty regarding a developing country. Past experience in developed countries induces entrepreneurs to believe that their skills can outweigh the external threats.

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47) Henisz (2000)	Firm	Political hazard; Contractual hazard	The feasibility of policy change by the host country government which either directly or indirectly diminishes MNEs' expected return on assets in the host country; Comprised of asset specificity, hazard of technological leakage and hazard of free riding on reputation and brand name	POLCON (formal), and unexpected corruption level measured corruption level in International Country Risk Guide minus POLCON (informal); Ratio of property, plant and equipment/R&D expense/advertising expense to total sales	3389 foreign manufacturing operations established by 461 US firms in 112 countries	Secondary	The effect of political hazard on the probability of choosing a majority owned entry mode is contingent on contractual hazard.
48) Henisz and Delios (2001)	Firm	Firm specific uncertainty; Policy uncertainty	Not defined, but referring to the uncertainty derived from an organization's unfamiliarity with market characteristics, and the uncertainty derived from characteristics of the policymaking apparatus of a market that make the characteristics of the market unstable or difficult to forecast	Log of the sum of subsidiary years of manufacturing experience in a prospective host country; POLCON	2,705 overseas investments made by 658 Japanese listed firms in new manufacturing plants in 52 countries during the 1990-96	Secondary	Imitating the behavior of several reference groups of firms helps reduce the firm-specific uncertainty, but cannot mitigate the negative impact of policy uncertainty associated with a host country.
49) Henisz and Delios (2004)	Firm	Political hazard; Regime change	The likelihood of change in the status-quo policies that affect firms' costs, revenues and asset values; Unpredictability of the environment arising from the changes in political institutions to an entirely new structure	POLCON; Polity index	2,283 foreign subsidiaries, formed during 1991–2000 by 642 Japanese manufacturing firms in 52 countries	Secondary	Under a stable political regime, peer exits increase the probability of exit and firm experience reduce it. Under a changing regime, peer exists continue to provide informational signals regarding the environment but the experience-based influence with the old regime proves a liability.
50) Herrmann and Datta (2002)	Firm	Risk exposure	Not explicitly defined, but associated with the extent of resource commitment and switching cost	Proxied by full-control vs. shared-control entry mode	271 foreign entries by US listed manufacturing firms	Secondary	Successor CEOs' increasing tenure and international experience encourages full-control (riskier) entry mode.

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51) Holburn and Zelner (2010)	Firm	Policy risk	The risk that a government will opportunistically alter policies to expropriate an investing firm's profits or assets	POLCON	FDI of global private electricity-industry firms during the period 1990–1999	Secondary	Firms from home countries with weak institutional constraints or strong redistributive pressures are less sensitive to host-country policy risk
52) Hsieh et al. (2010)	Individual	Risk perception	1) the perception that the JV performance could decline in the foreseeable future; 2) the perception that the relationship between a foreign partner and its local partner could deteriorate in the foreseeable future; 3) the perception that a partner could be unreliable or unwilling to commit itself to the collaborative venture; and 4) the perception that a partner could not be trusted	Perceptual measures developed for this study	71 foreign expatriates of IJVs established in Taiwan from 1983-2003	Survey	Partners' perception of risk mediates the effect of JV situational conditions on post-formation control.
53) Jiménez (2010)	Firm	Political risk	Not defined	Economic Freedom Index by Heritage Foundation, Corruption Perceptions Index by Transparency International, and POLCON	166 Spanish MNEs in 119 countries at the year 2005	Secondary	MNEs with a broader international expansion tend to invest in more politically risky places. A higher level of diversity in the host countries' political risk is associated with a greater scope of internationalization.
54) Jiménez et al. (2014)	Firm	Political risk	The probability of a government using its monopoly over legal coercion to refrain from fulfilling existing agreements with an MNE, in order to affect the redistribution of rents between the public and private sector.	Average and variance scores of Corruption Perceptions Index by Transparency International and POLCON for the investment location portfolio of each MNE	164 Spanish MNEs with investments in 119 countries	Secondary	Exposure to political risk increases a firm's scope of internationalization. The relationship is stronger in those companies belonging to industries subjected to higher levels of regulation by the authorities.

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55) Jiménez et al. (2015)	Firm	Political risk	Not defined	POLCONV	119 Spanish firms with more than 250 employees and more than one product line	Secondary	MNEs that have experience in high political risk environments are more likely to tolerate risk and find a suitable environment to achieve economies of scope.
56) Jiménez and Delgado-García (2012)	Firm	Political risk	Not defined	Corruptions Perception Index, POLCONV, and Economic Freedom by the Heritage Foundation	164 Spanish MNEs with investments in 119 countries	Secondary	The level of political risk assumed by the MNEs has a positive influence on their performance and vice versa.
57) Kim and Hwang (1992)	Firm	Country risk	Not defined	Managers' perceptions about the instability of host political system and the likelihood of adverse policies	96 US manufacturer that have recently engaged in international expansion	Survey	High country risk leads to low commitment entry mode.
58) Kim et al. (1993)	Firm	Corporate risk	Not defined	Standard deviation of firm's return on assets	125 large US MNEs over a 5-year period	Secondary	A new risk-adjusted return measure suggests that high return-low risk profile can be achieved through international diversification.
59) Kiss et al. (2013)	Individual	Internationalisation risk bias	The difference between objective risk and subjective risk perception	Compare OECD country risk measures with managers' rate on the riskiness of host countries	CEOs of 286 firms that internationalized early	Survey	Internationalization risk bias mediates the relationship between internationalization motivation and post-entry scope.
60) Kobrin (1976)	Country	Political risk	Discontinuities in the political environment that potentially affect the profit or other goals of a particular firm	A composite measure based on political event data, including political rebellion, government instability and planned subversion	The number of new manufacturing subsidiaries established by 187 large US manufacturer in 61 countries over the period 1966-1967	Secondary	Political risk does not affect FDI flows.

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61) Kwok and Reeb (2000)	Firm	Corporate risk	Not defined	Total risk, measured as the standard deviation of monthly returns using 60 months of return data	1921 public firm from 32 countries in which 1007 are MNEs, over the period 1992-1996	Secondary	Emerging country firms see a decrease in total and systematic risks as they increase the degree of internationalization. The effect is opposite for developed country firms.
62) Levis (1979)	Country	Political instability	Not defined	Political competition index regarding the legitimacy of political system	FDI flows from 25 developing countries over the period 1965-1967	Secondary	Political instability deters FDI, but of secondary importance to economic factors.
63) Li and Yao (2010)	Firm	Policy uncertainty	Political institutions that allow policy-makers to change the policy regime capriciously	Provincial level index consisting of five factors: lagged unemployment rate; employment in SOEs as a percentage of provincial population; total provincial government budgetary expenses as a percentage of GDP; provincial government employment as a percentage of provincial population; and FDI policy incentives (the existence of special economic zones (SEZs) and coastal open cities in the province)	All foreign-invested manufacturing ventures established in China over 1979–95 by firms from other emerging economies	Secondary	EMNEs are more likely to be influenced by prior entries from their home country than by firms from other countries. Prior investments by developed economy firms deter new entries by emerging economy multinationals. Policy uncertainty leads to a stronger effect of mimicry.
64) Liang et al. (2012)	Firm	Risk-taking tendency	Not defined	Inferred from the act of internationalization and entry mode	553 Chinese private firms in eight major cities spreading across Pearl River delta and Yangtze River delta region	Survey	The likelihood of private firms choosing a high-risk entry mode is determined by organizing capability advantages over SOEs, and disadvantages compared to foreign firms.
65) López-Duarte and Vidal-Suárez (2010)	Firm	External uncertainty	Uncertainty perceived by the investing company in the formal and informal institutional environment	Political risk measured by Euromoney Risk Index; Cultural distance measured by Kogut and Singh Index	334 FDI by 63 listed Spanish firms in 34 countries between 1989 and 2003	Secondary	An interaction effect between two dimensions of external uncertainty on entry mode choice

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66) Loree and Guisinger (1995)	Country	Political instability	Not defined	ICRG	Survey data on foreign subsidiaries of US firms in 48 countries in 1977 and 1982	Secondary	Political risk has a negative impact on equity FDI in 1982 but not in 1977.
67) Lu et al. (2014)	Firm	Investment risk	Not defined	WGI's Regulatory Quality index	702 FDI entries of Chinese listed firms over the period 2002-2009	Secondary	Favorable host country institutions can offset the need for prior international experience in EE firms' FDI activities.
68) Luo (2001)	Firm	Environmental hazard	Not defined	Government intervention, environmental uncertainty and property right protection measured on scales	174 foreign subsidiaries in China across Yangtze River Delta and Pearl River Delta cities	Survey	Joint venture is preferred when perceived governmental intervention or environmental uncertainty is high and wholly-owned entry mode is preferred when intellectual property rights are not well protected.
69) Maitland and Sammartino (2015a)	Individual	Political hazard	The broad spectrum of possible actions and outcomes flowing from the sovereign state's monopoly control of formal rule setting and enforcement, when the status quo is maintained or changes to the status quo occur	POLCON and the authors' typology of political hazard	Interviews and surveys with an MNE's 11 senior executives and board directors, triangulated with corporate materials	Interview, survey and secondary	Individual managers bring different cognitive resources to the firm decision process of entering a politically hazardous country. The difference is a function of managers' experience breadth and diversity.
70) Meschi and Riccio (2008)	Firm	Country risk	Not defined	Scores of economic risk and political risk provided by Political Risk Services	222 international joint ventures in Brazil, 1973-2006	Secondary	Survival of international joint ventures is not affected by country risk.
71) Michel and Shaked (1986)	Firm	Firm risk	Not defined	Total risk and systematic risk measured by Sharpe and Treynor measure (beta)	58 large US MNEs and 43 domestic firms among Fortune 500	Secondary	Domestic firms have higher total and systematic risk than MNEs.

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72) Oetzel and Oh (2014)	Firm	Discontinuous risk	The possibility that a disaster, which is episodic and often difficult to anticipate or predict, might occur and may have a substantial impact on a firm and its operating environment	The number of incidents, number of people killed, and duration of terrorist attacks, natural disasters and technological disasters respectively	106 large European MNCs and their subsidiaries operating across 109 countries during 2001-2007	Secondary	Experience with high-impact disasters encourages expansion within but not entry into other countries suffering the same disaster.
73) Oh and Oetzel (2011)	Firm	Disaster risk; Political risk	Terrorist attacks, natural disasters, and technological disasters; Political instability	Number of people killed by each disaster risk; WGI's Political Instability and Violence index	71 European Fortune Global 500 firms and their subsidiaries from 2001 to 2006	Secondary	Post-entry disaster risk increases subsidiary-level disinvestment. Political stability mitigates the impact of disaster risk.
74) Pak and Park (2004)	Firm	Political risk	One of internalization costs in the form of discrimination against foreign firms and expropriation	Stability of political situation measured by World Competitiveness Report	3,236 foreign subsidiaries of 444 Japanese manufacturing firms as of 1999	Secondary	Political risk leads to low ownership mode.
75) Puck et al. (2013)	Firm	Risk exposure	Caused by the comparatively under-developed institutional frameworks and more rapid changes in the investment climate	Self-reported perceptual measure of a subsidiary's exposure to legal, political, and economic risks	173 subsidiaries in Brazil, China, India, Russia, South Africa and Turkey	Survey	Whether political strategies can reduce firms' risk exposure depends on a) if they sell to businesses or end consumers and b) the specific strategies being employed.
76) Quer et al. (2012)	Firm	Political risk	Institutional constraints related to political and legal regime that may negatively affect economic activity	ICRG	139 investments made by 29 Fortune 500 Chinese firms in 52 countries between 2002 and 2009	Secondary	Political risk is not related to FDI location choice.
77) Ramasamy et al. (2012)	Firm	Political risk	Not defined	WGI's Political Instability and Violence Index	FDI projects of 63 large Chinese listed firms over the period 2006-2008	Secondary	SOEs are attracted to politically risky countries, whilst the effect is not significant for private firms.

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78) Ramos and Ashby (2013)	Firm	Organized crime risk	Provide only definition of organized crime	Denounced homicides per capita; Country crime score by Global Competitiveness Report	FDI of 9 industries from 103 countries into the 32 Mexican states from 2001 to 2010	Secondary	Home country experience with organized crime increases MNEs' investment in host countries with high level of organized crime.
79) Reeb et al. (1998)	Firm	Systematic risk	Earning volatility	Portfolio beta instead of individual security beta	880 or 844 MNEs over the period 1987-1996, depending on different dependent variables	Secondary	Internationalization may incur additional risk like exchange risk, political risk and information asymmetry that offset the benefit of diversification, leading to a positive relationship between internationalization and systematic risk.
80) Reuer and Leiblein (2000)	Firm	Downside risk	A probability-weighted function of below target performance outcomes	Lower partial moments based on ROA, ROE and CAPM beta	357 US manufacturing firms over the period 1985-1994	Secondary	Corporate multinationality is not significantly related to downside risk, and firms that are more active in engaging in IJVs obtain higher levels of downside risk.
81) Richards and Yang (2007)	Firm	Environmental uncertainty; Behavioral uncertainty	Caused by unexpected occurrences in the political, economic, and social environment; Arises from partner opportunism	ICRG; Whether the JV also engaged in marketing activities, and the frequency of prior joint venture collaboration with the same partner	543 international R&D joint ventures by foreign firms in China, India, Japan, and the United States over 1985 to 2004	Secondary	The influence of environmental uncertainty (country risk) on MNEs' equity ownership in R&D IJVs is insignificant. MNEs require a higher equity ownership for R&D JVs that also engage in marketing.
82) Rugman (1976)	Firm	Corporate risk	Not defined	Risk as variance in return	Large US firms among Fortune 500 over the period 1960-1969	Secondary	A risk reduction advantage of MNEs over domestic firms

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83) Lee and Song (2012)	Firm	Macroeconomic uncertainty	Not defined	Depreciation of currency of each host country	Foreign subsidiaries of publicly listed Korean manufacturing firms in 61 countries from 1990 to 2007	Secondary	The increase of a subsidiary's production at the time of its host country currency depreciation decreases the production of other subsidiaries within the same MNC network.
84) Schneider and Frey (1985)	Country	Political instability	Internal political troubles that disrupt economic process and pose threats to MNEs like nationalization	Number of political strikes and of riots	FDI flows from 54 developing countries for the year 1976, 1979 and 1980	Secondary	Political instability negatively affects FDI flows.
85) Schwens et al. (2011)	Firm	Formal institutional risk	The constraints resulting from insufficiently developed market support institutions in the host country	Hermes Country Risk Rating, dividing countries into 7 categories based on economic, political, and legal situation in the host country	227 internationally active German SMEs	Survey	Formal institutional risk moderates the relationships between international experience, proprietary know-how, strategic importance, and equity based entry modes.
86) Sethi et al. (2003)	Country	Political and economic stability	Not defined	ICRG	FDI flows from US to 17 West European and 11 Asian countries from 1981 to 2000	Secondary	Very weak effect of political and economic stability on FDI flows
87) Shan (1991)	Firm	Contextual risk; Transactional risk	Risks out of firm's control; Risk can be reduced or eliminated through internalization of markets or integration	Proxied by location, amount of investment, investment duration and business scope	141 Sino-American joint ventures formed between 1980 and 1987 in China	Secondary	Publicly listed firms are less risk averse than non-listed firms.
88) Shrader et al. (2000)	Firm	International risk	With reference to Miller's (1992) framework	Inferred from country risk, entry mode commitment and foreign sales ratio, country risk measured by Euromoney, Institutional Investor and Wall Street Journal ratings	212 entries of 87 US firms that had both made an IPO and entered foreign markets within first six years of birth	Secondary	Firms tradeoff among foreign revenue exposure, country risk, and entry mode commitment in each country to keep the risk profile manageable.

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89) Slangen and van Tulder (2009)	Firm	External uncertainty	Not defined	Aggregate WGI index	231 entries by 150 Dutch MNEs into 48 countries	Survey	Both cultural distance and political risk are suboptimal proxy for external uncertainty.
90) Slangen and Beugelsdijk (2010)	Firm	Institutional hazard	Not defined, but decomposed into two types, exogenous and endogenous hazard, depending on whether it can be resolved once realized	Aggregate WGI index (exogenous), cultural distance measured by a Euclidean distance version of the Kogut and Singh (1988) Index (endogenous)	Sales by US foreign affiliates to affiliated and local unaffiliated customers in 46 countries over the period 1996-2004	Secondary	The impact of institutional hazards on the amount of foreign MNE activity is contingent upon the type of foreign activity (horizontal or vertical) and the type of institutional hazard (governance or cultural).
91) Slangen (2013)	Firm	Policy uncertainty	Sudden policy change stemming from political constraints shortages	POLCON	172 wholly owned greenfields and full acquisitions by 122 Dutch MNEs in 33 foreign countries from 1995 to 2003	Survey	Policy uncertainty increases the likelihood of wholly owned greenfield over full acquisition. Planned subsidiary autonomy, expected industry performance, and religious distance moderate this relationship.
92) Strange et al. (2009)	Firm	Risk preference	Not defined	Inferred from equity stake in foreign affiliates, along with cultural and historic links with the home country	285 FDI projects by Taiwanese listed firms in China between 1999-2003	Secondary	Firms balance out resource commitment and locational risk. Different shareholders have different risk preferences that influence location choice.
93) Tseng and Lee (2010)	Firm	Environmental uncertainty	Not defined	Managers' perceptions about unpredictability of market environment and institutional environment	84 Taiwanese manufacturing firms that have foreign operations	Survey	In the presence of high turbulent market and institutional uncertainty, firms with stronger market linking capability are more likely to choose WOS over JV.