

## Risk propensity in the foreign direct investment location decision of emerging multinationals

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# **RISK PROPENSITY IN THE FOREIGN DIRECT INVESTMENT LOCATION DECISION OF EMERGING MULTINATIONALS**

**Abstract:** A distinguishing feature of emerging economy multinationals is their apparent tolerance for host country institutional risk. Employing behavioral decision theory and quasi-experimental data, we find that managers' domestic experience satisfaction increases their relative risk propensity regarding controllable risk (legally protectable loss), but decreases their tendency to accept non-controllable risk (e.g., political instability). In contrast, firms' potential slack reduces relative risk propensity regarding controllable risk, yet amplifies the tendency to take non-controllable risk. We suggest that these counterbalancing effects might help explain prior ambiguous findings on the relationship between experience, slack, and FDI decisions. The study provides a new understanding of why firms exhibit heterogeneous responses to host country risks, and the varying effects of institutions.

**Keywords:** decision-making; country risk; heterogeneity; domestic experience; slack; quasi-experimentation

## INTRODUCTION

International business (IB) research has established that multinational enterprises (MNEs) tend to refrain from investing in countries with significant international risk – particularly institutional risk (Delios & Henisz, 2000; Delios & Henisz, 2003). Yet foreign direct investment (FDI), especially by emerging multinationals (EMNEs), into risky countries has been growing ever more rapidly. Many postulate that EMNEs can overcome institutional risk in foreign entries due to enhanced organizational capabilities derived from experiential learning (Cuervo-Cazurra & Genc, 2008). Others contend that capital market imperfections in the home country confer on EMNEs excess funds that enable venturing in risky countries (Buckley, Clegg, Cross, Liu, Voss, & Zheng, 2007a). Rarely is it noted that the claimed capabilities and borrowing capacity are not directly observed, but used as a theoretical mechanism to account for firms' FDI risk-taking. In fact, we know little about how risky investments actually emerge.

Firm-level causality is inevitably open to many alternative explanations; inferring the capabilities explanation from observed risk-taking seems tautological. A compelling argument – yet to be fully incorporated in the existing studies – is that it is managers who ultimately make the location decisions. Recent behavioral research suggests managers' risk attitude and risk assessment model evolve with decision experience (Buckley, Devinney, & Louviere, 2007b; Maitland & Sammartino, 2015a, 2015b). Managers' views on the applicability of previous experience in the focal context also play an important role in firms' decision making (Gavetti, Levinthal, & Rivkin, 2005; Williams & Grégoire, 2015). It is increasingly conceivable that observed FDI risk-taking may be more the outcome of managerial cognition and responses than firm-level capabilities (Buckley & Strange, 2011).

To accommodate this view, we draw on the concept of risk propensity from behavioral decision research (Sitkin & Pablo, 1992; Sitkin & Weingart, 1995). Risk propensity refers to an individual's current tendency to assume a specific risk, which is affected by past experience outcomes and present conditions in the organizational context (Bateman & Zeithaml, 1989). By implication, EMNEs' unconventional inclination for institutional risks may simply reflect how managers make location decisions given the home country imprint (Nadkarni & Perez, 2007) and access to external

finance (Buckley et al., 2007a). However, one could also argue that EMNEs' attraction to underdeveloped institutions is not because of a less aversion to risk, but a greater capability or ambition for generating return in such environments. We therefore extend the conventional conceptualization of risk propensity to account for risk-return tradeoffs in the decision process. In this paper, we depict an *ex ante* account of FDI risk-taking using quasi-experimentation on a group of Chinese top managers. Operationalizing *relative* risk propensity as one's marginal utility of risk over that of investment return, we examine how firm experience and present conditions – in particular, domestic experience satisfaction and the firm's potential slack – cause heterogeneity of managers' responses to risk in FDI location decisions. We find that the effect of these contextual variables differs depending on whether the risk in question is controllable or non-controllable.

Our study contributes to the literature on two fronts. First, we open the black box of FDI risk-taking, especially for EMNEs. Extant research rationalizes risky location choices using data on actual investments, forming the basis for the received wisdom of EMNEs' global strategy and home-country-based advantages (Cuervo-Cazurra, 2011). Yet this approach relies mostly on inference at the aggregate level, and suffers from the lack of microfoundations as to what actually drives risky decisions (Barney & Felin, 2013; Buckley, Chen, Clegg, & Voss, 2016). Our study offers a more informed understanding by attributing observed firm-level heterogeneity to varied managerial appetites for risk. We show that satisfaction with home country venturing may attenuate managers' general tendency to avoid one type of institutional risk but accentuate another. Analyzing risk propensity also allows us to test directly how firms' potential slack affects *ex ante* risk-taking (cf. Wiseman & Bromiley, 1996). The fact that risk propensity accounts for the relations between firm-level antecedents and FDI risk-taking demonstrates the necessity in articulating the lower level, behavioral mechanisms for understanding firms' heterogeneous global strategies. Moreover, investment data reveals little information about the expected return, which weighs heavily in the location decision process (Buckley et al., 2007b). To offer a more realistic account, our approach examines risk propensity in relative terms, i.e. how much expected investment return one is willing to give up to avoid additional risks. We demonstrate that experimentation offers a unique means to capture this intuitive formalization of risk propensity, which complements *ex post* organizational risk

measures (Belderbos, Tong, & Wu, 2014) and subjective risk perception (Giambona, Graham, & Harvey, 2017).

Second, our study yields new insights into the varying behavioral implications of controllable vs. non-controllable institutional risks. Extant research on how experience and context shape risk propensity employs competing theories and reports mixed findings. It casts doubt on the applicability of individual-level theories in the organizational context. We argue that different behavioral theories are developed in different task settings so that some, e.g. prospect theory, may be more applicable when external threat is involved and odds are exogenously given (Holmes, Bromiley, Devers, Holcomb, & McGuire, 2011), whilst others are best suited to circumstances where managers perceive a sense of control over the risk in question (George, Chattopadhyay, Sitkin, & Barden, 2006). Our findings indeed suggest that managers respond to controllable and non-controllable risks differently. Differentiating the nature of the risk helps reconcile the equivocal effects of firm experience on FDI decisions (Oh & Oetzel, 2017), and clarify the facilitating role of potential slack in risk-taking (Singh, 1986).

## **LITERATURE REVIEW**

### **The capabilities explanation on FDI risk-taking**

Organizational learning theory proposes that experience is the primary source for acquiring new knowledge and the key path through which capabilities can be developed (Fiol & Lyles, 1985). Direct experience confers on organizational members the knowledge of action-outcome relationships and of the environmental impact on these relationships. In the IB literature, it is posited that international experience facilitates the acquisition of tacit knowledge about foreign markets and the process of cross-border operations, thereby reducing the perceived risk of further expansions (Delios & Henisz, 2000). This argument provides the theoretical reasoning underlying the relationship between experience and FDI risk-taking. Recent research has focused particularly on the institutional environment, as firms' ability to grapple with weak institutions is considered an important ownership advantage for success in risky host countries (Buckley et al., 2007a; Henisz, 2003). Since the relevance of past experiences increases learning effectiveness, such non-market capabilities are

assumed to be fungible across countries with similar institutional conditions (Perkins, 2014).

Following this logic, EMNEs' expansion into risky countries is commonly attributed to political capabilities nurtured in the home country where firms have learned to cope with underdeveloped institutions (Cuervo-Cazurra & Genc, 2008; Holburn & Zelner, 2010). Empirical research reveals that FDI from countries with high corruption levels is evidently clustered in other corrupt countries (Cuervo-Cazurra, 2006), while firms from countries with organized crime problems proactively seek business opportunities in other countries with persistent organized crime (Ramos & Ashby, 2013).

Despite the numerous insights generated, this literature does not directly examine what is learned from experience but rather attributes the relationship between experience and subsequent firm behavior to unobserved capabilities. Yet the inherited knowledge and home country imprint cannot always transfer to seemingly similar markets (Giarratana & Torrasi, 2010). Experience of engaging with local stakeholders does not automatically breed expertise in political hazard assessment (Maitland & Sammartino, 2015a) and in managing conflict risks (Oh & Oetzel, 2017). It implies that experience alone is not sufficient for learning (Haleblian, Kim, & Rajagopalan, 2006). Microfoundations research suggests that experienced firms accumulate a set of "simple rule" heuristics, including where to locate value adding activities, as managers become cognitively more sophisticated over time (Bingham & Eisenhardt, 2011). New insights into experiential learning emerge when researchers delve into the decision process through which managers evaluate environments and select among alternative opportunities (Maitland & Sammartino, 2015a). However, the predominance of the capabilities explanation leaves the puzzle unsettled as to what determines firms' heterogeneous risk-taking in FDI.

### **Managerial perspective and (relative) risk propensity**

An alternative approach to the firm level theorization casts spotlight on the managers who make the strategic decisions as to where to locate foreign subsidiaries (Schotter & Beamish, 2013). The premise is that observed risk-taking may not be driven by firm capabilities, but instead is a function of managerial risk propensity. Behavioral decision theory suggests that managerial risk-taking is primarily affected by the firm's past performance and present conditions (Bateman & Zeithaml, 1989). Attainment discrepancy and outcome history represent notable constructs accounting

for the impact of performance feedback and framing on subsequent risk-taking (Osborn & Jackson, 1988; Sitkin & Weingart, 1995; Thaler & Johnson, 1990). Excess funds and slack resource are among the present firm conditions that affect managers' risk-taking outlook (Bromiley, 1991; Singh, 1986; Wiseman & Bromiley, 1996). These contextual influences prompt behaviorists to ascribe apparent risk-taking to managers' risk propensity – i.e. the likelihood of taking a specific risk (George et al., 2006; Sitkin & Pablo, 1992; Sitkin & Weingart, 1995). It denotes the current, variable tendency, as opposed to a constant, dispositional risk preference. One could thus explain the relationship between experience and firm risk-taking by reference to managerial risk propensity; prior experience provides important feedback to managers about their ability to enact the environment in their own favor (Haleblian et al., 2006; March & Shapira, 1987) and the effectiveness of the coping strategies they have employed in controlling the risks (Lant, Milliken, & Batra, 1992). Positive experience further enhances managers' self-confidence in tackling similar risky tasks in the future (Zollo, 2009).

However, two important issues remain underexplored that inhibit the development of the managerial perspective. First, the conceptualization and operationalization of risk propensity remains ambiguous. What kind of decisions are, *ex ante*, risk-laden or risk-reducing for the firm is unsettled in theory (Holmes et al., 2011). Strategic changes such as R&D investments are often presumed to indicate risk-taking, without an account of their potential value (Bromiley, Rau, & Zhang, 2016). By extension, one might contend that EMNEs' greater appetite for host country risks observed by prior research is due to their stronger capability to extract rents in environments similar to their home country or due to higher ambitions for growth, rather than less aversion to risk. To examine truly how sensitive managers are to certain risks and what affects managerial risk propensity, it may be necessary to consider risk and return simultaneously (Witte et al., 2017). Following the risk-return framework, we maintain that managers make decisions based on a tradeoff between expected value and uncertain outcomes which maximizes utilities (Weber & Milliman, 1997). Whether a person is deemed more or less risk averse is not determined by the absolute risk level, but must take into account both her marginal utility of money and attitude toward uncertain outcomes (Jia, Dyer, & Butler, 1999). Therefore, we propose the construct of *relative* risk propensity, defined as the extent to which managers will sacrifice expected return to avoid taking on additional risks. This

conceptualization is consistent with the financial theory of investment (Jia et al., 1999), and can accommodate the effect of contextual influences such as outcome history and outcome framing (Weber & Milliman, 1997). Meanwhile, it provides a more intuitive and relevant formalization of the choice process.

Second, applying the behavioral decision theory to organizational contexts has led to competing hypotheses and equivocal findings (Holmes et al., 2011). Research suggests that experience could prompt internationalization as managers overestimate the efficacy of prior strategies and fall prey to a competency trap (O'Grady & Lane, 1996), as well as inhibit internationalization when managers lack faith in the applicability of previous knowledge and capabilities in dealing with the anticipated environmental hazards (Duanmu, 2012). Similarly, behavioral studies document mixed effects of slack on risk-taking, not least in the context of internationalization (Rhee & Cheng, 2002). The slack-as-resource argument is proposed when researchers find that slack facilitates risk-taking behavior (Singh, 1986), whereas the “hunger-driven” view posits that low slack triggers problemistic search and risk-taking (Wiseman & Bromiley, 1996). We argue that conflicts exist partly because different theories are predicated on the different nature of the risks that trigger varying cognitive responses. Prospect theory suggests that poor performance may induce decision-makers to bet on the upside potential and make risky choices (Kahneman & Tversky, 1979; Weber & Milliman, 1997), whilst the “house money” thesis proposes that excess funds are treated as someone else’s money with which to take risks (Thaler & Johnson, 1990). Both are developed in a context where odds are externally determined. Conversely, Slattery and Ganster (2002) find that, in decision tasks featuring uncertain outcomes, poor performance induces decision-makers to set less risky goals in subsequent decisions, as opposed to increased risk taking predicted by prospect theory. One implication is that the varying effects may depend on how managers view risk in the new investment context.

## **DEVELOPMENT OF HYPOTHESES**

Given the complexity of FDI, IB literature not only recognizes the magnitude of international risk but also specifies its varieties. For instance, Miller (1992) proposes a comprehensive consideration of international risk, including general environment, industry and firm specific aspects.



To align with previous research, our hypotheses focus specifically on institutional risks. As argued earlier, different behavioral theories presume different nature of the risks, i.e. whether odds are externally determined, which leads to competing hypotheses. By extension, we break institutional risks into controllable and non-controllable ones. Managers often believe that riskiness of a choice in managerial situations can be controlled by their skills, talents and capabilities (March & Shapira, 1987). Hence controllable risk is risk of which the probability and impact can be decreased by managerial actions. Non-controllable risk, however, can hardly be manipulated by the firms or managers, and is predominantly resolved by the passage of time (Cuypers & Martin, 2009).

Figure 1 illustrates our framework. The horizontal arrow represents the general relationship between host country institutional risks and firms' location choice (e.g., Garcia-Canal & Guillén, 2008). Below this arrow lies our microfoundational explanation for this relationship, based on the latent construct of relative risk propensity (interchangeable with risk propensity hereafter, unless noted otherwise). The hypotheses will examine how firm-level contextual variables influence FDI risk-taking by shaping relative risk propensity, i.e. managers' true attitude towards risk after return is accounted for..

\*\*\*Insert Figure 1 here\*\*\*

### **Domestic experience satisfaction**

Entering unfamiliar territory carries risks for MNEs due to informational disadvantages relative to local counterparts (Zaheer, 1995). The same argument holds for domestic venturing. Subnational regions across a country feature cultural and social diversity (O'Grady & Lane, 1996). Establishing new operations in geographically distant markets at home offers managers direct learning opportunities regarding what cues are extracted from an unfamiliar environment and how to interpret them (Cuervo-Cazurra, Maloney, & Manrakhan, 2007). Investing in other subnational regions introduces more productive capacity to the local production base or takes up market share from incumbents, making it imperative to accommodate various interest groups. Such experience shapes managers' domestic mindsets about resource exploitation (Nadkarni & Perez, 2007). Satisfying

performance in inter-regional venturing fosters managers' positive attitude toward foreign expansion (Wiedersheim-Paul, Olson, & Welch, 1978).

Despite the "home country learning" argument being intuitive, domestic experience alone may not necessarily lead to FDI risk-taking. The gap in task features between domestic and international venturing could be wide enough to prevent managers from generalizing the efficacy of their capabilities gained from the former to the latter context (Gavetti et al., 2005). Moreover, the stock of home country experience per se is not enough to induce risk-taking (Haleblian et al., 2006). Behavioral decision theory posits that only positive outcome history increases managers' risk propensity (Osborn & Jackson, 1988; Sitkin & Weingart, 1995). For strategic decisions that produce fuzzy performance feedback, the history of decision quality may not derive from objective performance indicators (Chatterjee & Hambrick, 2011). It is instead based on managers' own interpretation of previous outcomes (Zollo, 2009). The extent to which managers are satisfied with prior experience shapes the constructed "reality" about their coping abilities.

These concerns point to more intricacies regarding the transferability of home country experience; self-assessed potency seems to play an important role. We therefore argue that the relationship between satisfaction with domestic venturing and managerial risk propensity in foreign location choice may be contingent upon the nature of the types of international risk being discussed. The experience of dealing with controllable institutional risk like contractual hazard and opportunistic appropriation is one of capability cues. Managers' cognitive resources and sophistication are conditioned by the institutional context in which the firm operates (Cuervo-Cazurra, 2011). Satisfying domestic experience provides feedback on managers' ability to control institutional risks, and positive self-evaluation boosts their confidence in coping with institutional constraints through remedial actions they are familiar with. The increased risk propensity of managers could be inferred from the fact that MNEs seek out risky host environment compatible with the home country cognitive imprint (Holburn & Zelner, 2010). Therefore, satisfying home country venturing may convince managers that their risk-coping strategies will work in other markets, and become less avoidant to controllable institutional risks in subsequent decisions.

**Hypothesis 1a:** Managers' experience of satisfaction with domestic sub-national operation increases their relative risk propensity regarding controllable institutional risk in FDI location decisions.

Conversely, satisfying domestic experience with controllable risk hardly inform managers of their ability to tackle exogenous turmoil or conflicts. Instead, prospect theory predicts that individuals tend to be loss-averse when they have accumulated gains, and therefore unwilling to take further risk (Kahneman & Tversky, 1979). A common reference point in decision framing is the status quo, which is determined by the performance history of the firm and how decision makers classify it between success and failure (Greve, 1998). A negative situation where loss is likely and over which one has little control triggers responses (Dutton & Jackson, 1987). If the investment outcome is likely to cause loss of tangible resources and undermine a satisfactory status quo, managers would well refrain from making commitments (George et al., 2006). The tendency to avoid losses is further reinforced by attention allocation in the decision process. Managerial attention is a scarce resource, and distributed across a selected set of elements (Ocasio, 1997). Limited cognitive capacity forces managers to employ a simplifying strategy in developing mental representations of the problem to be handled (Gavetti et al., 2005). They tend to single out and pay heed only to the critical aspects of the situational context they encounter (Lampel, Shamsie, & Shapira, 2009). Insofar as managers can control some specific types of institutional risk – for instance mitigating contractual hazard through designed coping mechanisms and routines, the potential losses could be effectively reduced to a level that is acceptable to even risk-averse managers. In contrast, the consequence of non-controllable institutional risk for firms' foreign operations is mostly determined independently of firms or managers' capabilities, and thus poses a greater threat psychologically. Attention allocation may be driven by, and amplify, the focus on loss aversion.

We theorize that managers who are satisfied with their performance in the home country may be preoccupied with defending current gains (Osborn & Jackson, 1988; Thaler & Johnson, 1990), and thereby concentrate attentional processing on potential threats to their "gain" positions when they engage in environmental scanning and evaluation. They will shun unfamiliar and risky foreign markets afflicted with political and civil unrest that could incur asset and personnel losses beyond managers'

own control (Dai, Eden, & Beamish, 2013). This is less the case when managers are empowered by the sense of potency to replicate their prior satisfying performance in tackling controllable risks. Research shows that prospect theory is not applicable when future outcomes are ambiguous and unmanageable, yet mostly efficacious when threats are perceived to be salient and certain (Holmes et al., 2011; Slattery & Ganster, 2002). Therefore, we contend that managers who are satisfied with their performance at home will be more averse to non-controllable institutional risk than those without positive home country experience.

**Hypothesis 1b:** Managers' experience of satisfaction with domestic sub-national operation reduce their relative risk propensity regarding non-controllable institutional risk in FDI location decisions.

### **Potential slack**

In addition to performance feedback, behavioral theory posits that firms' present conditions such as organizational slack affects risk propensity. Organizational slack is defined as a "cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for change in policy as well as to initiate changes in strategy with respect to the external environment" (Bourgeois, 1981: 30). We focus on potential slack, i.e. borrowing capacity, which has received less attention in the literature but bears a close relation to strategic investment including FDI.

Behavioral theory suggests that slack influences risk-taking in two interrelated ways (Singh, 1986; Wiseman & Bromiley, 1996). First, slack acts as a buffering mechanism to absorb environmental shocks, and allows firms to persist with risky strategies without the need for structural change (Cyert & March, 1963). Second, slack justifies risky strategies that are otherwise unacceptable, and thus increases the range of options open to managerial choice (Cheng & Kesner, 1997). Sufficient slack resources direct managers' attention away from attaining the performance target toward the upside potential of greater variability in search of extra return (March & Shapira, 1992). IB researchers follow these views and argue that slack buffers political risk and contributes to the resource base for implementing new strategies, thereby enhancing firms' ability to exploit foreign

market opportunities and skip intermediate steps in internationalization (Tseng, Tansuhaj, Hallagan, & McCullough, 2007).

Although the facilitating role of slack is well argued, empirical research – especially on potential slack – has provided inconclusive findings (Rhee & Cheng, 2002). Singh (1986) reports that excess uncommitted resources have no effect on firms' orientation toward risk-taking, while Lin, Cheng, and Liu (2009) find that potential slack is positively associated with a firm's international expansion. When an investment registers poor performance, firms with abundant potential resources can afford delaying the decision to divest and bet on the future recovery (Kuusela, Keil, & Maula, 2017). This effect is particularly evident when loss is relatively large (Shimizu, 2007). As managers are most likely to prefer less risky alternatives in the face of large possible losses, potential slack plays a crucial role in facilitating risk-taking when the investment involves significant risks (March & Shapira, 1987). One of such risk in the FDI context emanates from host country's political environment. Risks like societal unrest may cause loss of assets or disrupt firms' operations (Miller, 1992). Potential slack alleviates managers' concern over the consequence of institutional risks since additional borrowing capacity insures that foreign market turbulence will not jeopardize the firm's overall financial position and its core business (Lin et al., 2009).

The slack-as-resource literature has focused much theoretical discussion on slack's buffering role against external environmental shocks. Although no distinction has been made between controllable and non-controllable risks in the studies of slack, it is reasonable to contend that the slack-as-resource argument applies in the face of non-controllable institutional risks. This is because managers are likely to resort to buffering mechanisms when they cannot exert any meaningful influence over the hazards ahead. The facilitating effect of potential slack thus aligns well with the "house money" thesis developed in a gambling context where odds are exogenously given (Thaler & Johnson, 1990). But, rarely is it argued or tested as to whether potential slack prompts managers to assume controllable risk as well. Following the second mechanism of slack, we argue that access to abundant capital encourages managers to experiment with riskier strategies and hope for greater return. This is likely when managers believe they can manipulate the regulatory environment to their

advantage (Garcia-Canal & Guillén, 2008; Holburn & Zelner, 2010). Thus, there is no *a priori* reason to suggest that slack cannot shield firms from controllable institutional risks.

**Hypothesis 2a:** Potential slack increases managers' relative risk propensity regarding controllable institutional risk in FDI location decisions.

**Hypothesis 2b:** Potential slack increases managers' relative risk propensity regarding non-controllable institutional risk in FDI location decisions.

## METHODOLOGY

### Research setting and sample

We test our hypotheses on managers of Chinese private firms. In China, the domestic market is fragmented by provincial protectionism and institutional disparities across subnational regions (Boisot & Meyer, 2008). Domestic venturing in other provinces provides important learning opportunities for Chinese firms to tackle institutional risks arising from the region-specific, discretionary enforcement of formal rules. While the single home country context makes managers' sub-national experiential learning comparable, our hypotheses are generalizable to other national contexts, and most readily, to other countries with substantial sub-national heterogeneity like Brazil and India. Compared with SOEs, Chinese private firms share with MNEs from other countries similar characteristics of market orientation and advantage exploitation (Ramasamy, Yeung, & Laforet, 2012), which enhances the external validity of the study.

Our sample consists of 60 top executives of Chinese private manufacturing firms that either have foreign subsidiaries, or have expressed a strong intention to engage in cross-border investment. Considering the lengthy and highly structured task we ask managers to complete, we employ purposive sampling that enables us to a) recruit top managers as respondents, and b) establish a balanced sample of international vs. non-international experience as well as various firm sizes. As different industry sectors are characterized by varying levels of tangible and intangible resource commitment with implications for risk exposure, we intentionally restrict the sample to manufacturers. All firms are headquartered in Beijing, Shanghai or Zhejiang province.

## Discrete choice method

To examine managers' views on risk, we employ the discrete choice method that has been widely used in marketing, transport, health economics, and recently IB research (Buckley et al., 2007b). Discrete choice method is theoretically grounded on random utility theory and the assumption of utility maximization (Louviere, Hensher, & Swait, 2000). This assumption holds in our theorization since, despite being boundedly rational, managers make intendedly rational choice to maximize the chance of achieving a predetermined objective, irrespective of its substantive nature (Buckley & Casson, 2009; Chung & Alcacer, 2002). The utility that manager  $n$  obtains from choosing alternative  $j$  is given by:

$$U_{ni} = \beta x_{ni} + \varepsilon_{ni} \quad (1)$$

where  $x_{ni}$  is a vector of observed location attributes for alternative  $i$ , and  $\beta$  is a vector of weighting parameters (i.e. regression coefficients on location attributes) that reflects managers' preference structure.  $\beta x_{ni}$  represents the systematic component of utility whilst  $\varepsilon_{nj}$  describes an unknown, random component – reflective of preference heterogeneity and measurement error. Utility theory is based on the notion of compensatory behavior in that gains in one attribute can compensate for losses in another. Managers are assumed to compare, consciously or intuitively, the alternatives and make a choice that delivers the highest utility as per the trade-offs among the attribute levels. The quasi-experiment offers three advantages. First, the marginal utility parameters extracted from managers' own behavior indicate their ex ante, general views on each location attribute. The risk coefficients are estimates of managers' sensitivity to specific risk attributes. Second, a variety of aspects of international risk could be added in the experiment as observable attributes of the hypothetical location options. The analysis of managers' marginal preference for each risk reveals the relative perceived importance of one another. Third, we can examine managers' current sensitivity to a risk without reference to any specific host country, thereby eliminating the contamination of idiosyncratic risk perceptions (Weber & Milliman, 1997).

We draw upon Buckley et al. (2007b) – who derive their design from an extensive review of the location literature – to develop the location attributes and levels. We further reduce the variable list to the attributes having the most significant and consistent effect as per their results. Definition and

dimensionality of the attributes are determined based on a review of academic literature and professional reports. We pre-tested the face validity of the attributes and the realism of the task through in-depth interviews with academics and ten Chinese state-owned and private MNE managers. Modifications are made to the attribute definitions, and new attributes are added to suit our research. Since the choice task is conducted face-to-face and presented in Chinese, we work with these academics to ensure that the Chinese and English versions match. Table 1 presents the definitions of the final ten location attributes and the associated levels. We follow Street and Burgess (2007) to utilize “*D*-optimal design”, a common fractional factorial design in choice experiments that reduces the number of choices that each manager has to make. It is a generalized design maximizing the *D*-efficiency value – an indicator of the goodness of the design, which minimizes the variances and covariances of the coefficient estimates  $\beta$  and enables more precise estimation of the utility function (Kuhfeld, Tobias, & Garratt, 1994). Each respondent works through the same 32 pairs of hypothetical, unlabeled investment locations, representing 32 choice scenarios. The location attributes used to describe all 64 location options are identical, but the attribute levels are varied as per the underlying *D*-optimal design. By manipulating the levels, we force managers to make trade-offs between risk and return as well as between one type of risk and another. We also specify that the investment being made would require 30% of the firm’s total cash available for investment for the next three years. Respondents have the option to choose location 1, location 2 or neither across 32 choice sets. Table 2 presents a sample choice task.

We use political instability – a function of high-level political game (Maitland & Sammartino, 2015a) – to represent non-controllable institutional risk, and use legal protection – which mostly bears on opportunistic appropriation by, and contractual disputes with, transactional parties – to represent controllable institutional risk. A similar distinction has been made in the real options literature (Cuypers & Martin, 2009). We operationalize relative risk propensity as the negative coefficient ratio of risk over return on investment (ROI), i.e. the impact of risk relative to return. To do so, we code ROI as a continuous variable in estimation. For H1 and H2, we further collect information on a set of firm-level contextual variables. Following Zollo (2009), we employ a perceptual measure, and focus on domestic experience satisfaction which refers to managers’ evaluation (0=no sub-national



experience, 1=extremely dissatisfied, 9=extremely satisfied) of orchestrating operations in sub-national areas other than the home province (mean=5.22, sd.=2.15, max=8, min=0). This measure also allows us to capture historical gains or losses relative to managers' aspirations (Greve, 1998). As the discrete choice task specified the percent of cash reserve to be invested, we effectively controlled for available slack, i.e. excess liquidity, and thus devote attention to potential slack (Bourgeois & Singh, 1983). For potential slack to influence strategic decision-making, it "must be visible to the manager and employable in the future" (Sharfman, Wolf, Chase, & Tansik, 1988: 602). We measure potential slack on a five-point scale (mean=2.8, sd.=0.81, max=5, min=1) by asking respondents' perceived easiness of acquiring bank loan in the home country (Tan & Peng, 2003). This measure captures the theoretical essence of the commonly used equity-to-debt ratio.

\*\*\* Table 1 \*\*\*

\*\*\* Table 2 \*\*\*

## **Estimation**

In line with previous studies (Buckley et al., 2007b), we first use conditional logit model as a starting point to examine managers' location decisions in aggregate (McFadden, 1974). Each choice set, or commonly referred to as "group", contains three observations and three responses (location 1, location 2 and neither). The dependent variable takes the value one if chosen and zero otherwise. The result (vector  $\beta$ ) of the aggregate model denotes marginal contributions of each attribute level to managers' systematic utility. However, conditional logit has been criticized for its strong assumption about individuals having the same preference structure. Systematic preference variability is conflated in the random component in equation 1. To test for preference heterogeneity, we follow prior research and estimate a mixed logit model where all coefficients are allowed to vary across individuals along independent normal distributions (Chung & Alcacer, 2002). We compare model fit between conditional and mixed logit models to assess heterogeneity, and examine whether risk coefficients vary systematically between managers. Our results, shown later, do confirm managerial heterogeneity.

Nevertheless, one restriction of mixed logit model is that it imposes prespecified distribution functions on random coefficients, the most common being normal distribution (Belderbos & Somers,

2015). We have no a priori theoretical reason to adopt a particular function form. Random coefficients also create significant difficulty in estimating relative risk propensity, i.e. the coefficient of risk over that of return. Therefore, we employ a latent class logit model – a more flexible semiparametric extension of conditional logit that approximates coefficient variation with a finite mixing distribution across individuals. That is, we assume that managers could be assigned to different classes due to their different responses to location attributes. The choice probability that manager  $n$  of class  $q$  chooses alternative  $i$  is expressed as:

$$P_{ni|q} = \frac{e^{\beta_q x_{ni}}}{\sum_j e^{\beta_q x_{nj}}} \quad (2)$$

Preference structure  $\beta_q$  is shared within a given class of managers but differs between classes, capturing cross-group heterogeneity. Class membership of a manager is a function of contextual covariates, with  $H_{nq}$  denoting the probability of individual  $n$  belonging in class  $q$ .

$$H_{nq} = \frac{e^{\theta_q z_n}}{\sum_{c=1}^Q e^{\theta_c z_n}} \quad (3)$$

where  $z$  is a vector of observable individual specific variables and  $\theta$  the weighting vector. Manager's choice behavior depends on both location attributes  $x$  as well as latent heterogeneity that varies with observable individual-specific characteristics  $z$  (Greene & Hensher, 2003). Our study posits that domestic experience satisfaction and potential slack influence managers' relative risk propensity and are the focal variables in  $z$ . Therefore, we compare this coefficient ratio across latent classes to examine how managers influenced by these contextual variables may be more or less avoidant to controllable and non-controllable risks than others. The relative risk approach avoids the problem of varying residual variations that prevent the direct comparison of coefficients of different logit equations (Hoetker, 2007). In a robustness check, we also run conditional and mixed logit models with interaction terms to account for the effect of covariates, and contrast them with our main specification on model fit.

## RESULTS

This section first provides results of the conditional logit model, followed by a comparison with mixed logit. We report whether indicators of model fit justify accounting for preference heterogeneity, and illustrate specific areas of difference among managers. The indication of group-level heterogeneity motivates us to adopt the latent class model as the main specification. We start result reporting with control variables, i.e. return attributes, and then move on to the risk attributes. For the latent class model, this is followed by a between-class comparison of relative risk propensities – i.e. to what extent controllable and non-controllable risks matter to different classes of managers and how they differ between classes. We then relate contextual variables with between-class heterogeneity.

*Conditional and mixed logit model.* Table 3 presents the coefficient of each attribute level and its significance for the conditional logit model (Column 1). A positive and significant coefficient denotes that managers on average prefer this level, since it adds on to their utilities. Column 1 shows that managers take operation costs into consideration as expected. We do not witness a monotonic effect as the lowest cost-of-operation is not appreciated. As expected, ROI and access to new resources and technologies are positive and statistically significant. The influences of market size and growth are less clear-cut. Yet it is without doubt that managers react positively to locations featuring large market and high growth. The results confirm the validity of discrete choice method as managers behave by and large the way economic theory of FDI suggests as regards the return variables. Cost and ROI remain the most important considerations for our sampled managers. For risk attributes, the results in Column 1 are mostly highly significant, except that managers do not consider powerful local stakeholder a hindrance to investment. As a rationalist might expect, managers prefer familiar environment (existing line of business), and are deterred by intense competition, political instability (non-controllable institutional risk) and the lack of legal protection (controllable institutional risk). The results suggest that managers on aggregate take a risk-averse stance when making FDI location decisions.

We have contended that heterogeneous preferences exist among managers. Thus, we run a mixed logit model where all coefficients are allowed to vary between individual managers. The means of the random coefficients are presented in Table 3 Column 2, and the standard deviations in Column

3. We find that eight coefficients have statistically significant standard deviations, including ROI and two institutional risk factors. Likelihood ratio test confirms that mixed logit achieves better fit than conditional logit ( $\chi^2(16) = 76.4, p < 0.001$ ). The results provide clear empirical justification for accommodating systematic preference heterogeneity, which is unaccounted for by the conditional logit model. In order to capture relative risk propensity, we focus on latent class logit as the main specification below.

\*\*\* Table 3 \*\*\*

***Latent class logit model.*** Following conventional procedure (Greene & Hensher, 2003), we determine the appropriate number of classes in the latent class model based on information criteria. Consistent Akaike information criterion (CAIC) and Bayesian information criterion (BIC) penalize more heavily the increasing number of parameters than Akaike information criterion (AIC) to control for overfitting. Lower value denotes better fit. Table 4 suggests that a two-class baseline model registers the best model fit as per both BIC and CAIC. In addition, we calculate the average of the highest posterior probability of class membership across all individuals to measure how well the two-class model performs in differentiating the underlying preference structures. The average is around 0.98, showing that managers clearly fall in either one class or the other and lending strong support to the two-class structure. Information criteria in Table 4 also confirm that the two-class model fits our data better than mixed logit. This implies that heterogeneity indeed resides at the group level rather than the individual level.

\*\*\* Table 4 \*\*\*

We run the full latent class logit model where two contextual variables are included as covariates which give structure to the latent class determination and test hypotheses. We also include in the covariate analysis a constant term, and foreign experience as a control, measured by the number of years since a firm's first foreign investment. The class-specific coefficient of each attribute level, relative risk propensities, and covariate analysis for the two-class model are reported in Table 5. We again start with return attributes. While managers from both classes uniformly value ROI and high growth rates, we notice a few important differences. For instance, Class 1 managers strongly avoid a 20% decrease in production cost. Surprising as it may seem, it is not unseen among previous choice

modelling analyses as for some managers a big drop in cost signals potential problems in an area uncaptured by the attribute levels of the experiment, e.g. production quality, which are apparently considered undesirable (Anderson, Coltman, Devinney, & Keating, 2011). Conversely, Class 2 – the majority group – exhibit a positive and statistically significant relationship between the lowest cost and investment decision, and indeed show a monotonic effect of cost. Moreover, Class 2 managers seek new resources from foreign markets whereas Class 1 managers do not. Other between-class differences include a significant yet divergent attitude toward small market size as well as negative and low market growth.

\*\*\* Tables 5 and 6 \*\*\*

The coefficients of risk attributes reveal which attribute levels matter to managers and how they differ between managers of different classes. Class 1 managers tend to eschew all risks featured in the experiment – they avoid powerful local stakeholders, intense industrial competition, unstable political environment (non-controllable institutional risk), and poorly developed legal institutions (controllable institutional risk). These managers also prefer to stay in the existing line of business when venturing abroad. Class 2 managers also shun controllable and uncontrollable risks; but both coefficients are smaller compared with Class 1. Moreover, Class 2 are not deterred by the presence of stakeholders like labor unions, and feel indifferent to industrial diversification in a foreign market. Both controllable risk (AME=-0.514,  $p<0.001$ ) and non-controllable risk (AME=-0.551,  $p<0.001$ ) are among the most important location factors by average marginal effects. For controllable risk (legal protection), a change from “strong protection” to “no protection” reduces, on average, the probability of investment by 51.4% points. For non-controllable risk (political instability), a change from “stable” to “unstable” leads to an average reduction in the probability of investment by 55.1% points.

To determine how managers differ in risk taking, we calculate relative risk propensity by dividing the negative coefficient of risk by that of ROI from the same class (Louviere et al., 2000). The greater the score, the more investment return the managers are willing to sacrifice in order to avoid additional risks, and hence the more risk averse they are. Tests on relative risk propensities in Table 5 reveal that Class 1 managers are less concerned with controllable institutional risk ( $\chi^2(1)=4.89$ ,  $p<0.05$ ), but more avoidant to non-controllable risk ( $\chi^2(1)=6.65$ ,  $p<0.01$ ), as compared to Class 2.

To test H1 and H2, we focus on the role of covariates in distinguishing groups of managers. A positive and significant coefficient of a covariate attached to a particular class indicates that managers are more likely to fall in this class as the value of the covariate increases, and therefore display the preference structure associated with this class. Table 5 suggests that managers who are satisfied with their performance in the domestic market are more likely to belong in Class 1, which are relatively less deterred by the lack of legal protection (controllable institutional risk) yet have a stronger aversion to political instability (non-controllable institutional risk), compared to those less satisfied with domestic cross-regional operations. Therefore, H1a and H1b are supported. Conversely, firms' potential slack is positively associated with managers' membership in Class 2, which are less averse to political instability (non-controllable institutional risk) and more sensitive to the lack of legal protection (controllable institutional risk) than Class 1, thereby supporting H2b but rejecting H2a. Foreign experience is insignificant in assigning class membership ( $p < 0.141$ ). This is unsurprising as recent research suggests that the lack of prior international experience may not be a constraint for risk-taking in Chinese MNEs' FDI location choices (Lu, Liu, Wright, & Filatotchev, 2014).

We check whether our main specification performs better than alternative models. As opposed to the cross-group heterogeneity revealed in the latent class model, we specify that managerial heterogeneity resides at the individual level – by using interactions in the conditional and mixed logit models. In conditional logit, we create four product terms between two risk factors and two hypothesized covariates, domestic experience satisfaction and potential slack, respectively. In mixed logit, we allow all parameters to be random, and use these two covariates to account for observed heterogeneity in risk propensity. This is to test whether the two covariates influence the mean of the random institutional risk coefficients. We find that only the interaction between political instability and potential slack is significant and as predicted. Table 4 indicates that our main specification fits the data better than these two alternative models.

## **DISCUSSION AND FUTURE RESEARCH**

This study revisits extant theorizing on firms' heterogeneous risk-taking in FDI, and offers an account of individual-level relative risk propensity as an alternative to the firm-level capabilities

explanation. Quasi-experimental analysis verifies the validity of the construct in the location choice context, and demonstrates its efficacy in delineating the mechanism through which firm experience and present conditions influence FDI risk-taking. In particular, we find that there is significant heterogeneity in managerial relative risk propensity, and that how contextual variables influence this heterogeneity depends on the nature of the risk. Satisfaction with home country venturing increases managers' sensitivity to controllable risk, but attenuates their appetites for non-controllable risk. Conversely, potential slack reduces relative risk propensity regarding controllable risk and increases the tendency to take on non-controllable risk. The revealed heterogeneity in risk propensity helps open up the black box of firms' FDI behavior, and paves the way for future research in numerous respects.

First, our findings yield new insights into FDI location decisions. Instead of attributing organizational regularities to unobserved capabilities, we suggest that heterogeneity in FDI risk-taking may be the result of varying managerial risk propensity due to differential firm experience and present conditions. The conventional conceptualization of risk propensity leaves unaccounted the risk-return tradeoff in the decision process. Observed risk-taking may be driven by an unobserved ambition for growth, rather than a craving for risk. Our approach instead captures relative risk propensity, i.e. how much expected return one would trade for less risk. Accounting for the intervening role of managerial cognition in the decision process may reconcile the mixed findings of prior research, not least the debate on whether and why EMNEs are less constrained by international risk (Ramasamy et al., 2012). We argue that they are not necessarily more capable in dealing with risks, but the perceived control over some risks allow them to tap into opportunities that western MNEs may shy away from (cf. Cuervo-Cazurra & Genc, 2008). Another explanation is that capital market imperfections in the home country grant these firms abundant potential slack (Buckley et al., 2007a), which, according to our findings, reduces managers' sensitivity to non-controllable political risk relative to investment return. Our results corroborate the slack-as-resource argument where slack is viewed as facilitating strategic behavior (Singh, 1986). This contrasts with Wiseman and Bromiley's (1996) "hunger-driven" view where low potential slack triggers problemistic search and risk-taking. The explanation may lie in the difference between income stream uncertainty examined by Wiseman and Bromiley (1996) and our focus on ex ante managerial risk-taking. Moreover, we find that potential slack has a divergent effect

on taking controllable vs. non-controllable risks. Its facilitating role in the face of non-controllable risk corroborates the capital market imperfection explanation of Chinese firms' unconventional attitude toward political risk (Buckley et al., 2007a). Yet, the fact that potential slack reduces managerial risk propensity regarding controllable risks departs from our expectation. One could argue that excess funds, or "house money", increase Chinese managers' capacity to experiment with more aggressive strategies that they otherwise cannot afford, but diminish their appetite for risks similar to those at home. Future research is encouraged to explore further the essence of home country advantages of EMNEs in risky foreign territories.

Second, the theoretical distinction between controllable and non-controllable risks extends the institutions literature. IB literature tends to generalize arbitrarily the effect observed on one aspect to the "institution" as a whole. We find that the effect of institutional risk may vary depending on the specific aspect being considered. Some countries boast a well-developed democratic political system as a legacy of colonialism, but suffer from an ineffective legal system against organized crime or corruption (Henisz, 2000). Knowledge and cognitive resources about how to operate in corrupt countries can only induce managers to venture in corrupt foreign countries but not necessarily in politically unstable countries, although both fall in the category of "weak institutions". One implication is that, despite the role of weak home institutions in preparing EMNEs for risky countries (Cuervo-Cazurra, 2011; Holburn & Zelner, 2010), the alleged learning effect should not be taken for granted across all aspects of institutions. We find that managers with satisfying domestic experience are particularly averse to political instability, conforming to the loss-aversion thesis. Experiential learning regarding, for instance, tackling contractual disputes with local suppliers, seems to bear little relation to coping with operational disruption resulting from political turbulence in the host country. The simplistic classification of advanced vs. weak institutions based on gross aggregations may have masked the unique influences of different aspects of institutions.

Lastly, changing risk propensity has implications for FDI theories. Extant theories are built on the static assumptions about managers' dispositional risk preference (Sitkin & Pablo, 1992). Economics-based FDI theory assumes that managers are risk-neutral (Buckley & Casson, 2009), whereas the Uppsala model postulates that managers are risk-averse and have an inherently low level



of maximum tolerable risk (Johanson & Vahlne, 1977). Empirical anomalies are often treated as special cases. One example is the variety of explanations for why Chinese MNEs are less deterred by host country risks despite the lack of international experience. While phenomena like this seem against the Uppsala model, our findings imply that they may be due to a) the unobserved tradeoff between risk and expected return, and b) the unaccounted variation in managerial risk propensity in relation to contextual influences (Buckley & Strange, 2011). Although we concur that the static assumption of risk preference is useful for the parsimony of theory building, this convention leaves little room for the dynamics of managerial behavioral tendencies. Our findings of changing risk propensity and of antecedents to such changes offer generalizable insights beyond the studies of EMNEs. We call for a refinement of the behavioral assumptions that shall maintain the predictive efficacy of the general theories.

### **Limitations and future research agendas**

In our quasi-experiment, tradeoffs had to be made between the length of the experiment (as a function of the number of attributes and location pairs) and the number of managers that are willing to participate. Despite that, in general, utility-based choice predictions resulting from discrete choice methods are very accurate representations of reality (Louviere et al., 2000), the limited sample size calls for caution over the generalizability of the results. We compromised the sample size for more data per individual, leading to better description of the segmentation of the respondents. We believe that in so doing this study makes a unique contribution in using experimentation to reveal managerial heterogeneity in response to firm experience and context.

However, our study cannot effectively differentiate managerial characteristics from firm-level antecedents. While risk propensity empirically incorporates the influence of both trait and context, we only account for how risk propensity varies in relation to firm experience and present conditions. It is likely that managers' dispositional orientations and individual characteristics such as cognitive style and entrepreneurial attitude also explain some variance (Schotter & Beamish, 2013). This may be subsumed in our estimates. While we can argue that organizational routines and experience may overshadow personal characteristics in firms' strategic decision making, it is not always the case. To

include individual effects would require sampling on observable characteristics and traits, and would ideally need a sample of multiple top decision makers within each organization. We encourage future research to decompose the heterogeneity arising from both individual and firm-level antecedents to risk propensity.

Our hypotheses explore the role of home country experience in shaping managers' relative risk propensity. It is implicit that this experience is confined to dealing with controllable risk. The sample choice also reflects so; venturing in China rarely confronts non-controllable risks such as political turmoil, although some degree of policy disruption has been reportedly occurring. However, our conceptual framework needs not impose this restriction. The sample choice constrained our ability to consider the conceptual model in full; we cannot examine whether home experience with non-controllable risk affects managers' relative risk propensity regarding controllable vs. non-controllable risk in the same way as hypothesized here. We suggest future empirical research to distinguish effectively, and contrast, the effects of experience with these two types of risk.

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**Table 1. Investment Attributes and Levels**

<b>Investment attributes</b>	<b>Levels</b>
<b><i>The cost of operations</i></b> – Choosing a specific location can lead to higher or lower costs of operation across the value chain	Decrease 20%, Decrease 10%, Increase 10%, Increase 20%
<b><i>Return on investment (ROI)</i></b> – Describes the rate of return expected from the investment	Significantly less than home market, Same as home market, Significantly greater than home market
<b><i>Access to new resources, assets and technologies</i></b> – Choosing a specific location can lead to greater competences being developed in the firm, through access to physical resources, organizational assets, or new technologies	No new access, Access
<b><i>Potential market size</i></b>	Large relative to home market, Same as home market, Small relative to home market
<b><i>Growth</i></b> – The rate of sales increase in the market	Decline, No growth, Low growth, Strong growth
<b><i>Political Instability (Non-controllable institutional risk)</i></b> – Denotes the likelihood of political and civil unrest, and the extent of policy disruption due to either political transition or lack of institutional constraints on the policy making authority.	Unstable, Stable
<b><i>Local stakeholders</i></b> – Indicates the influence of local interest groups, such as community, producers, labor union, NGOs and the like.	Powerful, Non-existent
<b><i>Line of business</i></b> – Denotes whether the new investment is in an existing, related or new line of business	Same line of business, Related line of business, Completely new line of business
<b><i>Local competition</i></b> – Indicates the level of competition within the local industry the firm is to enter.	Weak, Intense
<b><i>Legal protection (Controllable institutional risk)</i></b> – Denotes whether legal structures are effective for the protection of both physical and intellectual assets, the settlement of investment disputes, and the control of corruption.	No protection, Strong/adequate protection

*Note:* We use effect coding for all these categorical variables (attribute levels). One level from each attribute, taken as the reference group, is omitted in the regression. For any given location alternatives, membership in a focal attribute level is coded 1, and non-membership 0. Membership in the omitted reference group assigns a -1 to each of the estimated levels from the same attribute. We retrieve the coefficients and standard errors for the reference levels using alternative coding – i.e. changing the reference group in a new regression.

**Table 2. A Sample Choice Task**

<p>Instructions: Your organization is considering direct investment in this foreign location and the investment being made takes up 30% of the total cash available for investment for the next three years. Please note each pair of options is independent of one another and compare only between two options in one pair.</p>		
	<b>Option A</b>	<b>Option B</b>
Cost of operations	Decrease 10%	Increase 20%
Return on investment	Same as home market	Significantly less than home market
Access to new resources, assets and technologies	Access	No new access
Potential market size	Large relative to home market	Same as home market
Growth	Strong growth	Low growth
Political Instability	Stable	Unstable
Local stakeholders	Powerful	Powerful
Local competition	Weak	Intense
Line of business	Related line of business	Completely new line of business
Legal protection	Strong/adequate protection	No protection
<p>If the investment option described above were available to your organization, which would you undertake instead of or in addition to other currently available investments (Tick ONE box only)?</p>	<input type="checkbox"/> A	<input type="checkbox"/> B
	<input type="checkbox"/> Neither	

**Table 3. Conditional Logit and Mixed Logit Models**

	<b>Conditional Logit<sup>a</sup> (1)</b>	<b>Mixed Logit<sup>b</sup> (2) Mean coefficients</b>	<b>Mixed Logit<sup>b</sup> (3) Std Dev coefficients</b>
<b>Return attributes</b>			
The cost of operations			
<i>Cost decline by 20%</i>	0.126	0.127	0.528***
<i>Cost decline by 10%</i>	0.453***	0.523***	0.283**
<i>Cost increase by 10%</i>	-0.160*	-0.181*	0.239
<i>Cost increase by 20%</i>	-0.419***	-0.469***	0.506***
Return on investment	0.496***	0.545***	0.249***
Access to new resources	0.082*	0.098*	0.140*
Potential market size			
<i>Smaller than home country</i>	-0.013	-0.022	0.076
<i>Same as home country</i>	-0.125*	-0.150**	0.014
<i>Larger than home country</i>	0.138**	0.172**	0.027
Growth			
<i>Declining</i>	-0.107	-0.111	0.138
<i>No growth</i>	-0.113	-0.112	0.125
<i>Low growth</i>	-0.142*	-0.167*	0.019
<i>High growth</i>	0.362***	0.390***	0.224
<b>Risk attributes</b>			
Powerful local stakeholder	-0.015	-0.011	0.058
Intense local competition	-0.236***	-0.261***	0.145**
Line of business			
<i>Existing</i>	0.165**	0.191***	0.042
<i>Related</i>	-0.133*	-0.159*	0.051
<i>Completely new</i>	-0.032	-0.032	0.106
<b>Political instability (uncontrollable risk)</b>	-0.788***	-0.930***	0.456***
<b>Legal protection (controllable risk)</b>	-0.545***	-0.617***	0.204**
Number of respondents	60	60	
Number of total choice sets	1,920	1,920	
Number of observations	5,760	5,760	

Sig. codes: <0.001 '\*\*\*', <0.01 '\*\*', <0.05 '\*'

<sup>a</sup> Standard errors are clustered at the individual level.

<sup>b</sup> Random coefficients are assumed to be independently normally distributed.

**Table 4. Model Fit and Information Criteria for the Competing Models**

	Conditional logit	Mixed logit	Latent class logit			Latent class full model	Conditional logit with interactions	Mixed logit with interactions
			2-class	3-class	4-class			
Log likelihood	-1738.9	-1700.7	-1678.5	-1653.6	-1632.6	-1664.9	-1727.5	-1696.1
AIC	3511.7	3465.4	3423.0	3407.1	3399.1	<b>3401.9</b>	3495.0	3464.2
BIC	3545.3	3532.4	<b>3492.1</b>	3511.8	3539.4	<b>3477.3</b>	3536.9	3539.6
CAIC	3561.3	3564.4	<b>3525.1</b>	3561.8	3606.4	<b>3513.3</b>	3556.9	3575.6
N. param.	16	32	33	50	67	36	20	36

*Note:* Bold item indicates best model fit (i.e. minimum score among comparable models).

**Table 5. Latent Class Model with Covariates**

	<b>Class 1</b>	<b>Class 2</b>
Return attributes		
The cost of operations		
<i>Cost decline by 20%</i>	-0.927***	0.588***
<i>Cost decline by 10%</i>	0.936***	0.242**
<i>Cost increase by 10%</i>	0.068	-0.271**
<i>Cost increase by 20%</i>	-0.077	-0.559***
Return on investment	0.790***	0.435***
Access to new resources	0.084	0.156**
Potential market size		
<i>Smaller than home country</i>	0.251*	-0.141*
<i>Same as home country</i>	-0.473***	-0.054
<i>Larger than home country</i>	0.222*	0.195**
Growth		
<i>Declining</i>	0.365*	-0.304**
<i>No growth</i>	-0.280*	-0.022
<i>Low growth</i>	-0.580***	-0.021
<i>High growth</i>	0.495***	0.347***
Risk attributes		
Powerful local stakeholder	-0.195*	0.042
Intense local competition	-0.329***	-0.235***
Line of business		
<i>Existing</i>	0.552***	0.047
<i>Related</i>	-0.696***	0.037
<i>Completely new</i>	0.146	-0.084
Political instability (uncontrollable risk)	-1.476***	-0.533***
Legal protection (controllable risk)	-0.786***	-0.515***
Relative risk propensity		
<b>Political instability (non-controllable risk)</b>	<b>1.868</b>	<b>1.225</b>
<b>Legal protection (controllable risk)</b>	<b>0.995</b>	<b>1.184</b>
Covariates of latent class determination		
Domestic experience	0.598***	Fixed
Potential slack	-2.101***	Fixed
Foreign experience	-0.265	Fixed
Constant	2.673	Fixed
Class size	0.414	0.586
LRT $\chi^2$	888.89***	
$R^2_{McFadden}$	0.21	

Sig. codes: &lt;0.001 '\*\*\*', &lt;0.01 '\*\*', &lt;0.05 '\*'

*Note:* Classes refer to groups of managers. Class 2 is taken as the reference group in covariate analysis for identification.

**Figure 1 Risk propensity-location choice model**

