Finding Paths in the Forest: A Meta-Analytic Study on Entry Mode Determination

ABSTRACT

A choice of mode to enter a new market will be determined by a variety of factors, which in the literature are normally categorised into three sets of exogenous variables: the *Location*, the *Industry*, and the *Firm*. Surprisingly given decades of research, the conclusion as to the exact impact of these variables has yet to be established. This study presents the findings of a synthesis of 85 primary studies via meta-analytic structural equation modelling that reveals the multivariate feature of entry mode decision. Our analysis demonstrates that: (1) the three variables do not directly determine the entry mode choice simultaneously, and (2) firm-specific variables may not have direct impact on the entry mode choice. This paper is concluded by suggesting paths for further research on internationalization decisions such as entry mode choice.

Keywords: foreign market entry; meta-analysis; structural equation modelling; entry mode choice

INTRODUCTION

Along with the topic of Foreign Direct Investment (FDI) the choice of entry mode is one of the most central, and most researched, topics in the field of international business (IB). Entry mode is a crucial decision because it is integrally entwined with a firm's decisions on global operating locations (Buckley 2004), its performance after entry (Brouthers 2002), its long-term consequences (Pedersen, Petersen & Benito 2002), and its future organizational form (Lu 2002). Yet, despite its importance and the more than half a century since IB arose as a distinctive field of strategic management, a theoretically agreed upon and empirically supported structure of entry mode choice determination has yet to be established. This study argues that the questions prior to "whether we really need more entry mode studies (Shaver 2013)" should be *what* we know about entry mode determinants and *where* we are now in the journey of researching entry mode determination (Buckley, Devinney & Tang 2013).

Entry mode determination has been researched dominantly within two interrelated paradigms. The first paradigm is based on trade theory and industrial organization economics and grew out of the work of Hymer and Kindleberger (Hymer 1976; Kindleberger 1969). Subsequent more complete approaches include Internalization Theory (Buckley & Casson 1976; Williamson 1985), Institutional Theory (North 1990; Oliver 1991), the Resource Based View (Barney 1991), and the Eclectic Paradigm (Dunning 1980, 1988). This theoretical stream views firms' attempts to enter foreign markets as the pursuit of extra profit, rents, and resources. Another perspective, the Process Paradigm, views international market entry as one of the steps in a process of internationalization per se (Johanson & Vahlne 1977; Johanson & Wiedersheim-Paul 1975) and an international company's life cycle (Vernon 1966). Researchers in this paradigm argue that an entry mode is chosen by considering profit and risk with the accumulated knowledge and learning from prior stages of internationalization. Most research in the extant literature discusses entry mode determination by incorporating aspects from each of these two theoretical structures.

On the basis of these theories, a variety of approaches have been applied to examine determinants of entry mode choice. Typically, we can observe various combinations of three sources of data: (1) panel data information from public databases and the media, (2) survey data through questionnaires using Likert scales, and (3) qualitative interviews and case studies. All these methodological streams

contribute to the explanation of entry mode choice to certain extent, but as noted by Buckley, Devinney and Louviere (2007) the results and the data are invariably linked, with qualitative studies supporting internationalization process theory, while surveys and panel data support more rational economic based models.

The diverse theoretical perspectives and the various research methods all raise concerns about the divergent conclusions over which determinants matter. Inconsistent conclusions impair the scholarly value of the extant literature and lead to many obscure suggestions for practitioners. Meta-analyses have been applied to summarize previous studies and search empirical generalizations on entry mode choice (i.e., Morschett, Schramm-Klein & Swoboda 2010; Zhao, Luo & Suh 2004), because (a) meta-analysing literature is one of the best ways to review previous studies and (b) understanding past achievements is crucial for developing our discipline (Buckley 2002).

Yet, prior meta-analyses have limitations in terms of scope and have ignored the interrelationships among determinants as well as the impact of their interrelationships on entry mode choice. For example, the factors aggregated in Zhao *et al.* (2004) addressed the study-settings of country and industry, but were derived from one single theoretical framework, transaction cost. The potential determinants revealed by other theories were excluded. In contrast, Morschett *et al.* (2010) did not confine their analytic factors to one theory, but focused on external factors only. Furthermore, neither of these studies systematically attempted to model the impact of determinants' relationships on entry mode, thus a fundamental gap remains in our understanding of entry mode determination.

Our study aims to fill this gap by employing state-of-the-art meta-analytic structural equation modelling (MASEM) techniques, designed specifically to model such relationships. This significantly advances the current literature of entry mode determination by investigating various variables in a single model. Prior primary studies have overwhelmingly focused on firm-specific factors (e.g., Musteen, Datta & Herrmann 2009; Paul & Wooster 2008), although few of them applied control variables to account for other determinants (e.g., Dikova & van Witteloostuijn 2007). While it is always a useful strategy for IB research to concentrate on a specific group of variables while controlling for others, the research may lose generality without comprehensive knowledge about the correlation amongst all groups of variables.

The contributions of this study are threefold. First, it reveals the most significant determinants of entry mode choice by offering a comprehensive meta-analytic synthesis of extant literature and expands on two previously published meta-analyses of the same topic (i.e., Morschett *et al.* 2010; Zhao *et al.* 2004) by incorporating a more holistic approach that crosses theories and determinants. Second, this study involves a methodological extension via combining meta-analytic approaches and structural equation modelling techniques, thereby uncovering the interactions amongst the determinants. Third, our meta-analysis goes beyond the aims of testing generalization and increasing precision towards theory extension by multivariate causal models (Cooper & Hedges 2009). Specifically, we are able to test previously untestable hypotheses by constructing latent variables with reflective manifest variables. Therefore, this study does not only review the empirical domain of entry mode determination but also provide empirically validated theoretical underpinnings. More specifically, our meta-analysis reveals the determination of three sets of parameters on entry mode choice.

THEORY AND HYPOTHESES

Although IB theories of entry mode determination will vary in what they emphasize, the variables used for empirical testing are commonly derived from three specific categories: location, industry, and firm. Typical location-specific factors include the macroeconomic environment (e.g., market size of host country) and social elements (e.g., national culture traits). Industry-specific factors include the sector in which a firm operates and characteristics of that sector; e.g., an aggregation of industrial characteristics such as industrial scale and concentration. The firm-specific category reflects the idiosyncratic aspects of the firm(s) being studied. A firm's characteristics and its subsidiaries are reflected in this category. Although the previous literature mainly investigates entry mode determination by concentrating on firm-specific variables, empirical studies increasingly recognize the simultaneous effects of these three categories (e.g., Chan & Makino 2007; Demirbag, Tatoglu & Glaister 2009; Shieh & Wu 2011; Tsang 2005) depicting a more complete picture of reality where the endogenous variables of an internationalization activity (e.g., entry mode) are determined by the

exogenous variables (location-, industry-, and firm-specific variables) simultaneously (Buckley & Casson 1976, 2009). Below we look at each of these components and theories more generally.

Location-, Industry- and Firm-Specific Factors

Location. The influence of location comes from countries and regions in a host country. For example, potential markets in targeted foreign locations vary in size and have different influences on entry mode decisions. Specifically, countries that have larger market potential contain greater opportunities for foreign entrants to achieve expected returns (Agarwal & Ramaswami 1992; Brouthers 2002; Terpstra & Yu 1988) and may encounter more competition there than in smaller markets (Arora & Fosfuri 2000; Gomes-Casseres 1990). In addition, the economic development stages of countries define the patterns of foreign entrants' behaviours (Cuervo-Cazurra 2007; Meyer 2004). For instance, in a market that provides plentiful personnel and managerial resources, firms tend to choose a mode of entry different to the location that has fewer resources.

Likewise, risk and uncertainty about/within the host country reflects the economic and political situation of a target location. Different situations lead firms to choose different entry mode strategies (Chan & Makino 2007; Pla-Barber, Sanchez-Peinado & Madhok 2010). For example, political instability may strengthen the extent to which an entrant depends on local partners by choosing shared-control mode (Henisz 2003; Takahashi, Ishikawa & Kanai 2012). Besides internal stability, a country's policy on foreign entry impacts entry mode decisions also (Brouthers 2002; Dikova & van Witteloostuijn 2007).

Furthermore, difference and distance between home and host countries have important implications for entry mode. After Kogut and Singh's (1988) study showed that the cultural distance between countries impacts entry mode choice, many researchers replicated the study's test on cultural distance, although resulting in diverse conclusions (Magnusson, Baack, Zdravkovic, Staub & Amine 2008; Malhotra, Sivakumar & Zhu 2011; Tihanyi, Griffith & Russell 2005). Apart from cultural distance and difference, other disparities such as spatial distance (Boeh & Beamish 2012) and language difference (Davis, Desai & Francis 2000) also affect entry mode decisions.

In addition to the impact on entry mode, location can be related to other determinants (i.e., industry and firm). Specifically, location represents the essentials of environment in which different industries grow. Industrial development requires various elements, such as knowledge and technical sources, special skills, and government agencies (Chung & Alcácer 2002). Likewise, location factors always determine firms' characteristics. For instance, firms from emerging markets may differ from their counterparts in developed economies (Buckley, Clegg, Cross, Liu, Voss & Zheng 2007).

Industry. An industry consists of a group of firms and represents the commercial community in which the firm operates. This implies that we cannot analyse entry mode in isolation from what other potential competitors do or could do (Arora & Fosfuri 2000). A foreign market that attracts one firm must be interesting to others because of potentially larger returns (Porter 1998). Thus, firms dominating an attractive market tend to apply higher control modes for maintaining barriers to new entrant (Elango & Sambharya 2004). Another factor is the influence of the actions of peer firms. Peer firms face similar competitors and may have profit associations with one another. A firm's entry mode decision is found to be proximate to its peers, because firms are more likely to imitate the internationalization activities of peer firms in the host country (Henisz & Delios 2001). The reason is straightforward: the widely-accepted activities are less likely to be questioned or challenged and can make other market players behave rationally (Maekelburger, Schwens & Kabst 2012).

Taking industry as a whole, its technical development and scale are related to entry mode. Industry technology is a barrier for foreign entrants (Chen & Hennart 2002; Elango & Sambharya 2004) and its scale determines firm expectations on net return and possible growth (Luo 2001). Besides its development status, industry-fixed effect is another crucial factor found related to entry mode. For example, service firms tend to rely on wholly owned subsidiaries (Erramilli 1992; Erramilli & Rao 1993) and seldom require large-scale investments for physical assets (e.g., huge equipment and facilities) (Bouquet, Hebert & Delios 2004), while manufacturing firms use more varied modes (Bouquet *et al.* 2004).

Like location, industry can be related to other entry mode determinants. For example, as a commercial space where the firms operate, industry is clearly related to other firm characteristics; e.g., a service firm differs from a manufacturing firm to some extent. Furthermore, the mix of industry is

many times related to the country, with different economies having very different mixtures of industries.

Firm. As principal players of internationalization activities, firms have served as the primary focal point of previous research, but with quite variable conclusions on what matters to entry mode choice and by how much. For example, when it comes to scale some studies found a positive impact of firm size on firm's intentions for increasing capital investment (e.g., Agarwal & Ramaswami 1992; Terpstra & Yu 1988), arguing that firm size implies both the available resources for absorbing the high cost of entry in a new market (Erramilli, Agarwal & Kim 1997) and the capability for exploiting the new market (Hymer 1976). In contrast, other researchers argue for a negative influence of firm size (e.g., Coviello & McAuley 1999; Lu & Beamish 2001), because it represents the organisational inertia that may constrain internationalization changes (Aldrich 2007).

Another important firm-specific factor is experience. Previous studies explained the influence of international experience in an equivocal way. On one side is the argument that international experience increases the likelihood of choosing wholly-owned or shared entry modes (Cho & Padmanabhan 2005) and firms with more international experience have a stronger capability to bear risks and responsibilities related to wholly-owned subsidiaries (Brouthers, Brouthers & Werner 2002; Chang & Rosenzweig 2001; Pak & Park 2004). On the other side, it is argued that greater international experience allows firms to deal effectively with the costs associated with uncertainty and hence are more likely to choose shared ownership (Hennart 1991; Padmanabhan & Cho 1996). Similarly, a firm's managerial and operation experience are also found to influence entry mode decisions. This type of experience is represented by either the membership of an industry association (Boeh & Beamish 2012; Chan & Makino 2007) or an operation pattern (Maekelburger *et al.* 2012).

Besides experience, foreign market knowledge may also have influences on entry mode choice (Li & Meyer 2009; Maekelburger *et al.* 2012). According to Kogut (1991), the foreign market knowledge is often tacit. It consists of insights of foreign market environment and may help firms to develop remote-control mechanisms (Boeh & Beamish 2012), to bear local political uncertainty (Delios & Henisz 2003), and to deliver information through networks (Maekelburger *et al.* 2012).

In addition, a firm's international strategy and technology ability are two important elements. Harzing (2002) found firms with "globalization strategy" tend to choose greenfield, and Dikova and van Witteloostuijn (2007) indicated that "multidomestic firms" favor acquisition. Furthermore, a firm's technology and know-how impact the way that firms implement internalization and access competitive advantages (Chiao, Lo & Yu 2010). To ensure a safe transfer of technology and know-how to a foreign subsidiary, firms are more likely to choose wholly-owned operations, because this allows it to keep the transfers and know-how internal (Davidson & McFetridge 1985).

Business diversity (i.e., diversity of product, technical, or/and business unit) is also theorized to be related to entry mode. When expanding its core business abroad, a firm can transfer some of its existing capabilities (e.g., routines, technology) to new foreign subsidiary by replicating itself (Hennart & Park 1993), because related business allows the firm to accumulate and exploit the homogeneous product and market knowledge (Pehrsson 2008). On the contrary, an unrelated expansion may make it difficult or impossible for the firm to operate effectively in new market because it is managing two different aspects of complexity (Barkema & Vermeulen 1998).

Furthermore, both the foreign entry *per se* and the interaction between headquarters and existing subsidiaries impacts entry mode decisions, again with conflicting findings. The most important issues regarding foreign entry are the expected entry size and entry time. Pan (1996) and Shan (1991) suggested that larger scale entry increases a firm's propensity to choose lower equity ownership, while Zhao and Zhu (1998) and Mutinelli and Piscitello (1998) find the opposite. Paul and Wooster (2008) viewed the time of entering into a foreign market as the response to competitors. Moreover, interaction between headquarters and the subsidiaries may impact entry mode be means of travel time (Richards & Yang 2007), isomorphic influences (Davis *et al.* 2000), and control issues (Harzing 2002).

As a consequence of the above discussions on the three exogenous variables of entry mode decision, we propose a conceptual framework demonstrating the relationships among the three exogenous variables (Figure 1). Although the extant literature indicates influences of exogenous variables on entry mode, the explanations of their overall effects on entry mode vary across the theoretical paradigms. In what follows we link this discussion to the existing theories utilized by researchers when investigating entry mode choice.

Figure 1 goes about here

The Rational Paradigm

Hymer-Kindleberger framework (Hymer 1976; Kindleberger 1969) represents the original core of the rational paradigm, arguing that entry mode choice is an interaction between the degree of market imperfection and the extant of monopolistic advantages, such as a firm's technology or goodwill. The competitiveness of foreign firms is not the same as that of their local competitors because of extra market risk, alien uncertainty, and transnational barriers (Hymer 1976). Due to unequal capabilities in a particular industry, a firm has to handle additional costs resulting from the new business environment that is not perfect in the goods markets (e.g., marketing skills and product differentiation) and the factor markets (e.g., exclusive resources and technology) (Kindleberger 1969). Thus, the modes of foreign market entry are impacted by imperfect competition arising from the firm's economies of scale and the host government's intervention.

Internalization Theory moved beyond the monopolistic competition argument by focusing on the boundaries of a firm and its responses to the changing environment (Buckley & Casson 2010). It argues that firms carry out transactions within the boundaries of enterprise (i.e., business units in a firm, between the firm and its subsidiaries, and among subsidiaries) rather than depending on external product and raw materials markets (Buckley & Casson 1976, 2009). When choosing an entry mode, the firm is motivated to minimize its transaction costs by internalizing an imperfect market or utilizing scale economies (Hennart 1988). In other words, firms have to evaluate the trade-off between the external market and internal organization. If costs are absent or low, the firm will attempt to obtain control of the market. Otherwise, it focuses on internal organization. Once markets are internalized across national boundaries, firms need to choose an appropriate entry mode to enter the new country. Afterwards, the firm needs to allocate resources among product groups and in different national markets (Buckley & Casson 1998). Hence, the choice of entry mode is interdependent with the level of control and the location choice. This theory extends Hymer-Kindleberger's understanding of the internalization decision by recognizing three sets of parameters relevant to any international strategy

decision: (1) firm-specific factors, (2) industry-specific factors, and (3) location-specific factors (Buckley & Casson 1976, 2009).

Empirical studies within other theoretical frameworks apply these sets of variables also and we see them commonly applied to the entry mode choice decision of firms. For example, the research based on institutional thinking examines entry mode in the light of the external environment and internal influences. Institutions are the aggregated social rules including both formal rules (e.g., the law structure of a country) and informal constraints and practices (e.g., habits and cultures) that enforces the law structure (North 1990). Firms, as a group of society members, have to follow institutional restrictions in order to pursue their own interests, because conforming to social norms in a business environment can reduce economic uncertainty (Oliver 1991). In addition, the network of firms has another type of institutional effect on internationalization activities. Coviello and Munro (1997) examined small technology firms' transnational market development and found that foreign market entry choices arise from opportunities created through formal and informal network contacts. The relationship exchange within a network operates in a dynamic, complex, and less structured manner, so that a firm's international investment is examined in the light of interorganizational and interpersonal network (Coviello & McAuley 1999). Furthermore, firms and business units in the same network have to deal with institutional pressures by either conforming to business norms or becoming isomorphic (Davis *et al.* 2000). The latter indicates that firms may have to take into account the impact of the embedded isomorph on entry mode choice. For example, firms entering a new market sometimes have to imitate local firms (partners or competitors) in order to develop in the new business environment (Yiu & Makino 2002). Thus, institutional thinking implies that location-specific factors (e.g., law, culture), industry-specific factors (e.g., industry norm, networks), and firm-specific factors (e.g., isomorphic behaviors of subsidiaries) all contribute to entry mode choice.

Likewise, the Resource Based View explains firms' international strategy with these three set of parameters. This viewpoint argues that firms possess interdependent and idiosyncratic resources that constitute the relatively persistent competitive capability (Barney 1991). The resources are heterogeneous and can fit heterogeneous demands, which consequently lead to the diversity in firm size, scope, and profitability (Shelby & Morgan 1995). Theoretically, all assets and capabilities can be

viewed as resources in the financial, organizational, physical, informational, human, relational, or legal perspective. These resources are derived from either country or industry or both. The resource can also be categorized in either the intellectual assets such as knowledge of market, interest groups, and other stakeholders, or the market-based resources, for instance, the relational assets consisted of relationship with consumers, suppliers, distributors, and other stakeholders (Srivastava, Shervani & Fahey 1998). When a firm gains advantages from resources, it may gain above-average profit and seek opportunities to exploit the advantages in the markets of another country by transferring resources from the parent firm to its subsidiary in a foreign country (Contractor 1984). The choice of entry mode is to select a way to transfer the resources from the home country to the host country without hurting the value that the resources contribute to the overall enterprise. The transfer of resources is determined by two factors: the resources' characteristics that cannot be imitated, and a host country's and subsidiary's ability to absorb them (Madhok 1997). In other words, the choice of entry modes is determined by the entrant's transferring ability as well as the host subsidiary's and country's absorbing capability. Thus, the choice of entry mode is impacted by the entrant enterprises as well as stakeholders in the host country.

Finally, the Eclectic Paradigm views a firm's internationalization as a combination of ownership, location, and internalization advantages (Dunning 1980, 1988). These advantages relate to all the three exogenous variables discussed here. The ownership advantage integrates the costs and gains of cross-firm relationships and transactions as well as the skills and abilities of the firms. The location advantage includes the conditions that provide strategic success and increase the firm's role in geographic markets (e.g., distance to market). The ability to accumulate technology and spatially concerned knowledge are considered. The concept of internalization embraces cooperative structures with external and internal stakeholders to seek strategic assets and operative efficiency (Dunning & Lundan 2008). Thus, entry mode determination is inevitably explained with location-, industry-, and firm-specific variables.

Based on to these theoretical constructs in the rational paradigm, we propose a hypothesis as below:

Hypothesis 1: Location-, Industry-, and Firm-specific variables directly and simultaneously influence entry mode choices.

The Process Perspective

Based on observations of an individual firm's activity, the process perspective attempts to explain how and why an internationalization event emerges, occurs, or changes (Welch & Paavilainen-Mäntymäki 2013). It views transnational market entry as sequence of steps in a process of developing and exploiting markets. The firm's entry behaviors are related to its international experience and commitment to the market. The process progresses with increased commitment to the foreign market, where a firm accumulates experiential and local knowledge.

The predominant theoretical framework in this paradigm is the relatively loosely structured internationalization process model derived from the "Uppsala tradition" (Johanson & Vahlne 1977, 1990). It claims that there are four stages in the international process: irregular exporting, selling through local agents, distributing from own sales offices in host country, and manufacturing overseas (Johanson & Wiedersheim-Paul 1975). These stages are observed in the interactions between a firm's market knowledge and its commitment to the foreign market (Johanson & Vahlne 1977). The process of internationalization indicates the incremental experiential knowledge and the decremental psychic distance. In the process of internationalization, a firm adjusts its current business activities by increasing or decreasing its market commitment according to different psychic distances (Johanson & Vahlne 1990). A firm's experiential knowledge determines which market it will choose and impacts the extent to which the commitments will be. Another similar framework evolves from the model of product life cycle (Vernon 1966). It postulates three stages of product development in an international cycle: the introduction of new product, the maturing product, and the standardized product.

Both frameworks assume that a firm makes the international strategy decisions by itself according to its own international knowledge (Hennart 2009). The process perspective authors argued that firms made entry mode decisions based on their international experience (Barkema & Vermeulen 1998; Vermeulen & Barkema 2001), mode-specific experience (Padmanabhan & Cho 1999), or foreign market knowledge (Li & Meyer 2009). None of these empirical studies explained entry mode choice by examining the influence of industry and location, although they may account for the indirect effects of location and industry on entry mode. Therefore, we propose the following hypothesis as arising from the process perspective:

Hypothesis 2: The Firm-specific variables have a direct influence on entry mode decision, while Location- and Industry-specific variables impact entry mode through the Firm.

METHODS

Literature Retrieval and Inclusion Criteria

To ensure a complete and representative dataset for this study, we employed multiple searching strategies (Devinney & Tang 2013). First, we searched six electronic databases, including ABI/INFORM Global, JSTOR, EBSCO, Elsevier, ProQuest Business, Elsevier, and SSRN, with key terms of "entry mode" and "multinational enterprise" in journals of international business, management, strategy, and marketing. Second, we examined references of previous meta-analyses related to entry mode choice (i.e., Magnusson *et al.* 2008; Morschett *et al.* 2010; Tihanyi *et al.* 2005; Zhao *et al.* 2004) and major qualitative literature reviews regarding international business strategy (e.g., Brouthers & Hennart 2007; Canabal & White III 2008; Malhotra, Agarwal & Ulgado 2003; Werner 2002). The references of extant published reviews complemented the search results from the preceding step that may overlook literature due to potential limitations of the aforesaid databases. Third, we corresponded with well-established scholars in international business domain for unpublished works. Fourth, we contacted 45 authors whose papers were under-represented in necessary statistics for this study. Finally, to avoid missing any newly published papers, we used Google Reader and Journal TOCs to keep up with the latest entry mode studies before we proceeded to the data-analysing stages.

We then screened the potential literature retrieved from the preceding steps by four criteria. First, we included empirical studies reporting statistical information that are requisite for the computation and investigation of effect size. In this study, we use correlation coefficients as effect sizes because these scale-free measures are readily interpretable for demonstrating associations between variables (Card 2012). Second, although entry mode may concern a combination of ownership-based, control-based, and establishment-based decisions, we included primary studies conducted by authors who explicitly specified that their research focused on the entry mode choice, because the typology of entry modes is beyond the scope of this study and previous literature has combined them for research (e.g.,

Dikova & van Witteloostuijn 2007; Harzing 2002). Third, our dataset only involves studies that either examined variables based on different samples or investigated different variables with similar samples. Fourth, we excluded the extant meta-analyses of entry mode choice, because meta-analysing meta-analyses is not consistent with this study and may need different methods (e.g., Aytug, Rothstein, Zhou & Kern 2012). These efforts yielded a literature reservoir containing 85 primary studies from 79 articles published from 1991 to 2012. In the references of this paper, we use asterisks to indicate these included studies.

Coding and Reflective Dimensions

We read all papers in the literature reservoir for developing a coding protocol that surveyed the primary studies for collecting study characteristics and effect sizes (Lipsey & Wilson 2001). In addition, we took account of the operational measurement of a variable rather than the name of the variable in an article. For example, if two primary studies investigating different variables (e.g., "firm international experience" in Hermann & Datta 2002 and "export intensity" in Lu 2002) by the same operational measurement (e.g., the ratio of overseas revenue to overall sales), we merged them into a single dimension (i.e., international experience). We also conducted a two-round coding procedure for a reliable result that was indicated by Cohen's κ coefficients from 0.86 in all dimensions (Cohen 1960). Consensuses were reached on the inconsistent results by reviewing the coding protocol and the included studies.

This coding procedure resulted in 21 dimensions that are fundamental factors influencing the entry mode choice: (1) target market, (2) potential market size, (3) resource supply in host country (e.g., resource and factor supply, and its influences), (4) disparity between home and host countries (e.g., cultural distance, perceived difference), (5) home-country-specific influence (e.g., a firm's home country's cultural characteristics, domestic influence, and different countries), (6) policy on foreign entry (e.g., host country's policy on entries of foreign companies, special geographic regions in a host country for attracting foreign companies), (7) risk and uncertainty of government (e.g., financial risk and political uncertainty in a host country), (8) competition, (9) industry development (e.g., industry scale, and its technical development), (10) industry category, (11) other firms (e.g., peer firms in the

same industry, and partner firms in a host country), (12) influence between headquarters and subsidiaries, (13) technology and know-how, (14) management team (e.g., characteristics, social-demographics, and experiences), (15) foreign entry (e.g., foreign subsidiary's size, cost, and time of establishment), (16) business diversity (e.g., product and technology diversity and relativeness), (17) international strategy, (18) management and operation experience, (19) international experience, (20) firm size (e.g., sales, asset, the number of employees), and (21) foreign market knowledge of a target host country. The dimensions (1) to (7) reflect the latent construct of the *Location* and (8) to (11) the *Industry*. The remaining dimensions consist of the latent construct of the *Firm*.

Meta-analytic Procedure

Artifacts and mean effect size. Raw data extracted from the primary studies are correlation coefficients between entry mode and the foresaid factors as well as among these factors. In primary studies, entry mode was frequently represented by dummy variables that were sometimes defined in inconsistent ways. For example, some studies took 0 for joint venture and 1 for wholly owned entry (e.g., Brouthers 2002), while others employed 1 for shared subsidiary and 0 for wholly owned one (e.g., Dikova & van Witteloostuijn 2007). To avoid potential problems from this divergence, we unified the dummy variables to 0 for joint venture, shared control, non-equity, acquisition, etc.; and 1 for wholly owned subsidiary, major control, equity, etc. by changing the sign (i.e., negative or positive) of the correlation coefficients which involved dummy variables that were not consistent with this unifying code.

In addition, we ruled out biases potentially resulting from uneven sample sizes across primary studies and unreliability in them. Specifically, we reduced the distribution skewness of the product-moment correlation coefficients via Fisher's *z* transformation (Rosenthal 1991). We then weighted the *z*-coefficient by an estimate of the inverse of their variance (i.e., *N*-3) when computing the mean effect sizes (Hedges & Olkin 1985).

Multiple observations and extreme values. If a paper reported multiple effect sizes for a single dimension (e.g., culture indices of Hofstede and Schwartz in Drogendijk & Slangen 2006), we averaged them by accounting for both the number of effect sizes to be combined and their Spearman-

Brown reliability (Hunter & Schmidt 2004). This removed a primary study that examined variables only in one dimension (i.e., Pak 2002 examining various international strategies).

Furthermore, we excluded outliers (i.e., extreme values) that were five times larger than the average value (e.g., Meyer & Sinani 2009). This step retained 419 correlation coefficients for investigating bivariate relationships between entry mode and the examined factors.

Bivariate correlation. We used bivariate correlation coefficients to depict relationships between entry mode and its determinants via mean effect sizes and their 95% confidence intervals (Hedges & Olkin 1985). We examined the homogeneity of the effect size distribution by computing *Q*-statistic. A significant *Q*-statistic indicates a heterogeneous distribution of the effect sizes (Lipsey & Wilson 2001). We also calculated I^2 index for measuring the degree of heterogeneity (Higgins, Thompson, Deeks & Altman 2003).

We then tested the publication bias via trim-and-fill approach that adjusts the mean effect size by computing how many studies have to be trimmed off for a symmetrical dataset (Duval & Tweedie 2000). The results of this bivariate meta-analysis suggest the model that we should apply for estimating the pooled correlation coefficient matrix in the following procedure[1].

Meta-Analytic SEM

The extant meta-analyses using structural equation modelling (SEM) usually employs the univariate correlation coefficient method that takes the elements of a correlation matrix as independent amongst primary studies and the correlation coefficients of each element are pooled across studies to form a pooled correlation matrix for fitting SEM models (e.g., Chang, Rosen & Levy 2009; Reus & Rottig 2009). This method is appealing because of its intuitive way to obtain the correlation matrix. However, it potentially implies four statistical and practical problems: (1) the difficulty of obtaining an appropriate sample size, (2) the possibility of including non-positive definite matrices into the pooled correlation matrix, (3) the neglect of sampling variation among primary studies, and (4) directly using a correlation matrix for SEM instead of a covariance matrix (Cheung & Chan 2005). Thus, we used a two-stage method for meta-analytic SEM (TSSEM, Cheung (in press)).

Stage 1. We first tested the 84 correlation matrices extracted from the primary studies and excluded non-positive definite matrices. This reduced our primary dataset to include sixty-five correlation matrices from sixty-five primary studies that are marked with hash signs in the references of this paper. The number of studies and accumulative sample sizes for each element in the meta-analytic matrix is in Table 1. Due to no observations for some elements (e.g., correlation between Resource Supply in Host Country (L3) and Management Team (F3)), we deleted 4 factors that had the most missing values for correlation coefficients with other factors (i.e., Target Market (L1), Resource Supply in Host Country (L3), Home-Country-Specific Influence (L5), and Management Team (F3)). This did not influence the model analysis, because dropping an item does not change the latent construct in reflective measurement models (Coltman, Devinney, Midgley & Venaik 2008).

Table 1 goes about here

We then estimated the pooled correlation matrix via a random-effects model that assumed the included 65 studies were random samples from a larger population of entry-mode studies. We also examined the homogeneity of the correlation matrices and qualified the magnitude of heterogeneity by I^2 index.

Stage 2. To test the hypotheses, we established two models by creating three latent constructs representing the *Location*, the *Industry*, and the *Firm* respectively according to the fundamental factors from the foresaid coding procedure. We then fitted the proposed models by specifying it with the reticular-action-model approach (McArdle & McDonald 1984) and estimating it with the asymptotically-distribution-free method (Browne 1984). The dataset for this stage was the output of the preceding stage, which provided two fundamental matrices; i.e., the estimated coefficients matrix and the variance-covariance matrix of the parameter estimates.

RESULTS

Bivariate Relationships

Table 2 shows the descriptive statistics of the bivariate meta-analysis. Effect sizes in this table represent effects of the twenty-one determinants on entry mode choice without considering the interactions among these determinants. Among these effect sizes, three are not statistically significant (i.e., $p < 0.05$), because their 95% confidence intervals include zero. They are Resource Supply in Host Country (L3), Management & Operation Experience (F7), and International Experience (F8). This implies that the three bivariate relationships are not in the anticipated directions. In other words, whether the three determinants have negative or positive effects on entry mode is not definite (Hunter & Schmidt 2004). Furthermore, all *Q*-statistics of the twenty-one effect sizes are significant (i.e., $p < 0.001$), suggesting significant heterogeneity and implying that the effect sizes are better interpreted as average values than common true correlation values (Hedges & Olkin 1985). In addition, publication biases are observed in studies related to six determinants: Policy on Foreign Entry (L6), Industry Category (I3), Foreign Entry (F4), Business Diversity (F5), Firm Size (F9), and Foreign Market Knowledge (F10). This indicates that the published literature investigates only a proportion of the results of all research carried out. The unpublished proportion may systematically differ from the published literature (Sutton 2009). Finally, these determinants reveal different statistical patterns in the three constructs (i.e., the *Location*, *Industry*, and *Firm*) as well.

Table 2 goes about here

Location-specific determinants. Among the seven location-specific factors, the Disparity between Home & Host Countries (L4), Home-Country-Specific Influence (L5), Policy on Foreign Entry (L6), and Risk & Uncertainty of Government (L7) all influence entry mode negatively, while the effects of Target Market (L1) and Potential Market Size (L2) are positive. In addition, the Risk & Uncertainty of Government (L7) shows the largest I^2 (i.e., 0.993), demonstrating that the variability across studies about this determinant is higher than it is for studies using other constructs. The extant literature seems

to have slightly consistent findings as to Home-Country-Specific Influence (L5) due to its relatively lower I^2 value (0.857). The Resource Supply in the Home Country (L3) is revealed to be unimportant.

Industry-specific determinants. The 95% confidence intervals of the four industry-specific determinants exclude zero, indicating significant correlations in the anticipated directions. However, their effects are not all the same; that is, the Competition (I1) and Industry Development (I2) impact entry mode choice positively, while the Industry Category (I3) and Other Firms (I4) influence it negatively. Again the Q and I^2 values show a fair degree of heterogeneity.

Firm-specific determinants. The firm specific characteristics demonstrate a more diverse and complex pattern than seen in the other factors. First, the corrected average correlation coefficient of Foreign Entry (F4) changed direction from positive to negative after adding seven studies via the "trim and fill" approach (Duval & Tweedie 2000). This indicates significant publication bias. In addition, four out of the six publication-biased effect sizes are from this category, suggesting either we have an insufficient literature reservoir or the primary studies about this group of determinants have been published selectively. Next, the International Strategy (F6) contributes the lowest *Q*-statistic and I^2 value amongst all the twenty-one determinants. This reveals that the extant literature has a relatively consistent conclusion about this determinant, although it still has a significantly heterogeneous distribution. Finally, the Firm Size (F9) and Foreign Market Knowledge (F10) have negative influences on entry mode, while others do not.

In sum, the fundamental results of the bivariate meta-analysis support our application of the random-effects model to estimate the pooled correlation coefficient matrix for meta-analytic SEM, because: (a) the individual correlation coefficients ignore the interactive influences among the determinants, (b) there is significant heterogeneity of these effect sizes demonstrating that the primary studies are not from a homogeneous population, and (c) the publication-biased effect sizes suggest that the primary studies represent a part of the population research.

Meta-Analytic Model Testing

Table 3 shows the pooled correlation coefficients and the I^2 values from the stage 1 of TSSEM. The 121 out of the 153 I^2 values are above 0.85, indicating a high degree of heterogeneity on these

correlation elements. This provides further support of choosing a random-effects model for estimating the SEM models[2].

Table 3 goes about here

Figure 2 illustrates the model that tests the first hypothesis (Model 1); that is, the three exogenous variables (latent constructs) simultaneously have direct impact on entry mode. Figure 3 depicts the model of the hypothesis 2 (Model 2) indicating the direct influence of the *Firm* only.

Figure 2 & 3 go about here

We used five criteria to assess model fit: (1) the relative χ^2 (i.e., the ratio of χ^2 to the degree of freedom) smaller than 5.00 (Wheaton, Muthén, Alwin & Summers 1977), (2) the root mean square error of approximation (RMSEA) less than 0.06 , (3) the standardised root mean square residual (SRMR) less than 0.08, (4) the Tucker-Lewis index (TLI) greater than 0.95, (5) the comparative fit index (CFI) greater than 0.95 (Hu & Bentler 1999). Our two models have overall good fit to the meta-analytic dataset (i.e., Model 1: χ^2/df=4.5844, RMSEA=0.0045, SRMR=0.0953, TLI=0.9914, CFI=0.9927; and Model 2: χ2/df=4.5663, RMSEA=0.0045, SRMR=0.0970, TLI=0.9914, CFI=0.9926). Together these results provide support for the two hypotheses.

We summarize the major findings of the two models in Table 4. It shows problems on the 95% confidence intervals of the *Industry* and the *Firm* coefficients in Model 1 as well as the *Firm* coefficient in Model 2. These confidence intervals include zero, demonstrating uncertain directions of the variables in our models. In other words, the impact of these variables is not justified in the models. Thus, the determinant effects of neither *Industry* and *Firm* in Model 1 nor *Firm* in Model 2 are confirmed. In sum, the two hypotheses do not gain significant support by our meta-analytic dataset, specifically: (1) the three exogenous variables may not have direct impacts on entry mode simultaneously, and (2) the *Firm* direct influences on entry mode may not exist.

Table 4 goes about here

CONCLUSION AND DISCUSSION

Tracing the Determination of Entry Mode

Our study provides a comprehensive synthesis of the entry mode determination literature by updating and extending two prior meta-analyses concerning the same topic (Morschett *et al.* 2010; Zhao *et al.* 2004). To synthesize the previous findings about entry mode determination within major theoretical paradigms of IB discipline, we have integrated and tested twenty-one determinants that are categorized in three exogenous variables in line with Buckley and Casson's framework (Buckley & Casson 1976, 2009). By applying a meta-analytic methodology, we find our current understanding about entry mode determination is not what we think it is. Specifically, the functions of the three exogenous variables are still not conclusive that may confuse both IB researchers who may develop their research based on entry mode decisions (e.g., how entry mode decisions influence post-entry strategies) and the managers who make actual entry mode choices. In addition, some factors reflecting these exogenous variables hint at obscure directionality, and some relations among the factors have not been sufficiently investigated in the context of entry mode choice, for instance, the effects of management team on other factors.

Yet our study does offer a clear finding regarding the significance of *Location* in the context of entry mode. Specifically, the function of *Location* is consistently significant in models derived from both the rational paradigm and the process perspective. Although one location-specific factor fails to line up in the theoretically anticipated direction (i.e., Resource Supply in Host Country (L3)) in the bivariate meta-analysis, the Location-specific variable as a whole has a significant impact on entry mode in the meta-analytic models. Its implication is straightforward: the entry mode decision is strongly and clearly location-sensitive. However, it is much less industry and firm specific that we would expect – indeed, the results imply that industry and firm do not matter much at all.

Methodological Innovation

Meta-analysis has a long history of being applied in disciplines such as education and psychology, but has recently been increasingly used in disciplines such as IB (Buckley *et al.* 2013). IB research has its own distinct challenges that suggest adaptations in meta-analytic practices. Our study features an adaptation by integrating SEM techniques into meta-analytic procedures. This integration facilitates IB research by disclosing the interrelationship amongst different variables. Specifically, the essential meta-analytic approaches synthesize findings from previous studies (e.g., correlation *r*'s), and the SEM (actually a branch of multivariate method) depicts the complex interactive pattern of the synthesized results.

Multivariate meta-analysis matters in IB research due to the multivariate data in primary studies (Becker 2000). In IB research, most studies examined more than one construct. For example, a firm's international experience and the disparity between home and host countries are two popular factors investigated as determinants of entry mode. If they are not independent (which is generally true), their effects on entry mode cannot be independent. In addition, IB studies usually employ multiple dependent variables to explain a phenomenon, but it is rare that all studies have a same group of dependent variables. When multiple relationships of these variables are of interest, the need of synthesizing and examining some relations will lead to multivariate meta-analysis (e.g., MASEM, multilevel meta-analysis).

In addition, MASEM is superior to multi-level (hierarchical) meta-analysis in establishing latent constructs that may not be measured directly and appropriately in primary and other meta-analytic studies. In the IB domain, proxies are widely used to operationalize variables, but a latent construct containing more information than several single proxies can make the research more comprehensive and parsimonious. For example, in this study, the location-specific variable can be operationalized by any of the seven factors, but a latent construct reflected by all manifest elements yields more meaningful conclusions.

Limitations and Future Research

The limitations of this study arise from limitations of the underlying body of primary studies and the developing MASEM methodology. In this meta-analysis, we can address publication bias, but we are not able to "remedy" missing observations of correlation coefficients between some factors (zeros in Table 1). In other words, this study suggests that further primary studies should be conducted for revealing insights of entry mode determination. Furthermore, the primary studies included in this meta-analysis are impacted by the nature of social phenomenon (e.g., diverse, complex, and changing), the fragmented theorizing (e.g., various theoretical streams and their combinations for examining entry mode), the inadequate research designs, and the inevitable reliance on auxiliary hypotheses (Miller & Tsang 2011). Although this meta-analysis tried to avoid most of these common obstacles by using multi-methodology in a holistically theoretical view, it still cannot change the raw data.

Moreover, MASEM is still developing. There are at least three different approaches for MASEM; the univariate method (e.g., Schmidt, Hunter & Outerbridge 1986), general least squares (GLS, e.g., Becker 1992), and the TSSEM approach used in this study. Each method has its merits and faults. The appeal of TSSEM is that it avoids problems seen in the univariate approach and integrates the advantages of the GLS method, but it is still cannot facilitate SEM with more than two levels of latent constructs. Yet, the limitation of MASEM is not a barrier in future research.

Future research related to entry mode may investigate other potential models that depict the effects of *Location*, *Industry*, and *Firm* on entry mode choice. That may yield definite findings about the determination of entry mode choice. Also, future research may bring more individual decisions about IB decisions into analysis. It will be an exciting study to establish a latent construct of internationalization strategy by manifest measures such as entry mode, location choice, partner selection, and timing decisions. Via this latent construct, future studies may be able to show how the exogenous variables determine multinational enterprise's activities as a whole.

Furthermore, beyond the literature on the IB strategy, we expect that our meta-analytic methodology will be applied to investigate other pertinent research questions in the topics of the broad field of management strategy. The interrelation underlying empirical variables is a central theme for most strategy studies.

In conclusion, we demonstrate that not all of the three exogenous variables (i.e., *Location*, *Industry*, and *Firm*) have a direct impact on entry mode simultaneously. We have argued that the prime determinant of entry mode is location, which reflects the fundamental of IB research and its nature as an independent discipline.

NOTES

1. This study does not report moderator effects for bivariate meta-analysis (e.g., subgroup or meta-regression), because the moderating analysis is not related to our hypotheses. The traditional moderating analysis is available upon request for interesting readers.

2. The variance-covariance matrix (153×153) is available upon request.

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Notes: * indicates the included studies for bivariate meta-analysis; # indicates the included studies for meta-analytic structural equation modelling

APPENDIX

Random-effects Model in the Two-stage Meta-analytic Structural Equation Modelling

Meta-analytic structural equation modelling (MASEM) is an methodology integrated the approaches of meta-analysis and structural equation modelling (SEM) for drawing general conclusions from pooled studies (Viswesvaran & Ones 1995). There are three major streams in MASEM, which are univariate method (e.g., Schmidt *et al.* 1986), general least squares (GLS, e.g., Becker 1992), and two-stage approach (TSSEM, e.g., Cheung & Chan 2005). The TSSEM is more applicable than the others because of the theoretically supported procedure, the flexibility of structural models, and the availability of software packages.

Similar to other meta-analytic methods, the TSSEM has two fundamental models: fixed- and random-effects models. If the pooled correlation or covariance matrices are homogeneous, the fixed-effects model will be used by assuming the population correlation matrices are the same for all studies. Otherwise, the random-effects model should be used (Cheung (in press)).

This paper employs the random-effects model that assumes the population correlation or covariance matrices vary across studies and the included primary studies are random samples from a larger population (i.e., the included studies are only a part of the population studies). Specifically, if the population model is

$$\rho_{random} = vechs(\mathrm{P}(\gamma)) \tag{1}$$

where $vechs(\bullet)$ is a vector of the pooled correlation matrix, then the i^{th} primary study will have its own specific random effects:

$$\rho_i = \rho_{random} + \mu_i \tag{2}$$

where ρ_i and μ_i are the population correlation vector and the study specific random effects in the i^{th} primary study respectively.

Stage 1: Estimating pooled correlation matrix. After taking the column-wise non-redundant elements from the i^{th} correlation matrix R_i, the correlation vector $r_i = vechs(R_i)$ in this matrix is

$$r_i = \rho_{random} + \mu_i + e_i \tag{3}$$

where $Var(\mu_i) = \mathrm{T}^2$ is the variance component of the study-specific random-effects, $Cov(e_i) = V_i$ is the known-sampling covariance matrix in the i^{th} study. This correlation vector has $p*(p-1)/2\times 1$ elements, where p is the number of elements in r_i. By assuming the distribution of data is multivariate normal, the log-likelihood of the i^{th} study under a random-effect meta-analysis is

$$\log l(\rho_{random}, \mathrm{T}^2; r_i) = \frac{1}{2}\left\{ p\log(2\pi) + \log\left|\mathrm{T}^2 + V_i\right| + (r_i - \rho_{random})^{\mathrm{T}}(\mathrm{T}^2 + V_i)^{-1}(r_i - \rho_{random})\right\} \quad (4)$$

The parameter estimates are computed by maximizing the sum of the log-likelihood of all studies. The I^2-index for evaluating the heterogeneity can be obtained according to Jackson, White and Riley (2012). This stage provides a vector of pooled correlation matrix $\hat{\rho}_{random}$ and its asymptotic sampling covariance matrix $\hat{V}_{random}$ for Stage 2.

Stage 2: Fitting structural models. Based on the vector and the matrix resulted from the prior stage, a correlation structural model is fitted with asymptotically-distribution-free method (i.e., weighted lease square) by minimizing the fitting function:

$$F(\hat{\gamma}) = (\rho_{random} - \rho(\hat{\gamma}))^{\mathrm{T}} V_{random}^{-1} (\rho_{random} - \rho(\hat{\gamma})) \quad (5)$$

where ρ_{random} and V_{random} are from the stage 1. They are treated as fixed values in the stage 2 (thus, there is no hat in equation 5). Specifically, the ρ_{random} and $\rho(\gamma)$ are the $p'\times 1$ vectors ($p' = p*(p-1)/2\times 1$) obtained by string out the lower triangular elements and excluding the diagonals in the sample and the correlation matrices R and $\mathrm{P}(\gamma)$ respectively. V_{random} is the $p'\times p'$ weight matrix and γ is a structural parameter vector.

In practice, the structural model in this stage is specified by the approach of reticular action model (RAM, McArdle & McDonald 1984). Specifically, the matrix-A and matrix-S specify the asymmetric paths and the symmetric variance covariance matrices respectively. The matrix-F is a selection matrix that filters observed variables. This fitting procedure can be conducted with software packages such as *metaSEM* in *R* (Cheung 2012). These packages compute goodness-of-fit indices similar to conventional SEM for testing whether the proposed model fits the meta-analytic dataset properly.

Table 1 The numbers of Studies and Sample Sizes from Positive Definite Matrices [a]

Dimensions	EM	L1	L2	L3	L4	L5	L6	L7	I1	I2	I3
Entry Mode Choice (EM)		7,390	117,068	3,000	136,879	1,511	12,819	130,030	11,369	6,581	16,030
Target Market (L1)	4		4,402	1,273	6,036	0	0	649	0	5,178	3,263
Potential Market Size (L2)	12	3		1,448	133,956	0	22,820	128,779	7,377	22,056	16,176
Resource Supply in Host Country (L3)	7	2	5		1,044	0	246	1,747	79	1,425	1,598
Disparity between Home & Host Countries (L4)	24	4	14	4		7,871	34,790	151,702	20,051	30,248	35,578
Home -Country-Specific Influence (L5)	5	0	0	0	2		8,584	7,214	7,871	7,175	8,029
Policy on Foreign Entry (L6)	17	0	8	1	12	6		33,254	17,942	24,153	24,838
Risk & Uncertainty of Government (L7)	20	2	11	5	18	4	14		17,884	24,827	33,279
Competition (I1)	11	0	6	1	12	2	8	11		10,749	8,379
Industry Development (I2)	8	4	8	3	12	2	5	7	10		23,624
Industry Category (I3)	19	4	5	4	11	3	12	10	5	6	
Other Firms (I4)	9	1	3	2	5	1	3	5	3	4	3
Influence between Headquarters and Foreign Subsidiary (F1)	11	0	3	3	7	0	7	6	2	1	6
Technology & Know-How (F2)	20	2	7	5	13	4	9	15	6	6	9
Management Team (F3)	7	1	3	0	6	0	0	1	2	3	2
Foreign Entry (F4)	18	4	7	3	15	6	16	13	7	9	12
Business Diversity (F5)	14	2	6	3	11	0	7	9	4	7	8
International Strategy (F6)	7	0	4	2	3	0	3	6	3	1	3
Management & Operation Experience (F7)	7	0	2	0	3	1	3	5	2	1	2
International Experience (F8)	29	5	15	4	23	2	13	16	8	11	12
Firm Size (F9)	25	4	10	3	17	5	12	13	6	10	10
Foreign Market Knowledge (F10)	23	5	8	4	12	4	12	13	5	8	10

[a] This table summarizes the information of 65 primary studies. The triangle to the lower left of the diagonal contains the number of studies (n). The triangle to the upper right of the diagnal shows the cumulative sample size (N)

Table 1 Continued

Dimensions	I4	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
Entry Mode Choice (EM)	109,369	5,048	7,257	4,289	23,867	114,265	112,532	112,247	126,924	16,654	118,166
Target Market (L1)	751	0	1,887	1,609	6,406	4,046	0	0	8,142	5,538	7,055
Potential Market Size (L2)	107,324	581	1,441	1,083	21,101	112,469	111,207	110,872	134,053	7,410	113,380
Resource Supply in Host Country (L3)	903	1,240	1,523	0	1,432	920	994	0	1,940	1,224	1,671
Disparity between Home & Host Countries (L4)	110,559	3,306	3,737	3,891	45,410	114,702	111,149	110,956	138,690	14,850	115,408
Home -Country-Specific Influence (L5)	102	0	478	0	8,584	0	0	102	439	815	478
Policy on Foreign Entry (L6)	2,614	2,382	2,716	0	29,792	4,207	4,858	5,216	24,926	8,835	5,685
Risk & Uncertainty of Government (L7)	110,559	2,457	3,755	1,059	37,859	111,730	112,122	111,774	131,760	9,700	111,170
Competition (I1)	3,797	1,366	1,206	651	13,400	2,010	4,707	4,535	7,067	7,063	2,170
Industry Development (I2)	5,478	143	5,558	1,710	32,196	6,208	96	4,400	27,121	12,128	6,959
Industry Category (I3)	949	1,543	2,449	1,749	35,852	9,044	564	765	19,262	1,866	3,465
Other Firms (I4)		1,768	4,866	0	8,971	107,169	106,421	110,980	111,731	4,559	107,965
Influence between Headquarters and Foreign Subsidiary (F1)	4		3,938	0	2,823	2,722	1,431	765	4,232	2,104	3,300
Technology & Know-How (F2)	3	10		970	6,510	3,756	1,590	5,802	12,059	10,856	5,932
Management Team (F3)	0	0	3		1,609	0	0	951	4,149	3,233	0
Foreign Entry (F4)	6	7	10	1		6,048	437	4,457	28,697	10,820	7,753
Business Diversity (F5)	5	7	9	0	6		106,698	107,186	115,354	6,965	116,771
International Strategy (F6)	1	4	5	0	2	2		110,872	112,381	5,674	106,828
Management & Operation Experience (F7)	4	2	6	2	2	3	2		116,731	10,071	107,341
International Experience (F8)	5	10	21	6	14	12	7	9		23,296	117,880
Firm Size (F9)	3	5	20	7	12	7	4	7	27		10,232
Foreign Market Knowledge (F10)	6	7	15	0	10	16	3	4	16	15	

Table 2 Bivariate Meta-Analysis of Entry Mode Determination [a]

	Determinants	n	N	ES	-95% CI	+95% CI	Q	I^2	Sign
Location	L1. Target Market	5	8,206	0.1800	0.1586	0.2012	243.68***	0.984	+
	L2. Potential Market Size	17	122,302	0.1342	0.1283	0.1391	390.73***	0.959	+
	L3. Resource Supply in Host Country	9	5,679	0.0230	-0.0030	0.0490	65.37***	0.878	not definite
	L4. Disparity between Home & Host Countries	34	146,805	-0.0639	-0.0689	-0.0589	4,267.75***	0.992	-
	L5. Home-Country-Specific Influence	9	4,598	-0.0689	-0.0977	-0.0400	55.8***	0.857	-
	L6. Policy on Foreign Entry	26	21045	-0.1007	-0.1145	-0.0878	1,069.01***	0.977	-
		(31)		(-0.1361)	(-0.1489)	(-0.1234)	(1,468.12***)		(-)
	L7. Risk & Uncertainty of Government	31	141,684	-0.1401	-0.1450	-0.1352	4,203.73***	0.993	-
Industry	I1. Competition	18	21,069	0.0639	0.0510	0.0778	470.3***	0.964	+
	I2. Industry Development	12	10,122	0.0340	0.0140	0.0530	79.18***	0.861	+
	I3. Industry Category	23	19,626	-0.0967	-0.1105	-0.0828	159.65***	0.862	-
		(30)		(-0.1184)	(-0.1312)	(-0.1056)	(286.26***)		(-)
	I4. Other Firms	14	116,254	-0.4120	-0.4161	-0.4070	2,000.81***	0.994	-
Firm	F1. Influence between Headquarters and Foreign Subsidiary	18	17,041	0.2506	0.2364	0.2646	2,181.25***	0.992	+
	F2. Technology & Know-How	27	13,409	0.1858	0.1694	0.2022	925.35***	0.972	+
	F3. Management Team	7	4,289	0.0619	0.0320	0.0917	202.34***	0.970	+
	F4. Foreign Entry	23	29,807	0.0609	0.0490	0.0719	805.17***	0.973	+
		(30)		(-0.3004)	(-0.0410)	(-0.0210)	(2,072.11***)		(-)
	F5. Business Diversity	20	120,923	0.0579	0.0520	0.0639	313.17***	0.939	+
		(25)		(0.0549)	(0.0500)	(0.0609)	(454.36***)		(+)
	F6. International Strategy	10	113,455	0.0569	0.0510	0.0629	46.91***	0.808	+
	F7. Management & Operation Experience	13	118,257	0.0040	-0.0020	0.0090	928.36***	0.987	not definite
	F8. International Experience	39	134,941	0.0020	-0.0030	0.0070	1,472.97***	0.974	not definite
	F9. Firm Size	33	23,977	-0.0260	-0.0380	-0.0130	741.82***	0.957	-
		(42)		(-0.0589)	(-0.0709)	(-0.0470)	(1,112.69***)		(-)
	F10. Foreign Market Knowledge	31	126632	-0.0470	-0.0530	-0.0420	725.87***	0.959	-
		(37)		(-0.0510)	(-0.0569)	(-0.0460)	(893.42***)		(-)

[a] Results in this table are synthesized from 85 primary studies.

n=Number of studies; N=Cumulative sample size; ES=corrected average correlation coefficient; -95% CI=lower bound of the 95% confidence interval; +95% CI=upper bound of the 95% confidence interval; Q=value of chi-square distributed homogeneity statistic Q; I^2=the percentage of variability among effect sizes that exists between studies relative to the total variability among effect sizes.

Parentheses show the number of studies after trimming off and the corresponding indices according to "trim and fill" method.

†p<0.10; *p<0.05; **p<0.01; ***p<0.001.

Table 3 Pooled Correlation Coefficients Estimated by Random-Effects Model [a]

Dimensions	EM	L2	L4	L6	L7	I1	I2	I3	I4
Entry Mode Choice (EM)		0.9639	0.9837	0.9902	0.9838	0.9680	0.9376	0.9812	0.9942
Potential Market Size (L2)	0.0659†		0.9845	0.9958	0.9948	0.9647	0.9038	0.8158	0.9304
Disparity between Home & Host Countries (L4)	-0.0115	-0.1031*		0.9485	0.9968	0.9629	0.8790	0.8446	0.9267
Policy on Foreign Entry (L6)	-0.1058†	0.0030	0.0730*		0.9954	0.9965	0.9845	0.9283	0.9577
Risk & Uncertainty of Government (L7)	-0.0415	-0.0897	0.0661	-0.0677		0.9911	0.9185	0.9430	0.9953
Competition (I1)	0.0239	0.0564	-0.0250	0.2606*	0.1115		0.9900	0.9905	0.9852
Industry Development (I2)	0.0090	0.0259	0.0365†	0.1254	0.0494	0.2198**		0.9851	0.9848
Industry Category (I3)	-0.0515	0.0646†	-0.0219	-0.0136	0.0354	-0.1242	-0.1293		0.0162
Other Firms (I4)	-0.1700	-0.0993†	0.1526***	0.1560†	0.1056	0.2136†	0.0688	-0.0190	
Influence between Headquarters and Foreign Subsidiary (F1)	-0.0450	-0.0242	-0.0911	0.1331*	0.0205	0.0079	-0.0362	-0.0529*	0.0811
Technology & Know-How (F2)	0.0607*	0.1297*	0.0108	0.0674	0.0260	0.0875	0.0497	-0.0460	0.0904***
Foreign Entry (F4)	0.0208	0.0346	0.0479†	-0.0241	-0.0254	-0.0925	0.0789	0.0016	0.0468
Business Diversity (F5)	0.0193	-0.0043	-0.0381	0.0269†	-0.0045	0.1582***	-0.0134	0.0014	-0.0090
International Strategy (F6)	-0.0022	0.0822*	0.0133	-0.0213	-0.0188	0.0231	-0.0758	0.0186	0.5421***
Management & Operation Experience (F7)	-0.1082†	0.0287***	0.0001	0.0523	0.0172	-0.1126	-0.0599***	0.1886***	-0.0099*
International Experience (F8)	0.0878**	0.0984**	0.0328	0.0161	0.0592	-0.0010	0.0940	0.0149	0.2268†
Firm Size (F9)	0.0421	-0.0075	0.0113	0.0058	-0.0310	0.0998†	0.0651	0.0698	0.1045
Foreign Market Knowledge (F10)	0.0147	0.1474	-0.0108	-0.0516	0.0576	0.0778***	-0.0344	-0.0482	0.2162

[a] This table synthesizes effect sizes from 65 primary studies. The triangle to the lower left of the diagonal contains the pooled correlation coefficients. The triangle to the upper right of the diagnal shows the I^2-index

†p<0.10; *p<0.05; **p<0.01; ***p<0.001.

Table 3 Continued

Dimensions	F1	F2	F4	F5	F6	F7	F8	F9	F10
Entry Mode Choice (EM)	0.9913	0.9349	0.9868	0.9759	0.9147	0.9774	0.9716	0.9708	0.9847
Potential Market Size (L2)	0.8578	0.9704	0.9647	0.7177	0.8331	0.0162	0.9710	0.9859	0.9934
Disparity between Home & Host Countries (L4)	0.9865	0.0162	0.9442	0.9513	0.7373	0.0162	0.9416	0.9288	0.9750
Policy on Foreign Entry (L6)	0.9666	0.9810	0.9901	0.0162	0.0162	0.9280	0.9484	0.9761	0.9459
Risk & Uncertainty of Government (L7)	0.6073	0.9385	0.9933	0.9723	0.8320	0.6555	0.9709	0.8918	0.9894
Competition (I1)	0.0162	0.9933	0.9937	0.7611	0.0162	0.0000	0.9385	0.9690	0.9787
Industry Development (I2)	0.0000	0.9770	0.9948	0.9709	0.0000	0.0161	0.9885	0.9640	0.9873
Industry Category (I3)	0.0162	0.9781	0.9733	0.8447	0.9543	0.0162	0.9815	0.9837	0.8984
Other Firms (I4)	0.9880	0.0162	0.9846	0.9721	0.0000	0.0162	0.9926	0.9484	0.9974
Influence between Headquarters and Foreign Subsidiary (F1)		0.9829	0.9870	0.9308	0.8258	0.0162	0.9254	0.9269	0.7721
Technology & Know-How (F2)	0.0098		0.9466	0.9641	0.9892	0.9703	0.9506	0.9809	0.9895
Foreign Entry (F4)	0.0156	0.0287		0.9191	0.9785	0.9775	0.9919	0.9840	0.9767
Business Diversity (F5)	0.0507	-0.0834†	-0.0162		0.0162	0.9771	0.9887	0.9943	0.9857
International Strategy (F6)	-0.0209	-0.0193	-0.0034	0.0004		0.9789	0.9743	0.0162	0.9618
Management & Operation Experience (F7)	-0.0471	-0.0151	0.1414	0.1337	-0.1286		0.9881	0.9914	0.0162
International Experience (F8)	-0.0053	0.0483†	0.0245	0.0315	-0.0364	0.2393***		0.9862	0.9886
Firm Size (F9)	0.0559	0.0429	0.1366*	0.1826	0.0151	0.2698**	0.2940***		0.9773
Foreign Market Knowledge (F10)	-0.0055	0.0802	0.0594	-0.0279	0.1538*	0.0498***	0.2944***	0.2130***	

Table 4 Summary of Major Values in Models

		Model 1			Model 2
Impact on Entry Mode	Exogenous Variable	Location	Industry	Firm	Firm
	Coefficient	0.2305	0.1365	-0.2013†	0.0546
	Standard Error	12.0350	6.7720	0.1165	4.7603
	-95% CI	0.0429	-7428.1000	-7867.6000	-0.0067
	+95%CI	1768.7000	4774.8000	6173.3000	0.1166
	Conclusion on Importance	Positive (+)	not definite	not definite	not definite
Association among Variables	Location and Industry	-0.4363			-0.4441
	Location to Firm	0.3068			0.3122
	Industry and Firm	1.7116			1.8229
Model Fit Indexes	Chi2 / DF	4.5844			4.5663
	RMSEA	0.0045			0.0045
	SRMR	0.0953			0.0970
	TLI	0.9914			0.9914
	CFI	0.9927			0.9926
	AIC	335.9779			338.7555
	BIC	-974.2390			-991.6186

-95% CI=lower bound of the 95% confidence interval; +95% CI=upper bound of the 95% confidence interval. Chi2 / DF=Ratio of $\chi 2$ to df. RMSEA=Root mean square error of approximation. SRMR=Standardized root mean square residual. TLI=Tucker–Lewis index. CFI=Comparative fit index. AIC=Akaike information criterion. BIC=Bayes information criterion.

†p<0.10; *p<0.05; **p<0.01; ***p<0.001.

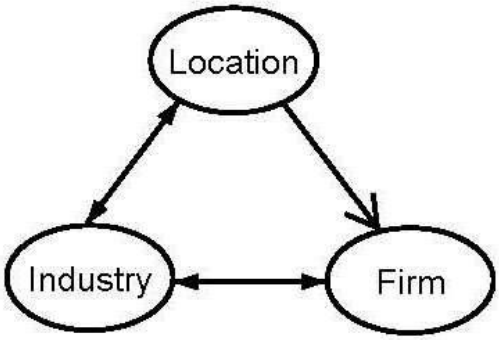

Figure 1 Conceptual Framework of Exogenous Variables

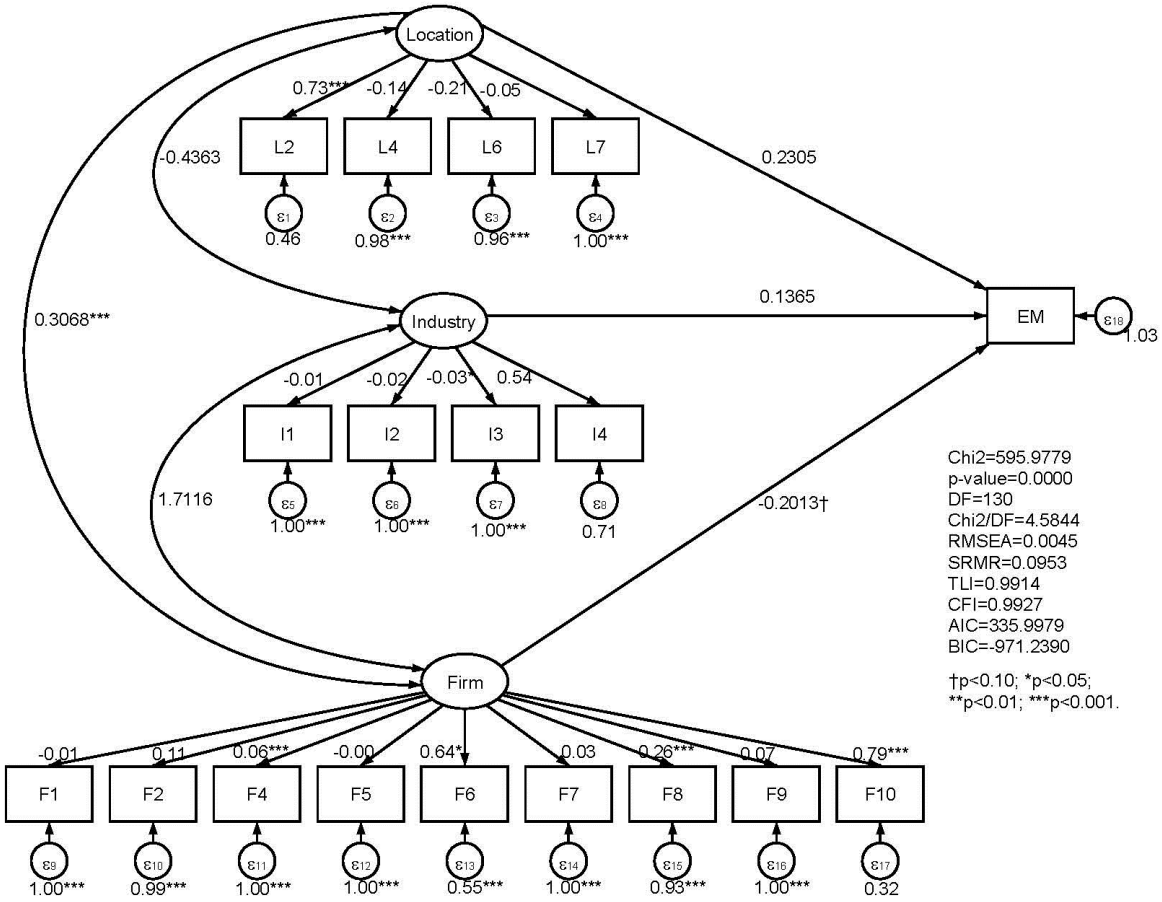

Figure 2 Model 1- Simultaneously Direct Impacts of Exogenous Variables

Index:

Location:

Target Market (L1)

Potential Market Size (L2)

Resource Supply in Host Country (L3)

Disparity between Home & Host Countries (L4)

Home -Country-Specific Influence (L5)

Policy on Foreign Entry (L6)

Risk & Uncertainty of Government (L7)

Industry:

Competition (I1)

Industry Development (I2)

Industry Category (I3)

Other Firms (I4)

Firm:

Influence between Headquarters and Foreign Subsidiary (F1)

Technology & Know-How (F2)

Management Team (F3)

Foreign Entry (F4)

Business Diversity (F5)

International Strategy (F6)

Management & Operation Experience (F7)

International Experience (F8)

Firm Size (F9)

Foreign Market Knowledge (F10)

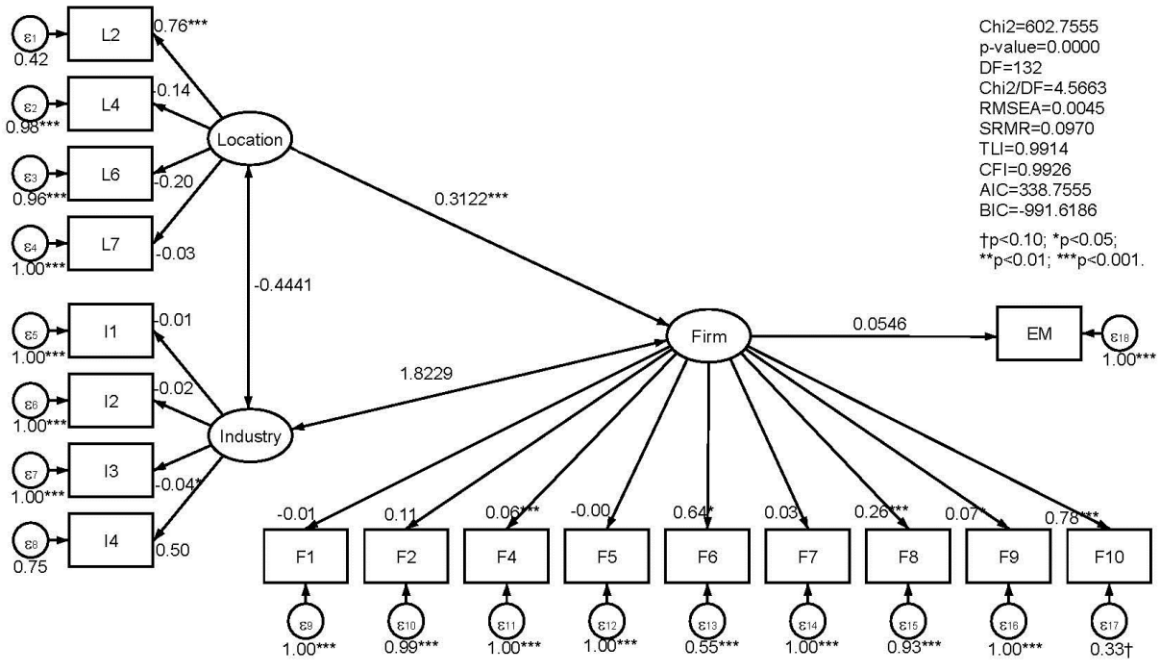

Figure 3 Model 2-Direct Impact of Firm-Specific Variable

Index:

Location:

Target Market (L1)

Potential Market Size (L2)

Resource Supply in Host Country (L3)

Disparity between Home & Host Countries (L4)

Home -Country-Specific Influence (L5)

Policy on Foreign Entry (L6)

Risk & Uncertainty of Government (L7)

Industry:

Competition (I1)

Industry Development (I2)

Industry Category (I3)

Other Firms (I4)

Firm:

Influence between Headquarters and Foreign Subsidiary (F1)

Technology & Know-How (F2)

Management Team (F3)

Foreign Entry (F4)

Business Diversity (F5)

International Strategy (F6)

Management & Operation Experience (F7)

International Experience (F8)

Firm Size (F9)

Foreign Market Knowledge (F10)