FDI Location Choice: The Role of Locational Ambidexterity

Emerald The Multinational Business Review

FDI Location Choice: The Role of Locational Ambidexterity

Journal:	*Multinational Business Review*
Manuscript ID	MBR-04-2016-0016.R3
Manuscript Type:	Research Paper
Keywords:	FDI, locational ambidexterity, flexibility, uncertainty, location choice

FDI LOCATION CHOICE:

THE ROLE OF LOCATIONAL AMBIDEXTERITY

Revision submitted to *Multinational Business Review*

ABSTRACT

Purpose: Based on operation flexibility perspective, this study proposes locational ambidexterity as a location-specific factor and explores why and how multinational corporations (MNCs) proactively deal with uncertainty by valuing locational ambidexterity in making location decision.

Design/methodology/approach: Location choice data for foreign direct investment (FDI) at sub-national level in China is used to test the role of locational ambidexterity.

Findings: Empirical testing supports that FDI generally prefers locations with high ambidexterity. Moreover, investments from a heterogeneous country context are more sensitive to locational ambidexterity than those from a similar country context. However, no significant evidence supports that wholly owned investments favor locational ambidexterity more than international joint ventures.

Research limitations/implications: An alternative operationalization of locational ambidexterity may be needed. Future research could explore the sources of locational

ambidexterity, identify other firm- and industry-level factors that could alter the value of ambidexterity, investigate how MNCs integrate locational ambidexterity into organization-specific option creation strategies, and test the ambidexterity-perspective with micro-level location choice data.

Practical implications: Locational ambidexterity may reduce the overall risk and adjustment cost of future changes. FDI may choose a location with high ambidexterity, i.e., a balanced portfolio of location-specific determinants, under uncertainty about the future.

Originality/value: Drawing on the notion of location flexibility from Buckley and Casson (1998), this study identifies a new location character, locational ambidexterity, and proposes that MNCs address uncertainty by choosing ambidextrous locations that offer more flexibility for MNCs to change or respond to potential volatility. Selecting locations with high ambidexterity is thus an alternative and complement to the organization-specific flexibility creation strategies suggested by the literature on real option and flexibility.

Keywords: location choice, FDI, locational ambidexterity, flexibility, uncertainty

Paper type: Research paper

Introduction

The location choice of a firm's foreign expansion is determined by the interplay of firm- and location-related factors, as identified in a broad spectrum of literature rooted in international trade theory, OLI framework, economic geography, and the behavioral theory of international business (IB) (see Blonigen, 2005; Jain *et al*., 2016; Kim and Aguilera, 2016, for recent literature review). The conventional theorization of location decision is based on uncertainty avoidance (Carruth *et al*., 2000; Williamson, 1979) and the maximization of future return on investment using present available information under bounded rationality. For examples, the multinational corporations (MNCs) would avoid those locations with high volatility (Aizenman, 2003) or with large differences from home location (Boeh and Beamish, 2012). Other factors being equal, MNCs would choose a location with attributes that best fit their investment motivation, such as lowest labor cost for efficiency-seeking investment and greatest market potential for market-seeking investment (Cheng and Stough, 2006; Wakasugi, 2005). However, with the presence of uncertainty about future, such maximizing or best-fit decision may not be made because the uncertainty may imply a non-ergodic and transmutable situation in which comparing alternatives based on the information at hand is less meaningful and reliable (Dunn, 2001: p. 583).

In contrast, the real option view of IB posits that MNCs proactively manage uncertainty by creating options and operation flexibility (Belderbos *et al*., 2014; Kogut, 1983, 1991; Kogut and Kulatilaka, 1994a, 1994b). While several studies have investigated the spatial pattern of MNCs from option creation perspective (e.g., Belderbos and Sleuwaegen; 2005, Li

and Rugman, 2007), the extant real option literature is mainly focused on how to achieve flexibility through *organization-specific* instruments (e.g., entry mode choice and multi-plant configurations). As a result, it does not apply well to the puzzle of how MNCs exploit the characteristics of a particular location to address uncertainty, a topic that has also not been illuminated in the conventional location choice literature.

Buckley and Casson (1998) propose the importance of "flexible locations" in improving the ability of MNCs to deal with uncertainty: "flexibility is not just an element of corporate strategy, but a component of location advantage too." (Buckley and Casson, 1998: p. 36). As they imply, flexibility may be associated with locational characteristics and, when there is uncertainty about future, MNCs may select a location with high flexibility as an equivalent to corporate strategy to cope with uncertainty.

Drawing on their notion of location flexibility, this study identifies a new location character, *locational ambidexterity*, to capture the flexibility offered by a location. Locational ambidexterity can be defined as the property of balanced advantages in terms of various location characteristics or endowments. It is then hypothesized that as a response to the uncertain foreign environment and the future evolution of multinational network, the MNCs may choose a location with high locational ambidexterity as a *location-specific* instrument for flexibility creation. Moreover, the preference for locational ambidexterity varies with 1) contextual similarity between home and host locations that engenders different perception of uncertainty and different valuation for option creation and 2) entry mode choice that reflects substitution or compensation effects between *location*- and

organization-specific instruments for option creation. These hypotheses are generally supported by negative binomial regression models using a dataset compiled from FDI sub-nation location choice within China, one of the largest emerging economies.

This paper is organized as following. The next part offers a review of the literature on FDI location choice and operation flexibility and identifies their deficiencies in addressing location choice under uncertainty. Locational ambidexterity is then defined, and its nature and role in the FDI location decision is discussed. In the third part, three testable hypotheses are proposed. Part four introduces research settings, operationalization, dataset, operationalization, and model specification method. Part five reports the findings and is followed by conclusions and future research.

Literature Review and Theory

Location-specific Determinants of FDI Location Choice under Uncertainty

Literature suggests that FDI location decision is based on firm- and location-specific factors that may interact with each other. Firm-specific factors include investment motivation, strength of firm's own assets or ownership advantage, industry membership, prior linkage and experience, entry mode, and agglomeration or co-locating strategy. Location-specific factors include host location institutional environment, macroeconomic conditions, and various types of differences from and connections with parent country (Blonigen, 2005; Head *et al.*, 1995; Jain *et al.*, 2016; Kim and Aguilera, 2016). With the more recent understanding that spatial configuration and the connectivity among dispersed

subsidiaries is a key to competence augmentation and creation, location choice is more related to building a synergic location portfolio with diversified environments offering complementary sources of knowledge (Cantwell, 2005; 2009).

According to literature, location-specific determinants include macroeconomic conditions such as market size, factor cost, openness, and infrastructure (e.g., Flores and Aguilera, 2007; Cheng and Kwan, 2000), and quality of institutions such as corruption, property right protection, government regulations, and culture (e.g., Holmes *et al*., 2013; Mudambi and Navarra, 2003). Another set of determinants is related to the differences and connections between host and home locations, such as psychic, cultural, geographic, economic, and institutional distance (e.g., Boeh and Beamish, 2012; Ghemawat, 2001; Johanson and Vahlne, 1990) and historical ties and networking (e.g., Chen and Chen, 1998; Makino and Tsang, 2011). Existing evidence shows that MNCs, while contingent on some firm-specific attributes, generally prefer the locations with macroeconomic conditions that best fit their investment motivation and with well-developed institutional environment, but avoid those with great heterogeneity or lack of ties to home location (e.g., Chen and Chen, 1998; Dunning, 1998; Flores and Aguilera, 2007; Jain *et al*., 2016; Kim and Aguilera, 2016; Makino *et al*., 2002).

It is arguable that the conventional literature theorizes FDI location decision as uncertainty avoidance and benefit maximization. Uncertainty is present when human agents are unable to confidently predict future events because of unavailability of information or unpredictability due to their non-ergodic nature [1]. Uncertainty in IB is not

only originated from the behavior of human agents such as opportunism (Williamson, 1979) but also the non-ergodic and transmutable economic processes (Davidson, 1996). In a foreign location with different contextual environment, market participants, and evolution trajectory, the economic processes or the action-outcome patterns may differ, such that the MNCs' previous experience presents a limited and narrow guide to identifying them at the time of location decision.

The sources of uncertainty in FDI location choice could be external or internal to the MNCs. External uncertainty can arise from volatility or unpredictability of host country (Anderson and Gatignon, 1986), including political instability, corruption, demand and price shock, volatile exchange rate, and tax structure (e.g., Aizenman, 2003; Campa, 1993; Erramilli and D'Souza, 1995; Wei, 1997). Internal uncertainty can arise from the inability of MNCs to fully integrate the resources of host locations and balance local responsiveness, such as lack of synergy capability, poor connectivity among subsidiaries, or the evolution of subsidiaries (Birkinshaw and Hood, 1998; Cantwell, 2009; Meyer *et al*., 2011).

However, with uncertainty present, actual maximization may not be achieved because of unavailability of information and mechanism in generating and comparing alternatives *ex ante* (Dunn, 2001). When uncertainty is resolved, the decision may be suboptimal and incur high cost and inefficiency. Choosing a location similar to home location or with historically low volatility may reduce but never eliminate uncertainty. First, the MNCs may have to choose locations with great heterogeneity or volatility, since it is unlikely that a location has all advantageous characteristics fitting an investment motive. For example,

China may have competitive labor cost and great market potential, but its institutional environment is under-developed, signifying a high uncertainty.

Second, location characteristics are often changing and variable. The advantages of a location may diminish if the location moves to a less competitive position in an absolute or comparative sense, partially attributed to the volatility of national markets resulting from increasing globalization (Buckley and Casson, 1998) and the rising of developing economies. As a result, favorable locational characteristics might not be readily available during longer term. Subsequently, the FDI seeking low production cost might no longer be optimal when the cost advantage of the current location diminishes. A market-oriented local production might be eventually terminated when the FDI encounters intensive local competition or a declining demand.

Lastly, the evolving MNC network may alter the initial decision base of location choice. The subsidiaries do not stand alone but rather are integrated into the MNC's network of knowledge sharing and creation. The MNC co-evolves through mutual selection and adaptation with diverse external parties (Cantwell *et al.*, 2010). Internal uncertainty is thus present when subsidiary evolution, MNC restructuring, competitive dynamics in global markets, and/or responses to a change of environmental settings trigger a future change in the role of subsidiaries (Birkinshaw and Hood, 1998; Cantwell and Mudambi, 2005).

Therefore, the theorization that MNCs pursue benefit maximization or best-fit with uncertainty avoidance in location choice may not fully reflect the reality of location decision in both positive and normative sense. In contrast, the real option perspective of IB suggest

that MNCs proactively manage uncertainty about future at the time of decision making by creating operation flexibility. The following section reviews the relevant literature from this perspective.

Operation Flexibility and Location Decision

The real option (or operation flexibility) perspective has been adopted in IB research primarily in the following three areas. The first area argues that IJV is an instrument to create options (i.e., termination or take-over) for MNCs facing currently uncertain but potentially valuable opportunities (e.g., Kogut, 1991; Li and Li, 2010, Tong *et al.*, 2008). The second area of research suggested that multinationality per se can mitigate shocks and fluctuations or even to create arbitrage opportunities from cross-country differences by switching production between locations (e.g., Kogut and Kulatilaka, 1994a; Tang and Tikoo, 1999). The third area posits that with sequential investment strategy (e.g., Kogut, 1983; 1985) MNCs can realize or abandon those initial small investments in different locations (i.e., options) when uncertainty is resolved. The more recent development of option theory in IB focuses on the boundary conditions of option creation and exercise (e.g., Belderbos *et al.*, 2014; Li and Li, 2010).

Real option perspective clearly relates to FDI location choice. However, among the handful of relevant studies, most focus on groups of locations or on multi-location configuration (e.g., Belderbos *et al.*, 2014; Belderbos and Sleuwaegen, 2005; Kogut and Kulatilaka, 1994a; Li and Rugman, 2007), with very few on the choice of a particular location from the lens of options and flexibility.

In summary, neither the uncertainty-centered real option theory nor the conventional location choice literature has paid attention to the puzzles of whether and how MNCs create flexibility to cope with uncertainty by selecting individual locations. The deficiency is more prominent when considering the controversial implications of existing option literature: in order to make the options (e.g., alternative production locations) more effective and valuable, a large variance or lower correlation between locations should be preferred (Belderbos *et al*., 2014; Kogut and Kulatilaka, 1994a). As a result, a much lower concentration of inward FDI across countries should be observed. However, worldwide inward FDI has been highly concentrated in about twenty countries since the 1970s (UNCTAD, 2015), a pattern more in line with the conventional location choice theories.

Definition, Nature, and Role of Locational Ambidexterity

This study tries to remedy the deficiency by arguing that location-specific characteristics, which may create locational flexibility suggested by Buckley and Casson (1998), can be a valid instrument for MNCs to address uncertainty about future.

Defining locational ambidexterity. Locations differ not merely in terms of the relative advantages of individual characteristics such as factor costs, geography, institutions, natural resources, technology accumulation, and market potential, but rather as a *portfolio* composed of these characteristics. Moreover, FDI with different investment motives demands different location characteristics (Dunning, 1998; Makino *et al*., 2002). These characteristics may not all be advantageous for a particular location due to their interrelatedness, different development trajectories, and social complexity [2].

Location as a portfolio of locational characteristics and the different location characteristics demanded by various investment motivations have implications beyond the conventional best-fit location choice model. Figure 1 illustrates three locations with different portfolios. Location A has a relative advantage in terms of character 2, say, labor cost. The best-fit model suggests that it will attract more FDI seeking lower production costs. Similarly, location C, with a relative advantage in terms of character 3, say, market potential, may be ideal for market-seeking FDI. However, if viewed from a portfolio perspective, location B, with balanced characteristics (i.e., moderate level of advantage for all characters), may offer some unique merit when uncertainty is present.

---Insert Figure 1 about here---

Specifically, if labor cost in location A and market potential in location C become less attractive or if the initial motivation changes later, the investment in locations A and C may have limited opportunity to exploit other location-specific advantages compared with location B, where some other characteristics (i.e., character 1 and 4 in the illustration) are better positioned. Thus, with some tradeoff, location B offers FDI more flexibility to mitigate the negative impact of future changes. Thus, location B may be chosen to minimize possible risks associated with uncertainty.

Borrowing the concept of ambidexterity from organization theory (e.g., He and Wong, 2004; Gibson and Birkinshaw, 2004), this study introduces a new concept, locational ambidexterity, to represent above said location flexibility that offers FDI to address uncertainty. Thus, locational ambidexterity can be defined as the property of balanced

advantages in terms of various location characteristics or endowments. The higher locational ambidexterity, the greater flexibility that FDI in that location has to deal with uncertainty in future without significant loss.

The role of locational ambidexterity. Locational ambidexterity is rooted in the interwoven natural conditions and resources, institutions, economy, socio-culture, and unique evolution trajectory of a location. It can be a *location-specific* instrument for flexibility creation, serving as a complement or an alternative to *organization-specific* instruments such as the entry mode selection, multinationality, and sequential "wait-and-see" strategy.

First, *organization-specific* flexibility creation strategies are not without challenges. The value of options is not indicated by an exogenous market signal but is endogenous to managerial behavior. Information asymmetry could lead the management team to wrong or sub-optimal decisions. Consequently, creating flexibility with options might not be strategically valid or practically feasible (Adner and Levinthal, 2004; Coff and Laverty, 2007). In contrast, creating flexibility by choosing ambidextrous locations may bypass the valuation dilemma because of the better accountability and measurability of location-specific factors.

Moreover, all flexibility-creating strategies are associated with different cost structures, benefits, and boundary conditions for application determined by external environment and the MNCs *per se* (Li and Li, 2010; Li and Rugman, 2007; Tong *et al*., 2008). Sequential investment approach might be suitable for investments that are insensitive to economies of

scale or highly reversible. Moreover, from a behavioral perspective, it is hard to valuate those options and determine when to abandon or exercise. More often, uncertainty about future is a set of factors and might never be completely resolved. Obtrusive option exercise or abandonment means that subsequent investment would confront another type of uncertainty due to the changing nature of environment. At the same time, opportunities might be missed by the wait-and-see strategy if option exercise is delayed.

Another strategy, utilizing a multi-plant network with excessive production capacity, is based on several preconditions: 1) subsidiaries' operations are homogenous and independent to each other, 2) subsidiaries' role is interchangeable, 3) producer-consumer interaction plays a minor role in business operation, and 4) coordination costs among subsidiaries are kept minimal. This strategy would also rely more on a free trade regime. The MNC as a vehicle to achieve value-creation synergy (Cantwell, 2005), its local embeddedness (Meyer *et al*., 2011), and resulting location specificity (Ghemawat, 2003) signifies a high adjustment cost and implementation challenge for this strategy.

The IJV approach involves a lower financial cost and enables risk sharing with and knowledge acquisition from local partners. However, drawbacks of IJV are profit sharing, the loss of control or extra control instruments (such as expatriates), and the difficulties of integrating into the multinational network, even preventing the MNCs from exercising the option created by multi-plant strategy (Belderbos *et al*., 2014; Belderbos and Zou, 2007).

Exploiting locational ambidexterity as a *location-specific* flexibility creation strategy is different from above said *organization-specific* strategies because locational ambidexterity

as a location property does not incur extra maintenance costs. Moreover, it requires neither independence nor high connectivity among subsidiaries by allowing them to play different roles and evolve along different paths. Compared with the wait-and-see strategy, it also avoids divestment cost and is especially suitable for large, inseparable, and less irreversible investments. However, favoring locational ambidexterity implies less optimization in the present time because the location may not fully fit the initial motivation. Thus, the preference for locational ambidexterity suggests a tradeoff between current investment motivation and future room for changes.

Hypotheses

As analyzed, on the one hand, the uncertainty in MNCs' foreign expansion legitimizes a flexibility-creation view of location choice. On the other hand, organization-specific instruments may incur high cost or be difficult to implement. In this situation, if a location provides flexibility, allowing subsidiaries to evolve or adjust their strategies, the value of investment might not be seriously threatened. In the case of substantial future changes, the locations with high ambidexterity may still fit the new context well because the changes might not reduce the scope and potential for the MNC to adjust in those locations. The flexibility created by locational ambidexterity is not about a switch between different locations but about allowing different strategic motivations or different subsidiary roles. Considering that significant uncertainty is present in the current fast-changing and volatile global environment (Buckley and Casson, 1998; Kogut, 1985), especially in those developing economies that are receiving large amounts of FDI, it is argued that in general

MNCs favor locations with high ambidexterity, despite of other firm- and location-specific heterogeneities. The following hypothesis is then proposed:

H1: *FDI prefers locations with high locational ambidexterity as investment destination.*

Creating flexibility is not without tradeoffs. Creating and maintaining options often entails both organizational and financial costs. With low volatility in the host location, MNCs might prefer full commitment to high flexibility (Li and Li, 2010). As it is rare that a location is able to offer ideal conditions that meet all possible investment motivations, the cost of flexibility is the loss due to selecting a location that does not best fit the initial strategy. Therefore, the level of uncertainty and the potential of alternative flexibility-creating methods determines the FDI's preference for locational ambidexterity.

Uncertainty and the associated downside risk may relate to the contextual similarity between FDI home and host locations. With little contextual similarity, the FDI may not respond to host environment efficiently and effectively as a greater "fundamental" uncertainty may be present (Davidson, 1996). Location choice literature illuminates the challenges and associated downside risks from geographic, cultural, and other differences (e.g., Boeh and Beamish, 2012; Ghemawat, 2001; Johanson and Vahlne, 1990; Tong and Reuer, 2007). From a managerial perspective, the creation, maintenance, and exercise of options is often related to managerial and organizational behavior (Adner and Levinthal, 2004). The information acquired and processed by managers can lead to different valuations for options and thus can reduce or increase the threshold for accepting or declining them (Folta and O'Brien, 2007). Therefore, it might be expected that managerial

perception of environmental uncertainty might change the value of location ambidexterity. Managerial perception might originate from knowledge that the decision makers have acquired about host locations or simply from subjective judgment. If the location has high contextual similarity with the home location, they may perceive less external uncertainty. They may also feel confident in identifying and responding if an issue does emerge.

Hence, it is arguable that the degree to which FDI prefers locational ambidexterity depends on the contextual similarity between home and host locations, as high contextual similarity may suggest less downside risk and lower perceived need for flexibility. Therefore, high contextual similarity could reduce the FDI's preference for locational ambidexterity:

H2: *Contextual similarity between FDI's home and host locations is negatively related to the FDI's preference for locations with high locational ambidexterity.*

As argued, locational ambidexterity is an alternative instrument for MNCs to create flexibility. There is a close relationship between the preference for locational ambidexterity and organizational option-creating strategies. One of these strategies related to single location decision is entry mode choice.

Location decision is not independent of entry mode choice. On the one hand, real option literature reports that IJV can create acquire-or-abandon option to address future changes (Kogut, 1991; Li and Li, 2010; Tong *et al*., 2008). If IJV is a real option to create flexibility to mitigate risks associated with uncertainty, locational ambidexterity may become redundant. Moreover, less uncertainty would be expected as host country partner

firms may act as intermediary to deal with location-related risks. The opportunity of learning from local partners may also enable the MNCs to quickly familiarize with host environment and develop relevant capabilities. Therefore, a *substituting effect* between these two option creation strategies is expected. Thus, it is hypothesized that:

H3: *Wholly owned investments (WOS) have a greater preference for locations with high locational ambidexterity than international joint venture investments.*

On the other hand, the real option literature also suggests that because MNCs have less equity control in an IJV, they may have greater downside risk and challenges in creating and exercising options. Tong and Reuer (2007) found that greater control over subsidiaries leads to lower downside risk. Belderbos *et al*. (2014) suggest that a low share of equity weakens the power of multinationality in reducing downside risk. In other words, IJV not only increases future uncertainty but also impedes MNCs from creating flexibility through their multinational network. Outside the real option perspective, the literature from transaction cost view posits that WOS as an arrangement with full control is a preferred mode to achieve economic efficiency under high internal and external uncertainty (Zhao *et al.*, 2004). Following this line of reasoning, if IJV jeopardizes MNC's control over the investment, increases the downside risk, and raises the cost of multiple-plant configuration as an option, then MNCs may need to choose locations with high locational ambidexterity to compensate for these drawbacks of IJV. This *compensating effect* suggests that FDI using IJV as an entry mode may prefer greater locational ambidexterity than that using WOS. Therefore, a competing hypothesis is proposed:

H3_alt: *International joint venture investments have a greater preference for locations with high locational ambidexterity than wholly owned investments.*

Methodology

Research Settings

To simplify the empirical testing without losing much generalizability, sub-nation location choice is selected to restrict uncontrollable location-specific heterogeneity (Mudambi and Navarra, 2003). China is chosen because of its important role in world FDI, its large within-country variance, and the relatively simple motivations behind the FDI to China. As one of the largest recipients of FDI in recent decades, China could be considered a representative research subject. Moreover, its varying geographic conditions, cultural variations (Huo and Randall, 1991), and disparate economic development (Fu, 2000) among its provinces provide sufficient variation for empirical investigation. As literature implies that most inward FDI in China is either labor-cost saving or market-seeking (e.g., Luo, 2000), we focus on the two location-specific factors, labor cost advantage and market potential, in checking the role of locational ambidexterity.

Data Sources

The dataset is compiled from multiple secondary sources. The first data source is the firm directories from *China Taxation Bureau* and *Administration Bureau for Industry and Commerce*. There is no detailed information about country of origin of foreign invested firms, but they are classified with funding sources (from Hong Kong, Macau, and Taiwan, "HKMT" hereinafter, and from other foreign countries) and entry modes (WOS, contractual

IJVs, and equity IJVs). The directories after 2005 are not available through public channels due to a change of information release policies by Chinese government. As China joined the World Trade Organization (WTO) in 2001 after lifting massive investment restrictions, only FDI establishments in 2001 and after are used to tease out the effects of policy changes. Moreover, China updated industry classification scheme in 2003, making industry affiliation information after 2002 incompatible with earlier years. The second source is China's national, provincial, and transportation yearbooks. The third source is the provincial input-output (I-O) table compiled in every five years consisting of data on the consumption of final and intermediary goods in each province and industry.

Due to the abovementioned limitations, a dataset was compiled including 2001 and 2002 FDI establishments and all independent variables with a one-year lag. Despite of limited data availability, a near cross-sectional dataset can avoid serial correlation issue and isolate the possible statistical bias from sequential investment strategy (Kogut, 1983; 1985). While we consider several firm-specific factors in hypothesis development, we are only able to compile data aggregated at industry level. Although location choice is a firm decision involving firm-and location-specific factors, an industry- or country-level analysis to explore aggregated location pattern has its tradition and merit (Blonigen, 2005; Ghemawat, 2003).

Operationalization and Measurement

FDI establishments. The dependent variable is the count of FDI establishments, which has been widely used in location choice literature (e.g., Oetzel and Oh, 2014; Oh and Oetzel,

2016). The FDI counts in 2001 and 2002 are recorded in each province and for 27 manufacturing industries after excluding two industries where FDI was prohibited, i.e., tobacco industry and arms and ammunition manufacturing, and another industry named "manufacturing not included in other industries".

Locational ambidexterity. In present research setting, locational ambidexterity can be understood as the degree of balance between two major determinants, labor cost advantage and market potential. Different operationalization methods have been used in literature depending on research settings. Table 1 summarizes three operationalization methods extensively adopted by existing studies. The first, subtraction method, is the absolute difference between the standardized value of two factors, which are labor cost advantage and market potential in this study. The second, multiplication method, is captured by the multiplication of two factors. The third method is the summation of two standardized variables (i.e., summation method). The first two are used in this study since these two methods, though mathematically different, fit well the conceptualization of locational ambidexterity. Use of alternative measures can also improve the robustness of empirical testing. We exclude the summation method because it is not able to measure a balance effect. Moreover, as it is crucial to include market potential and labor cost advantage into model specification to control possible confounding effects, their summation as another variable will lead to a perfect collinearity. .

---Insert Table 1 about here---

To make the results simpler to interpret, the subtraction measure of ambidexterity is

reversely coded as *N*-|F1-F2|, whereas *N* is the closest integer greater than the maximum of |F1-F2| (Cao *et al*., 2009). Thus, if FDI favors locations with high ambidexterity, the coefficients of both measures should be positive and significant.

In addition, the following variables are included based on literature (e.g., Cheng and Stough, 2006; Cole *et al*., 2009; Cheng and Kwan, 2000; Zhao and Zhu, 2000).

Market potential. Market potential is considered to be a major determinant of market-seeking FDI. Some studies have used GDP related measure as a proxy but GDP does not count the intermediate goods that an industry produces to serve other industries. A more accurate measure is constructed to estimate both intermediate and final products of an industry at provincial level using provincial I-O tables, following the similar approach in international trade literature (e.g., Hummels *et al*., 2001). The market potential of a province in a year is then calculated as industry level annual total output multiplied by the ratio of the *within*-province consumptions by final users and by other industries in a particular industry to the industry's total output [3]. The ratio is calculated from the 2002 I-O table, assuming that the input-output structure did not change much between 2000 and 2002. Consequently, the measure for market potential is year, industry, and province varying. The values are standardized on industry and year to control industrial and time variation and also to better measure locational ambidexterity.

Labor cost advantage. Previous studies suggest that wage-based labor cost is a primary determinant for efficiency-seeking FDI. To make the results easier to interpret, the

reciprocal of nominal wage in the manufacturing sector is used as a proxy for the cost advantage of a location. Again, the values are standardized to compute ambidexterity measures.

Local transportation infrastructure. The lengths of railways and highways adjusted by land area are used as a proxy for local transportation infrastructure. As both measures are highly correlated, their factor score is included in model specification. Moreover, the number of inland ports and seaports in each province are also included, as they form a natural geographic advantage and are not highly correlated to the density of railways and highways.

Labor quality. Labor quality in each province is measured using the ratio of the number of technicians in the manufacturing sector to the population. We also include industry level labor productivity in each province to account for the possible effect of local technological accumulation on the FDI's location decision.

Agglomeration effect. Following Head *et al*. (1995), we use the cumulated numbers of FDI establishments and of all indigenous firms in the previous year in an industry of each province as two proxies for agglomeration effect.

Institutional environment. Three variables are included to measure provincial institutional environment. First, previous studies found that government incentives could have positive impact on local decisions. In the case of China, the various types of development zones normally reflect governmental efforts to promote inward FDI (Cheng and Kwan, 2000). Therefore, a variable, *government incentives,* is included and measured by

the total number of development zones in each province. Moreover, Cole *et al*. (2009) suggest that provincial government efficiency and the degree of corruption can affect FDI location choice. We thus include the mean scores for the previous three years' *government efficiency index* and *corruption index* from their study.

Other control variables. The annual GDP *per capita* of a province is included to assess the impact of general economic environment. Five dummy variables distinguishing between China six traditional geographic and socio-cultural regions (Cheng and Stough, 2006) are also included. Moreover, 26 industry dummy variables and a year dummy are added to control industry- and year-specific heterogeneity.

Table 2 provides the name, description, and sources of variables.

-----Insert Table 2 about here----

Model Specification

Two statistical techniques are adopted in location studies: the conditional logit model (e.g., Head *et al*., 1995) and the count model (e.g., Oetzel and Oh, 2014; Oh and Oetzel, 2016). For the data used for this study, a count model is more appropriate [4].

In testing H1, the total number of FDI establishments in an industry in each province in each year was recorded as the dependent variable. To test H2, the seemingly unrelated estimation method is adopted to compare the coefficients across different regression models with the same independent variables but with the FDI count from the HKMT region and from other countries as the dependent variables, respectively. In addition to the limited data availability, it is expected that Hong Kong, Macau, and Taiwan are contextually similar

to Mainland China due to the common Chinese origin, geographic proximity to China, similar cultural background, and same language. The approach of comparing coefficients is widely used in similar studies such as Belderbos *et al*. (2014). In testing H3 and H3_alt, the same coefficient comparison is conducted across two models regressed on IJV and WOS establishments respectively. STATA 12 is used for all estimations.

Results and Discussion

The final dataset is composed of 1,525 observations after excluding missing data. Xizang province is also excluded due to the lack I-O data and incompatibility of yearbook data. Table 4 reports descriptive statistics of major variables. It is worth noting that labor cost advantage is negatively related to market potential ($r=-0.368$, $p<0.001$), demonstrating that it is difficult for a location to have a high profile to attract both market- and efficiency-seeking FDI, consistent with Nachum and Zaheer's (2005) statistical results. The high correlation between the two measures of locational ambidexterity ($r=0.808$, $p<0.001$) suggests that in our sample they are consistent and converge to the conceptualization of ambidexterity. Among a total of 30,369 FDI establishments, 13,596 are from HKMT and 16,773 from other foreign countries. Approximately 43% are IJVs and the rest are WOS. Among FDI from HKMT, approximately 37% are IJVs and 63% are WOS. For those from other foreign countries, approximately 47% are IJVs and 53% are WOS. In summary, the sample is relatively balanced in terms of origin and entry mode and no significant entry mode preference detected for FDI from both origins.

A further analysis shows that the standard deviation of the dependent variables is

much larger than unconditional mean, indicating a significant over-dispersion. We then conduct model specification with *Poisson* model and negative binomial model respectively. The Log Likelihood Ratio test suggests that negative binomial model is a better fit to the data. The alphas reported in the results further confirm the model selection.

---------Insert Table 3 about here---------

Table 4 reports the results for regression analyses. Following He and Wong (2004) and to make the results interpretable, two measures of locational ambidexterity are put into the regression models separately.

---------Insert Table 4 about here---------

Model 1a in Table 4 indicates that the number of FDI establishments is significantly and positively related to the subtraction measure of ambidexterity (Beta=0.317, $p<0.001$). The coefficient of first-order effects of market potential is positive and significant, and that of labor cost advantage is marginally significant (Beta = 0.458, $P<0.001$, and Beta = 0.120, $p<0.10$, respectively). Thus, it is suggested that a location with higher market potential and/or labor cost advantage will bring more FDI, and with high locational ambidexterity it can attract even more FDIs [5]. Therefore, the results support Hypothesis 1. In Model 1b, the coefficient of the multiplication measure of ambidexterity is positive and also significant (Beta=0.077, $p<0.05$). The coefficient of market potential is positive and significant (Beta= 0.250, $p<0.001$) and that of labor cost advantage is positive but insignificant (Beat =0.013, $p>0.1$). It suggests that a location with high market potential will bring more inward FDI but it will be more attractive if it also has high labor cost advantage.

The insignificant coefficient of labor cost advantage suggests that low labor cost alone may not attract FDI, but jointly work with high market potential. Thus, H1 is also supported with the multiplication measure. The support received for H1 posits that all FDIs favor locational ambidexterity. However, as the samples are from China, a destination with high uncertainty due to its transforming economy and under-developed institutions, the findings here should be generalized with caution.

Next, we regress FDI establishments from HKMT and other countries as shown in Model 2 and Model 3, respectively. The coefficient of subtraction measure in Model 2a is significant and positive (Beta=0.177, $p<0.001$), but Model 2b using multiplication measure shows a small negative and insignificant effect (Beta = -0.009, $p>0.1$). In contrast, in Model 3a and 3b, both measures are positively and significantly related to FDI establishments (Beta=0.389, $p <0.001$, and Beta=0.108, $p<0.01$, respectively). The seemingly unrelated estimation and test for equality of coefficients shows that both of the coefficients in Models 3a and 3b are significantly larger than those in Models 2a and 2b ($p< 0.001$ for both). In other words, FDI from other countries has a greater preference for locational ambidexterity than those from HKMT evidenced by both measures of ambidexterity. Thus, Hypothesis 2 is also supported.

The results for testing H3 and H3_alt incline to support H3 that WOS has greater preference for ambidexterity, but the evidence is weak. Models 4 and 5 show that both WOS and IJV prefer locational ambidexterity in general (although the coefficient of multiplication measure for IJV in Model 5b is positive but not significant), and WOS has greater preference

for ambidexterity with both subtraction (Beta=0.342, p<0.001 in Model 4a vs. Beta=0.264, p<0.001 in Model 5a) and multiplication measures (Beta=0.069, p<0.05 in Model 4b vs. Beta = 0.048, p>0.1 in Model 5b). However, test for equality shows the differences are not statistically significant. One possible explanation for the insignificant differences is that some IJVs may act as option creating and thus are substitution for locational ambidexterity, but other IJVs may be formed primarily for learning or gaining legitimacy and, therefore, locational ambidexterity is still needed for MNCs to compensate for local commitment.

Besides the alternative measures for ambidexterity to ensure reliability, a robustness check is conducted to explore the possible association between entry mode and FDI sources with supplemental regression models according to the two-by-two typology based on entry mode and FDI sources, as reported in Table 5. A significant positive relationship between the subtraction measure of ambidexterity and FDI establishments is found in all models except for the model of IJV from HKMT (Model 9a), implying that the value of locational ambidexterity is somewhat contingent jointly on contextual similarity and entry mode, although H1 is supported with total FDI establishments in our data. As shown by the coefficient comparisons for different FDI sources, H2 holds very well when splitting FDI establishments into different entry mode. In addition, WOS from HKMT has a significant greater preference for ambidexterity measured by subtraction method than IJVs from HKMT (Beta = 0.226, p<0.001 in Model 7a vs. Beta = 0.015, p>0.1 in Model 9a, with p<0.05), which supports a substituting effect between ambidexterity and IJV as proposed in H3 but the effect is contingent upon contextual similarity.

-----Insert Table 5 about here-----

Conclusions and Future Research

Supporting Buckley and Casson (1998), this study demonstrates that locational ambidexterity is an important determinant of FDI location choice. It contributes to the location choice literature by unpacking the role of location-specific characteristics in creating flexibility for MNCs. MNCs can select locations with high ambidexterity to increase operating flexibility to address uncertainty about future. It also proposes that the value of locational ambidexterity is contingent upon some other factors, such as contextual similarity and entry mode.

One of the theoretical implications of this study is that the research on FDI location choice should consider the role of uncertainty and incorporate flexibility creation as an important consideration in location choice models. Under uncertainty, the MNCs may not prefer a location that best fit their initial investment motivation in order to obtain flexibility that gives them more room for future adjustment. Another implication is that the research on operation flexibility of MNCs should broaden its scope by exploring alternative option creation strategies. As suggested by this study, location choice could be another instrument to generate flexibility for MNCs with possibly a lower cost and less challenge of implementation.

One policy implication of this study is that some MNCs may benefit from choosing an ambidextrous location when facing the challenges of global coordination and integration. The challenges either come from the MNC's limited international presence or the currently

rising anti-globalization sentiment associated with populism and nationalism in economically leading countries. Another policy implication is that a location should not merely rely on its advantage of one type to attract FDI. An ambidexterity-based view suggests that with uncertainty present countries with a balanced portfolio of characteristics can attract more inward FDI as they offer more than a single advantage, such as low labor cost, alone.

This study has several limitations. The first is the simplification of research setting and hypothesis testing. Only two types of FDI motives are considered, and thus locational ambidexterity is measured and tested only in terms of market potential and labor cost advantage. Future studies may consider more locational characters and construct alternative measures of locational ambidexterity following Venkatraman (1989). Moreover, the sources of FDI as a proxy of contextual similarity might be simplistic, and thus the findings should be accepted with caution. Second, there are drawbacks from the dataset for its short time span and limited firm-level information. As China joined the WTO in 2001, the transitioning of trade policies may complicate FDI location decision in 2001 and 2002 reflected in the data. In addition, as location choice by nature is a firm decision, firm-level longitudinal data should be adopted in future to replicate and enrich this study. Another limitation is the unidentifiability of entry and expansion decisions in the data, leading to a selection issue that some of the determinants may not affect expansion decision (Oh and Oetzel, 2016).

This study is only a prelude for a new research stream in FDI location choice. First, in

addition to exploring alternative research setting, operationalization, and empirical testing, future research can investigate the sources of locational ambidexterity, which has practical significance to those countries trying to attract FDI. Second, some firm-specific factors, such as prior experience, scale of investment, degree of multinationality, and international strategies, could have impact on the level of uncertainty that MNCs perceive and the resulting preference for locational ambidexterity. Future studies can identify those firm-specific factors and their interplay with location-specific factors. Lastly, future research can further illuminate the relationships between organization- and location-specific methods of flexibility creation.

Note:

1. While bounded rationality emphasizes cognitive constraints of obtaining and processing information, uncertainty is more about complexity and unknowable nature of reality.
2. For example, empirical results show that labor cost and market potential may be negatively associated (Nachum and Zaheer, 2005).
3. As the 42 industrial segments in the 2002 I-O table are slightly different from China's standard industrial classification, we assigned the 15 industrial segments that are related to manufacturing industries to 27 industries in the dataset.
4. A key assumption of the count model is that the event (i.e., location selection) occurs independently. Because the dataset only ranges within two years, that assumption should hold well.
5. Interestingly, while market potential is positively related to FDI establishments in all models, labor cost advantage is positively related in some models (e.g., Model 1a, 3a, 3b, 5a, 5b) and negatively related in other models (e.g., Model 2a, 2b, 4a, 4b). Possible reasons for this disparity include the following: 1) FDI with different motivations has been mixed in the count data, making its response to labor cost inconsistent; 2) FDI intentionally avoids locations with low labor costs and also with low market potential because the labor cost in all candidate locations is sufficiently competitive; 3) local labor cost may act only as a benchmark, as FDI normally offers a higher average wage; and/or 4) low cost locations might be short of qualified labor and thus prevent FDI from exploiting labor advantage without a high level of in-house training.

References

Adner, R. and Levinthal, D.A. (2004), "What is not a real option: considering boundaries for the application of real options to business strategy", *Academy of Management Review,* Vol. 29, No. 1, pp. 74-85.

Anderson, E., and Gatignon, H. (1986), "Modes of foreign entry: a transaction cost analysis and propositions", *Journal of International Business Studies*, Vol. 17, No. 3, pp. 1-26.

Aizenman, J. (2003), "Volatility, employment and the patterns of FDI in emerging markets", *Journal of Development Economics*, Vol. 72, No. 2, pp. 585-601.

Belderbos, R., Tong, T.W. and Wu, S. (2014), "Multinationality and downside risk: the roles of option portfolio and organization", *Strategic Management Journal*, Vol. 35, No. 1, pp. 88-106.

Belderbos, R. and Sleuwaegen, L. (2005), "Competitive drivers and international plant configuration strategies: a product-level test", *Strategic Management Journal*, Vol. 26, No. 6, pp. 577-593.

Belderbos, R. and Zou, J. (2007), "On the growth of foreign affiliates: multinational plant networks, joint ventures, and flexibility", *Journal of International Business Studies*, Vol. 38, No. 7, pp. 1095-1112.

Birkinshaw, J. and Hood, N. (1998), "Multinational subsidiary evolution: capability and charter change in foreign-owned subsidiary companies", *Academy of Management Review*, Vol. 23, No. 4, pp. 773-795.

Blonigen, B.A. (2005), "A review of the empirical literature on FDI determinants", *Atlantic Economic Journal*, Vol. 33, No. 4, pp. 383-403.

Boeh, K.K. and Beamish, P.W. (2012), "Travel time and the liability of distance in foreign direct investment: location choice and entry mode", *Journal of International Business Studies*, Vol. 43, No. 5, pp. 525–535.

Buckley, P.J. and Casson, M.C. (1998), "Models of the multinational enterprise", *Journal of International Business Studies,* Vol. 29, No. 1, pp. 21-44.

Campa, J.M. (1993), "Entry by foreign firms in the United States under exchange rate uncertainty", *The Review of Economics and Statistics*, Vol. 75, No. 4, pp. 614-622.

Cantwell, J.A. (2005), "Financial and non-financial theories of international diversification", In Daniel Van Den Bulcke and Alain Verbeke, eds., *Internalization, International Diversification and the MNE: Essays in Honour of Alan M. Rugman*, Amsterdam: Elsevier - Volume 11 in the Series on Research in Global Strategic Management, pp. 59-73.

Cantwell, J.A. (2009), "Location and the multinational enterprise", *Journal of International Business Studies*, Vol. 40, No. 1, pp. 35-41.

Cantwell, J.A., Dunning, J.H., and Lundan, S.M. (2010), "An evolutionary approach to understanding international business activity: The co-evolution of MNEs and the institutional environment", *Journal of International Business Studies*, Vol. 41, No. 4, pp. 567-586.

Cantwell, J.A. and Mudambi, R. (2005), "MNE competence-creating subsidiary mandates", *Strategic Management Journal*, Vol. 26, No. 12, pp. 1109-1128.

Cao, Q., Gedajlovic, E., and Zhang, H. (2009), "Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects", *Organization Science*, Vol. 20, No. 4, pp. 781-796.

Carruth, A., Dickerson, A., and Henley, A. (2000), "What do we know about investment under uncertainty?" *Journal of Economic Surveys*, Vol. 14, No. 2, pp. 119-154.

Chen, H. and Chen, T. (1998), "Network linkages and location choice in foreign direct investment", *Journal of International Business Studies*, Vol. 29, No. 3, pp. 445-468.

Cheng, L.K. and Kwan, Y.K. (2000), "What are the determinants of the location of foreign direct investment? The Chinese experience", *Journal of International Economics,* Vol 51, No. 2, pp. 379-400.

Cheng, S. and Stough, R.R., (2006), "Location decisions of Japanese new manufacturing plants in China: a discrete-choice analysis", *The Annals of Regional Science*, Vol. 40, No. 2, pp. 369-387.

Coff, R.W. and Laverty, K.J. (2007), "Real options meet organizational theory: Coping with path dependencies, agency costs, and organizational form", in Reuer, J.J. and Tong, T.W. (Eds.), *Real Options Theory, Advances in Strategic Management*, JAI Press, Oxford, pp. 333-362.

Cole, M.A., Elliott, R.J.R. and Zhang, J. (2009), "Corruption, governance and FDI location in China: A province-level analysis", *Journal of Development Studies*, Vol. 45, No. 9, pp. 1494-1512.

Davidson, P. (1996), "Reality and economic theory," *Journal of Post Keynesian Economics*, Vol 18, No. 4, pp. 479-508.

Dunning, J.H. (1998), "Location and the multinational Enterprise: A neglected factor?" *Journal of International Business Studies*, Vol. 29, No. 1, pp. 45-66.

Dunn, S.P. (2001), "Bounded rationality is not fundamental uncertainty: a Post Keynesian perspective", *Journal of Post Keynesian Economics*, Vol. 23, No. 4, pp. 567-587.

Erramilli, M. and D'Souza, D.E. (1995), "Uncertainty and foreign direct investment: the role of moderators", *International Marketing Review*, Vol. 12, No. 3, pp. 47-60.

Flores, R.G., and Aguilera, R.V. (2007), "Globalization and location choice: an analysis of US multinational firms in 1980 and 2000." *Journal of International Business Studies,* Vol. 38, No. 7, pp. 1187-1210.

Folta, T.B. and O'Brien, J.P. (2007), "Market versus managerial valuations of real options", in Reuer, J.J. and Tong, T.W. (Eds.), *Real Options Theory, Advances in Strategic Management*, JAI Press, Oxford, pp. 199-224.

Fu, J. (2000), *Institutions and Investments: Foreign Direct Investment in China during an Era of Reforms*, University of Michigan Press, Ann Arbor, MI.

Ghemawat, P. (2001), "Distance still matters", *Harvard Business Review*, Vol., No., pp. *79*(8), 137-147.

Ghemawat, P. (2003), "Semiglobalization and international business strategy", *Journal of International Business Studies*, Vol. 34, No. 2, pp.138-152.

Gibson, C.B. and Birkinshaw, J. (2004), "The antecedents, consequences, and mediating role of organizational ambidexterity", *Academy of management Journal*, Vol. 47, No. 2, pp. 209-226.

He, Z. and Wong, P. (2004), "Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis", *Organization Science*, Vol. 15, No. 4, pp. 481-494.

Head, K., Ries, J. and Swenson, D. (1995), "Agglomeration benefits and location choice: evidence from Japanese manufacturing investments in the United States", *Journal of International Economics*, Vol. 38, No. 3–4, pp. 223-247.

Holmes, R.M., Miller, T., Hitt, M.A., & Salmador, M.P. (2013), "The interrelationships among informal institutions, formal institutions, and inward foreign direct investment", *Journal of Management*, Vol. 39, No. 2, pp. 531-566.

Hummels, D., Ishii, J., and Yi, K.M. (2001), "The nature and growth of vertical specialization in world trade", *Journal of international Economics*, Vol. 54, No. 1, pp. 75-96.

Huo, Y.P. and Randall, D.M. (1991), "Exploring subcultural differences in Hofstede's value survey: the case of the Chinese", *Asia Pacific Journal of Management*, Vol. 8, No. 2, pp. 159-173.

Jain, N.K., Kothari, T., and Kumar, V. (2016), "Location choice research: Proposing new agenda", *Management International Review*, Vol. 56, No. 3, pp. 303-324.

Jansen, J.J., Tempelaar, M.P., Van den Bosch, F.A. and Volberda, H.W. (2009), "Structural differentiation and ambidexterity: the mediating role of integration mechanisms", *Organization Science*, Vol. 20, No. 4, pp. 797-811.

Johanson, J. and Vahlne, J.E. (1990), "The mechanism of internationalization", *International Marketing Review*, Vol. 7, No. 4, pp. 11-24.

Kim, J.U., & Aguilera, R.V. (2016), "Foreign location choice: review and extensions", *International Journal of Management Reviews*, Vol. 18, No. 2, pp. 133-159.

Kogut, B. (1983), "Foreign investment as a sequential process", in Kindleberger, C.P. and Audretsch, D. (Eds.), *The Multinational Corporation in the 1980s*, MIT Press, Boston, pp. 38-56.

Kogut, B. (1985), "Designing global strategies: profiting from operational flexibility", *Sloan Management Review,* Vol. 27, No. 1, pp. 27-38.

Kogut, B. (1991), "Joint ventures and the option to expand and acquire", *Management Science*, Vol. 37, No. 1, pp. 19-33.

Kogut, B. and Kulatilaka, N. (1994a), "Operating flexibility, global manufacturing, and the option value of a multinational network", *Management Science,* Vol. 40, No. 1, pp. 123-139.

Kogut, B. and Kulatilaka, N. (1994b), "Options thinking and platform investments: investing in opportunity", *California Management Review,* Vol. 36, No. 2, pp. 52-71.

Li, J. and Li, Y. (2010), "Flexibility versus commitment: MNEs' ownership strategy in China", *Journal of International Business Studies*, Vol. 41, No. 9, pp. 1550-1571.

Li, J. and Rugman, A.M. (2007), "Real options and the theory of foreign direct investment", *International Business Review,* Vol. 16, No. 6, pp. 687-712.

Lubatkin, M.H., Simsek, Z., Ling, Y. and Veiga, J.F. (2006), "Ambidexterity and performance in small-to medium-sized firms: the pivotal role of top management team behavioral integration", *Journal of Management*, Vol. 32, No. 5, pp. 646-672.

Luo, Y. (2000), *Multinational Corporations in China: Benefiting from Structural Transformation*. Copenhagen Business School Press, Copenhagen.

Makino, S., Lau, C. and Yeh, R. (2002), "Asset-exploitation versus asset-seeking: implications for location choice of foreign direct investment from newly industrialized economies", *Journal of International Business Studies*, Vol. 33, No. 3, pp. 403-421.

Makino, S. and Tsang, E.W. (2011), "Historical ties and foreign direct investment: An exploratory study", *Journal of International Business Studies*, Vol. 42, No.4, pp. 545-557.

Meyer, K. E., Mudambi, R., and Narula, R. (2011), "Multinational enterprises and local contexts: The opportunities and challenges of multiple embeddedness", *Journal of Management Studies*, Vol. 48, No. 2, pp. 235-252.

Mudambi, R. and Navarra, P. (2003), "Political tradition, political risk and foreign direct investment in Italy", *Management International Review,* Vol. 43, No. 3, pp. 247-265.

Nachum, L. and Zaheer, S. (2005), "The persistence of distance? The impact of technology on MNE motivations for foreign investment", *Strategic Management Journal,* Vol. 26, No. 8, pp. 747-767.

Oetzel, J.M. and Oh, C.H. (2014), "Learning to carry the cat by the tail: firm experience, disasters, and multinational subsidiary entry and expansion", *Organization Science*, Vol. 25, No. 3, pp. 732-756.

Oh, C. H., & Oetzel, J. (2016), "Once bitten twice shy? Experience managing violent conflict risk and MNC subsidiary-level investment and expansion", *Strategic Management Journal*, forthcoming.

Tang, C.Y. and Tikoo, S. (1999), "Operational flexibility and market valuation of earnings", *Strategic Management Journal,* Vol.20, No. 8, pp. 749-761.

Tong, T.W. and Reuer, J.J. (2007), "Real options in multinational corporations: organizational challenges and risk implications", *Journal of International Business Studies*, Vol. 38, No. 2, pp. 215-230.

Tong, T.W., Reuer, J.J. and Peng, M.W. (2008), "International joint ventures and the value of growth options", *Academy of Management Journal*, Vol. 51, No. 5, pp. 1014-1029.

United Nations Conference on Trade and Development (UNCTAD) (2015), *World Investment Report*, United Nations, New York.

Venkatraman, N. (1989), "The concept of fit in strategy research: toward verbal and statistical correspondence", *Academy of Management Review*, Vol. 14, No. 3, pp. 423-444.

Wakasugi, R. (2005), "The effects of Chinese regional conditions on the location choice of Japanese affiliates", *Japanese Economic Review*, Vol. 56, No. 4, pp. 390-407.

Wei, S. J. (1997), "Why is corruption so much more taxing than tax? Arbitrariness kills" (No. w6255), *National Bureau of Economic Research*.

Williamson, O.E. (1979), "Transaction-cost economics: the governance of contractual relations", *The Journal of Law & Economics*, Vol. 22, No. 2, 233-261.

Zhao, H., Luo, Y., & Suh, T. (2004), "Transaction cost determinants and ownership-based entry mode choice: a meta-analytical review", *Journal of International Business Studies*, Vol. 35, No. 6, 524-544.

Zhao, H. and Zhu, G. (2000), "Location factors and country-of-origin differences: an empirical analysis of FDI in China", *Multinational Business Review*, Vol. 8, No. 1, pp. 60-74.

Figure 1. Locational Characteristics as Portfolio

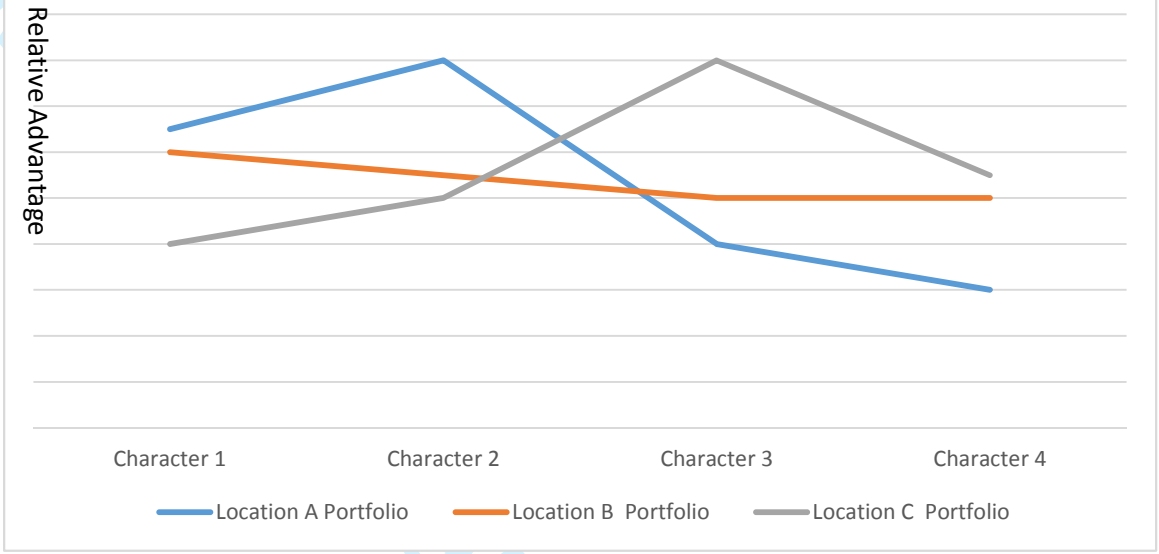

Table 1. Operationalization of Ambidexterity

Representative Studies	|A-B| (Subtraction)	A*B (Multiplication)	A+B (Summation)	Inclusion of First Order Variable (i.e., A and B)
Cao *et al*. (2009)	Yes	Yes		Yes
Gibson and Birkinshaw (2004)		Yes		No
He and Wong (2004)	Yes	Yes		Yes
Jansen *et al*. (2009)			Yes	No (as dependent variables)
Lubatkin *et al.* (2006)			Yes	No

Table 2. Description and Data Source of Variables

Variable Name	Description	Source
FDI	Counts of FDI establishment in an industry/province/year	China Firm Directory (2001, 2002)
Market potential (Mkt_Potential)	The total consumption (in 10 thousands) of an industry in a province in each year. Z scores are used.	provincial yearbooks (2000, 2001) and provincial I-O Table
Labor cost advantage (Cost_Advan)	Reciprocal of the nominal wage (in Chinese *Yuan*) for manufacturing sector in each province. Z scores are used.	provincial yearbooks (2000, 2001)
Locational ambidexterity (subtraction measure) (Ambi_Subtraction)	7- | Mkt_Potential - Cost_Advan| (as the maximum of the absolute value is 6.38 for all samples)	
Locational ambidexterity (multiplication measure) (Ambi_Multiplication)	Mkt_Potential *Cost_Advan	
Agglomeration (FDI) (Agglom_FDI)	Previous year's accumulated FDI counts of an industry in a province (divided by 100)	China Firm Directory
Agglomeration (indigenous) (Agglom_Indig)	Previous year's accumulated counts of indigenous firms in each industry and province (divided by 10,000)	China Firm Directory
Government incentives (Gov_Incent)	Number of development zones of various kinds	China national yearbooks (2000, 2001)
Government efficiency index (GEI_Mean)	Previous three years' average of provincial government efficiency index	Cole *et al.* (2009)
Corruption index (CI_Mean)	Previous three years' average ratios of corruption cases to population	Cole *et al*. (2009)
Transportation Infrastructure (Trans_Infras)	Factor score of the ratios of length of railway to land area and of length of highway to land area of a province/year	China transportation yearbooks (2000, 2001); China national yearbooks (2000, 2001)
Ports (trans_port)	Total number of inland ports and seaports in a province (divided by 100)	China transportation yearbooks (2000, 2001)
Labor quality (Labor_Qual)	Ration of number of technicians (in 10 thousand) to population of a province	China national yearbook (2000, 2001)
Labor productivity (Productivity)	Labor productivity (in 10000 Chinese Yuan per employee) of an industry/province/year	provincial yearbooks
GDP per capita (GDPCAP)	GDP per capita in a province	China national yearbooks

Table 3. Descriptive Statistics and Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
FDI (all) (1)	1						
Cost_Advant (2)	-0.365***	1					
Mkt_Potential (3)	0.557***	-0.368***	1				
Ambi_Multiplication (4)	-0.432***	0.346***	-0.544***	1			
Ambi_Subtraction (5)	-0.502***	0.335***	-0.702***	0.808***	1		
Agglom_FDI (6)	0.837***	-0.343***	0.606***	-0.501***	-0.525***	1	
Agglom_Indig (7)	0.706***	-0.321***	0.614***	-0.376***	-0.493***	0.731***	1
Gov_Incent (8)	0.314***	0.042	0.569***	-0.104***	-0.243***	0.325***	0.426
CI_Mean (9)	-0.077**	0.146***	-0.054*	0.273***	0.194***	-0.111***	-0.058
GEI_Mean (10)	0.286***	-0.613***	0.342***	-0.184***	-0.300***	0.214***	0.313***
Trans_Infras (11)	0.228***	-0.574***	0.284***	-0.157***	-0.383***	0.184***	0.218***
Trans_Ports (12)	0.381***	-0.304***	0.549***	-0.352***	-0.409***	0.381***	0.563***
Labor_Qual (13)	0.220***	-0.630***	0.204***	-0.146***	-0.330***	0.120***	0.168****
Productivity (14)	0.081**	-0.155***	0.155***	-0.122***	-0.114***	0.055*	0.022
GDPCAP (15)	0.442***	-0.774***	0.443***	-0.351***	-0.503***	0.331***	0.384***
Mean	19.777	-0.008	0.000	-0.371	5.724	1.105	0.137
S.D.	55.582	1.027	0.983	1.151	1.065	2.905	0.248

Note: * p<0.05, ** p<0.01, *** p<0.001

Table 3. Descriptive Statistics and Correlation Matrix (*Continued*)

Variables	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
FDI (all) (1)								
Cost_Advant (2)								
Mkt_Potential (3)								
Ambi_Multiplication (4)								
Ambi_Subtraction (5)								
Agglom_FDI (6)								
Agglom_Indig (7)								
Gov_Incent (8)	1							
CI_Mean (9)	0.0471	1						
GEI_Mean (10)	0.095***	0.241***	1					
Trans_Infras (11)	0.041	0.183***	0.556***	1				
Trans_Ports (12)	0.598***	-0.233***	0.278***	0.063*	1			
Labor_Qual (13)	-0.097***	0.260***	0.686***	0.839***	0.006	1		
Productivity (14)	0.108***	-0.070**	0.125***	0.127***	0.127***	0.089***	1	
GDPCAP (15)	0.148***	0.152***	0.782***	0.767***	0.306***	0.821***	0.185***	1
Mean	52.079	3.467	0.011	0.041	11.144	0.004	4.538	0.883
S.D.	39.675	0.97	0.226	1.015	20.944	0.003	5.527	0.558

Table 4. Results for Hypothesis Testing (Negative Binomial Regression)

Dependent Variable	FDI (All)		FDI (HKMT)		FDI (Other countries)		FDI (WOS)		FDI (IJV)	
Independent Variable	**Model 1a**	**Model 1b**	**Model 2a**	**Model 2b**	**Model 3a**	**Model 3b**	**Model 4a**	**Model 4b**	**Model 5a**	**Model 5b**
Ambidexterity (subtraction measure)	0.317*** (0.044)		0.177*** (0.052)		0.389*** (0.050)		0.342*** (0.052)		0.264*** (0.051)	
Ambidexterity (multiplication measure)		0.077* (0.032)		-0.009 (0.033)		0.108** (0.034)		0.069* (0.035)		0.048 (0.034)
Market potential	0.458*** (0.052)	0.250*** (0.044)	0.319*** (0.061)	0.161*** (0.048)	0.518*** (0.057)	0.266*** (0.047)	0.456*** (0.061)	0.208*** (0.049)	0.431*** (0.059)	0.249*** (0.048)
Labor cost advantage	0.120† (0.069)	0.013 (0.068)	-0.330*** (0.081)	-0.420*** (0.077)	0.389*** (0.076)	0.283*** (0.076)	-0.372*** (0.079)	-0.497*** (0.078)	0.590*** (0.081)	0.510*** (0.080)
Agglomeration (FDI)	0.108*** (0.015)	0.102*** (0.016)	0.135*** (0.015)	0.130*** (0.015)	0.073*** (0.016)	0.069*** (0.017)	0.136*** (0.016)	0.131*** (0.017)	0.041** (0.016)	0.034* (0.016)
Agglomeration (Indigenous firms)	0.468* (0.181)	0.507** (0.189)	0.007 (0.176)	0.055 (0.177)	0.751*** (0.194)	0.775*** (0.204)	0.114 (0.183)	0.160 (0.190)	0.955*** (0.207)	1.001*** (.0213)
Government incentives	0.009*** (0.001)	0.012*** (0.001)	0.006*** (0.001)	0.008*** (0.001)	0.009*** (0.001)	0.013*** (0.001)	0.008*** (0.001)	0.011*** (0.001)	0.011*** (0.001)	0.013*** (0.001)
Corruption index	0.126** (0.045)	0.202 *** (0.046)	0.183*** (0.054)	0.257*** (0.053)	0.115* (0.049)	0.195*** (0.050)	0.330*** (0.051)	0.425*** (0.052)	-0.065 (0.052)	-0.002 (0.052)
Government efficiency index	-2.472*** (0.271)	-2.217*** (0.280)	-2.376*** (0.331)	-1.924*** (0.325)	-1.959*** (0.311)	-1.735*** (0.324)	-2.063*** (0.326)	-1.615*** (0.332)	-2.674*** (0.324)	-2.420*** (0.331)
Transportation infrastructure	0.074 (0.089)	0.061 (0.091)	-0.244* (0.110)	-0.314** (0.108)	0.199* (0.099)	0.219* (0.102)	-0.250* (0.109)	-0.313** (0.109)	0.345*** (0.103)	0.352*** (0.103)
Number of Ports	0.008*** (0.002)	0.006*** (0.002)	0.008*** (0.002)	0.006** (0.002)	0.008*** (0.002)	0.007*** (0.002)	0.005* (0.002)	0.003 (0.002)	0.011*** (0.002)	0.009*** (0.002)
Labor quality	-85.835* (33.441)	-110.233*** (34.285)	31.224 (40.538)	40.083 (41.088)	-117.536*** (36.920)	-156.113*** (38.156)	84.271* (39.861)	70.458 (41.384)	-214.135*** (38.015)	-234.148*** (38.594)

Table 4. Results for Hypothesis Testing (Negative Binomial Regression) (*Continued*)

Dependent Variable	FDI (All)		FDI (HKMT)		FDI (Other countries)		FDI (WOS)		FDI (IJV)	
Independent Variable	**Model 1a**	**Model 1b**	**Model 2a**	**Model 2b**	**Model 3a**	**Model 3b**	**Model 4a**	**Model 4b**	**Model 5a**	**Model 5b**
Productivity	-0.000 (0.000)	0.006 (0.007)	-0.002 (0.008)	-0.001 (0.008)	0.005 (0.008)	0.008 (0.008)	0.009 (0.009)	0.011 (0.009)	-0.000 (0.008)	0.002 (0.008)
GDP per capita	2.541*** (0.186)	2.300*** (0.196)	1.416*** (0.236)	1.147*** (0.232)	2.856*** (0.203)	2.725*** (0.214)	1.216*** (0.214)	0.977*** (0.221)	3.636*** (0.223)	3.474*** (0.228)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LR Chi-squared	2441	2397	2113	2101	2112	2063	2223	2185	1941	1916
Pseudo R-squared	0.242	0.237	0.284	0.283	0.247	0.241	0.280	0.276	0.242	0.239
Alpha	0.502***	0.536***	0.439***	0.441***	0.524***	0.573***	0.483***	0.520***	0.554***	0.576***
Log likelihood	-3830	-3852	-2659	-2665	-3226	-3251	-2854	-2873	-3048	-3060
N	1525	1525	1525	1525	1525	1525	1525	1525	1525	1525
Coefficient Comparison	H0: Ambi_Minimizing (Model 2a = Model 3a) p = 0.000; H0: Ambi_Enhancing (Model 2b = Model 3b) p = 0.000; H0: Ambi_Minimizing (Model 4a = Model 5a) p = 0.157; H0: Ambi_Enhancing (Model 4b = Model 5b) p = 0.558									

Notes. 1. Standard errors of coefficients are reported in parentheses; 2. †: p<= .1, *: p<= .05, **: p<= .01, ***: p<= .001 (2-tailed test)

Table 5. Results for Robustness Check (Negative Binomial Regression)

Dependent Variable	WOS (Other countries)		WOS (HKMT)		IJV (Other countries)		IJV (HKMT)	
Independent Variable	**Model 6a**	**Model 6b**	**Model 7a**	**Model 7b**	**Model 8a**	**Model 8b**	**Model 9a**	**Model 9b**
Ambidexterity (subtraction measure)	0.422*** (0.064)		0.226*** (0.064)		0.370*** (0.058)		0.015 (0.070)	
Ambidexterity (multiplication measure)		0.076† (0.039)		0.008 (0.038)		0.094* (0.038)		-0.052 (0.040)
Market potential	0.553*** (0.072)	0.233*** (0.054)	0.332*** (0.074)	0.135* (0.055)	0.484*** (0.066)	0.237*** (0.052)	0.237*** (0.079)	0.187*** (0.058)
Labor cost advantage	-0.130 (0.093)	-0.263** (0.093)	-0.622*** (0.097)	-0.742*** (0.091)	0.776*** (0.091)	0.688*** (0.091)	-0.013 (0.110)	-0.029 (0.105)
Agglomeration(FDI)	0.096*** (0.017)	0.093*** (0.018)	0.161*** (0.016)	0.158*** (0.017)	0.014 (0.017)	0.009* (0.018)	0.063*** (0.017)	0.059*** (0.017)
Agglomeration (Indigenous firms)	0.302 (0.203)	0.338 (0.212)	-0.147 (0.188)	-0.103 (0.190)	1.186*** (0.226)	1.214*** (0.236)	0.422† (0.224)	0.458* (0.225)
Government incentives	0.009*** (0.002)	0.014*** (0.002)	0.002 (0.002)	0.004* (0.002)	0.010*** (0.002)	0.013*** (0.002)	0.011*** (0.002)	0.012*** (0.002)
Corruption index	0.356*** (0.057)	0.461*** (0.058)	0.225*** (0.069)	0.322*** (0.066)	-0.083* (0.057)	-0.008 (0.059)	0.159* (0.070)	0.189** (0.068)
Government efficiency index	-1.354*** (0.408)	-0.897* (0.419)	-2.306*** (0.413)	-1.661*** (0.394)	-2.260*** (0.370)	-2.004*** (0.381)	-2.442*** (0.455)	-2.231*** (0.444)
Transport infrastructure	-0.151 (0.130)	-0.195 (0.131)	-0.483*** (0.136)	-0.600*** (0.132)	0.375*** (0.115)	0.422*** (0.116)	0.075 (0.148)	0.054 (0.145)
Number of Ports	0.004 (0.002)	0.001 (0.002)	0.008*** (0.002)	0.005* (0.002)	0.013*** (0.002)	0.011*** (0.002)	0.007* (0.003)	0.006* (0.003)
Labor quality	99.376* (46.490)	80.286 (48.986)	73.227 (49.138)	89.443† (50.244)	-234.673*** (42.744)	-275.505*** (43.653)	-31.614 (52.000)	-20.659 (52.398)

Table 5. Results for Robustness Check (Negative Binomial Regression) (*Continued*)

Dependent Variables	WOS (Other countries)		WOS (HKMT)		IJV (Other countries)		IJV (HKMT)	
Independent Variables	**Model 6a**	**Model 6b**	**Model 7a**	**Model 7b**	**Model 8a**	**Model 8b**	**Model 9a**	**Model 9b**
Productivity	0.007 (0.010)	0.009 (0.010)	0.008 (0.010)	0.010 (0.010)	0.003 (0.009)	0.007 (0.009)	-0.009 (0.009)	-0.008 (0.009)
GDP per capita	1.527*** (0.242)	1.261*** (0.252)	0.757** (0.285)	0.406 (0.277)	3.860*** (0.244)	3.732*** (0.254)	2.190*** (0.313)	2.063*** (0.305)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
LR Chi-squared	1805	1766	1851	1838	1640	1606	1499	1501
Pseudo R-squared	0.287	0.281	0.312	0.310	0.239	0.234	0.283	0.283
Alpha	0.509***	0.565***	0.450***	0.456***	0.602***	0.643***	0.549***	0.542***
Log likelihood	-2246	-2265	-2044	-2050	-2605	-2622	-1899	-1898
N	1525	1525	1525	1525	1525	1525	1525	1525
Coefficient Comparison	H0: Ambi_Minimizing (Model 6a = Model 7a) p = 0.011; H0: Ambi_Enhancing (Model 6b = Model 7b) p = 0.089 H0: Ambi_Minimizing (Model 6a = Model 8a) p = 0.453; H0: Ambi_Enhancing (Model 6b = Model 8b) p = 0.658 H0: Ambi_Minimizing (Model 6a = Model 9a) p = 0.000; H0: Ambi_Enhancing (Model 6b = Model 9b) p = 0.008 H0: Ambi_Minimizing (Model 7a = Model 8a) p = 0.059; H0: Ambi_Enhancing (Model 7b = Model 8b) p = 0.051 H0: Ambi_Minimizing (Model 7a = Model 9a) p = 0.015; H0: Ambi_Enhancing (Model 7b = Model 9b) p = 0.167 H0: Ambi_Minimizing (Model 8a = Model 9a) p = 0.000; H0: Ambi_Enhancing (Model 8b = Model 9b) p = 0.000							

Notes. 1. Standard errors of coefficients are reported in parentheses; 2. †: p<= .1, *: p<= .05, **: p<= .01, ***: p<= .001 (2-tailed test)