
Re-conceptualising exploitative and explorative FDI: a balancing-process approach to firm internationalisation

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Abstract: Drawing on the Penrosean theory of the growth of the firm, this paper develops a balancing-process approach to explain the motivations and location choices of Foreign Direct Investment (FDI). In this approach, FDI is viewed as a means to balance a firm's portfolio of resources and capabilities through utilising resources and capabilities available in international markets with the ultimate goal of achieving fast and sustainable growth. Based on the *Chinese yin-yang* perspective, this approach joins exploitative and explorative FDI as a dynamic unity and explains how exploitation and exploration jointly drive a firm's motivation and location choice of internationalisation. Our balancing-process approach joins historically independent streams of research in a single framework and uncovers a new and more fundamental mechanism that drives FDI: *the need to address resource constraints*.

Keywords: foreign direct investment; Penrosean theory of growth; balancing process; motivation; location choice; exploitation–exploration; yin-yang; transparadox.

Reference to this paper should be made as follows: Kim, M., Mahoney, J.T. and Tan, D. (2015) 'Re-conceptualising exploitative and explorative FDI: a balancing-process approach to firm internationalisation', *European J. International Management*, Vol. 9, No. 5, pp.537–565.

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This paper is a revised and expanded version of a paper entitled 'A balancing-mechanism approach to the theory of the multinational enterprise' presented at the 'Academy of International Business 2009 Annual Meeting', San Diego, California, 27–30 June 2009.

1 Introduction

Fundamental questions in the field of international business concern firms' motivations to expand into foreign markets and their location choices. The extant literature provides two contrasting approaches to these questions. An earlier and widely adopted approach maintains that firms expand abroad to exploit firm-specific advantages that are difficult to transfer owing to various market frictions (Buckley and Casson, 1976; Hennart, 1982; Rugman, 1981). This research approach posits that firms expand into markets with lower or similar levels of economic development because their ownership advantages in these markets often enable them to overcome the liability of foreignness (Hymer, 1960/1976; Zaheer, 1995). A more recent research approach emphasises an asset-seeking logic to Foreign Direct Investment (FDI), suggesting that firms expand into more developed countries to explore new strategic assets (Makino et al., 2002). Thus, firms implement exploratory FDI to redress ownership disadvantage (Li, 2007; Luo and Tung, 2007; Moon and Roehl, 1993), to augment strategic assets (Dunning, 2000; Verbeke and Yuan, 2010) or to build firm-specific advantages (Rugman and Verbeke, 2001).

These two research approaches, which have been developed separately and focus on a single-market entry, provided an analytical lens for either *exploitation* or *exploration*. However, to bridge the theory–practice gap (Van de Ven, 2007), we need a more unified framework that explains a firm's multiple foreign entries that include both exploitative and explorative moves. Such a framework is highly relevant because a multinational firm

typically takes on a series of both exploitative and explorative foreign market entry moves, and enters into both developed and developing countries (Li, 2010; March, 1991). Indeed, Galan et al. (2007) report that many Spanish firms implement exploitative FDI in Latin American countries while simultaneously conducting explorative FDI in EU countries. Analysing questions of motivations and location choices solely from either an exploitative or explorative lens no longer provides an accurate picture of the dynamic pattern of firm internationalisation. Therefore, Makino et al. (2002) call for a more unified framework to not only capture the simultaneous nature of these moves but also to capture the interaction between exploitation and exploration as a dynamic unity that jointly impacts a firm's motivation and location choices in the process of internationalisation.

To respond to this call, we draw from the Penrosean theory of the growth of the firm (Penrose, 1955; Penrose, 1959), the exploitation–exploration literature (Lavie et al., 2010; March, 1991) and the Chinese yin-yang philosophy (Chen, 2002; Chen, 2008; Li, 1998; Li, 2012b)¹ to develop a *balancing-process approach* to firm internationalisation. In this approach, internationalisation is conceptualised as a process by which firms seek to balance their resources and capabilities through foreign markets to achieve a faster growth rate and sustainable competitive advantage. More specifically, we apply the exploitation–exploration balance (March, 1991) to firm-specific resource balance through internationalisation for a firm's growth (Penrose, 1959; Pitelis, 2004) and we employ the yin-yang philosophy (Chen, 2002; Chen, 2008; Li, 1998; Li, 2012b) to refine and extend the Penrosean theory of the growth of the firm in the context of firm internationalisation. The yin-yang approach illuminates the simultaneous and circular nature of exploitation and exploration and their partially conflicting (trade-off) and partially complementary (synergy) relationship. This study focuses on the partially complementary synergistic relationship (Cao et al., 2009) between exploitation and exploration because the research literature focuses largely on the conflicting trade-off, and the purpose here is to explain why an MNC implements explorative and exploitative FDI simultaneously. More specifically, we focus on the synergistic coexistence² of exploitation and exploration in the process of FDI and consider exploitative and explorative FDI as 'opposites-in-unity' that sow seeds for each other (Chen, 2002; Chen, 2008) and work together to spur and sustain the growth of the firm (Penrose, 1959). In this way, we re-conceptualise the relationship between exploitative and explorative FDI, and explain how exploitation and exploration jointly drive a firm's motivation and location choices in the process of internationalisation.

The current study contributes to the research literature by advancing a more general framework that explains both the motivations and location choices in the process of firm internationalisation (Cuervo-Cazurra, 2012). In the extant literature, exploitative and explorative FDI have been explained as driven by different motivations and have been examined independently. Our balancing-process approach joins these two historically independent streams of research in a single framework and uncovers a new and more fundamental mechanism that drives both types of FDI: *the need to address resource constraints*. In this way, the current paper extends the boundary conditions of the theories of FDI motivation and location choices, and provides a more fundamental mechanism concerning a causal relationship between constructs (Bacharach, 1989), and hence contributes towards a more general theory of firm internationalisation (Thompson, 1956; Van de Ven, 2007).

The remainder of the paper is organised as follows. The next section reviews the two streams of research on motivations and location choice of FDI and discusses the need for joining these streams from the yin-yang perspective. The following section develops the balancing-process approach of firm internationalisation and provides research propositions. We then show how this theoretically grounded balancing-process approach can help explain and predict motivations and location choices of FDI. Finally, discussion and conclusions are provided.

2 Theories on foreign direct investment

2.1 *Exploitative and explorative FDI*

Traditionally, theories of FDI have largely focused on exploitative FDI. These theories are developed along with two important lines of reasoning: *transaction cost explanations* and *strategic behaviour explanations* (Kogut, 1988; Tallman, 1992). Transaction cost theory, which builds on Coase's (1937) and Williamson's (1975) market imperfections approach (Dunning, 2003a), predicts that Multinational Enterprises (MNEs) conduct FDI when asset specificity and demand uncertainty are high (Slangen and Hennart, 2007; Williamson, 1985), and when there is a need to internalise externalities (Hennart, 2003). Strategic behaviour explanations posit that MNEs implement FDI for a variety of strategic motives, including the following: to reduce competition (Bain, 1956), to diversify risk (Qian and Li, 1998), to obtain monopolistic advantages (Kindleberger, 1969), to follow the leader (Knickerbocker, 1973) and to interact oligopolistically (Graham, 1974).

Joining transaction costs and strategic behaviour explanations, Dunning (1977, 1979) introduces three types of advantages, ownership, location and internalisation (the so-called OLI paradigm), which are deemed necessary for an MNE to implement FDI effectively. This paradigm has been remarkably adaptable incorporating critical features of international business activities (Eden and Dai, 2010; Mudambi, 2004) in which FDI decisions are 'determined by the configuration of three sets of interrelated variables' (Dunning, 2004, p.4).³

Recently, the exploitation perspective is complemented by an *exploration* view, which focuses on explorative FDI. In contrast to the exploitation perspective that focuses on natural resource-seeking, market-seeking and efficiency-seeking motivations (Dunning, 2000; Galan et al., 2007), this perspective considers explorative FDI as motivated by sourcing local technology (Kogut and Chang, 1991), augmenting home-based advantages (Kuemmerle, 1999), searching for new knowledge not readily available in home countries (Cantwell, 2009) and building firm-specific advantages (Rugman and Verbeke, 2001). These motives have been termed "strategic asset-seeking" (Dunning, 1995), "knowledge-seeking" (Chung and Alcácer, 2002), and "technology-seeking" (Cantwell et al., 2004).

Wesson contrasts the two perspectives: "Asset-seeking FDI is driven by a foreign firm's desire to gain access to valuable assets, which are available on better terms to firms operating in the host nation than in the investing firm's home nation. In contrast, the internalisation/asset-exploiting model of FDI explains foreign investments as a firm's best mechanism for obtaining the rents that its proprietary assets can earn in the host nations' market" (Wesson, 1999, p.2).

The current paper builds on this insight. We next turn to joining the exploitation and exploration perspectives.

2.2 *The need for joining the exploitation and exploration perspectives*

While the two research perspectives provide key insights into the motivations and location choices of internationalisation, neither of the two approaches provides a clear answer to the question of why a particular firm simultaneously implements both exploitative and explorative FDI (Galan et al., 2007). Both perspectives are developed with an analytical focus on a *single* foreign market entry that seeks to *either* exploit firm-specific resources *or* explore firm-specific strategic assets. However, firms typically conduct multiple foreign market entries, with both motives of exploitation and exploration. Makino et al. (2002) find that both asset-exploitation and asset-seeking motivations significantly influence an MNEs' location choice into developed and less-developed countries, and that this influence is moderated by MNEs' capabilities. Moon and Roehl (2001) maintain that firms implement FDI to redress the imbalance within their asset portfolio and that it is typically both ownership advantages and ownership disadvantages that motivate firms to implement FDI. Given that FDI is a process rather than a point-of-time 'go/no-go' decision (Buckley et al., 2007a), we need a theoretically grounded framework that enables better explanation and prediction for a series of foreign market entry at the firm level in which both exploitative and explorative FDI are observed.

We submit that the exploitation perspective can be joined to the exploration perspective to provide valuable insights concerning the process of FDI. Makino et al. emphasise the necessity of joining the two perspectives as follows:

“... most previous studies have examined only *either* side of the motivations [i.e., asset-seeking and asset-exploitation] in explaining the location of FDI. Future studies should incorporate *both* aspects of FDI motivations into the analysis *simultaneously*. Especially, more comprehensive studies are needed to investigate how asset-seeking and asset-exploitation aspects of FDI are *dynamically* linked in the choice of FDI location, and how the choice of FDI location influences the *process* of development of competitive advantage of the MNC.” (Makino et al., 2002, p.418; italic added)

Thus, Makino et al. (2002) call for a unifying framework that can *simultaneously* address the nature of *dynamic* interactions between exploitation and exploration in the process of firm internationalisation. In an attempt to join these two approaches, the current paper draws on the Penrosean theory of the growth of the firm to develop a balancing-process approach to explain a firm's FDI pattern from the yin-yang perspective. Underscoring the simultaneous and dynamic nature of balancing process, the Penrosean theory of the growth of the firm provides a useful framework to illuminate the insights into the yin-yang perspective on the exploitation and exploration as interdependent opposites. The next section first discusses the yin-yang perspective of exploitation and exploration and then develops the Penrosean balancing-process approach.

3 **The relationship between exploitation and exploration and the Penrosean growth of firm**

3.1 *Transparadox and yin-yang perspective of exploitation and exploration*

A stream of research has examined the relationship between exploitation and exploration (Gupta et al., 2006; Levinthal and March, 1993; March, 1991) and has identified the

intrinsic tension between exploitation and exploration (Andriopoulos and Lewis, 2009; Farjoun, 2010; Raisch et al., 2009). Exploitation is associated with refinement and local search but can lead to a competency trap (or obsolescence), while exploration includes non-local search but can result in a failure trap (or elimination) (Levitt and March, 1988; March, 2008). As for their growth implication, exploitation decreases variance and is based on old routines, while exploration increases variance and creates new possibilities (Smith and Tushman, 2005). Thus, exploitation can crowd out exploration (Benner and Tushman, 2002; Leonard-Barton, 1992), while over-exploration can reduce possible benefits from exploitation (Levinthal, 1997; Levinthal and March, 1993).

Research has attempted to reconcile the tension between exploitation and exploration. Studies based on the dilemma perspective, by taking a permanent ‘either/or’ perspective (Li, 1998), discuss the advantages and disadvantages of the competing alternatives and examine contingencies on spatial and temporal separation of exploitation and exploration (Gupta et al., 2006; Poole and Van de Ven, 1989; Rosenbloom and Christensen, 1994). In contrast, research studies from the dialectic perspective take a temporary ‘both/and’ but ultimate ‘either/or’ (thus ‘both/or’) approach (Li, 1998; Peng and Nisbett, 1999) and focus on the synergies from the integration of thesis and antithesis in order to resolve the tension between exploitation and exploration (Bledow et al., 2009; Farjoun, 2010). Complementing dilemma and dialectic lenses, research from the transparadox perspective focuses on the interdependent nature of the contradictory opposites of exploitation and exploration (Cameron and Quinn, 1988; Chen, 2002). Paradox refers to “contradictory yet interrelated elements – elements that seem logical in isolation but absurd and irrational when appearing simultaneously” (Lewis, 2000, p.760). The transparadox perspective posits that contradictory opposites are “not simply elements bound in a state of tension, but components interacting to form a state of wholeness” (Chen, 2002, p.188), and focuses on hosting opposites within a single framework (Ford and Backoff, 1988; Smith and Lewis, 2011). In this way, the perspective takes a permanent ‘either/and’ approach “by accommodating both mutual negation and mutual affirmation between two opposites as a duality” (Li, 2012b, p.866). This *duality* resides at the centre of the transparadoxical perspective (Li, 2012b).

The Chinese yin-yang philosophy shares an important notion with the transparadox perspective in that both consider contradictory opposites as *interdependent* rather than *independent* or *interrelated* (Chen, 2002; Chen, 2008; Li, 1998; Li, 2012b), while it takes a step further to consider the partial trade-off and partial synergy between the opposite elements. As such, the yin-yang philosophy provides a framework to simultaneously embrace exploration and exploitation as partially conflicting (trade-off) and partially complementary (synergy) (Li, 2012b). The contradictory opposites are interdependent for at least two reasons. First, each of the opposites can only be defined in terms of its opposite (Chen, 2008). Second, the contradictory opposites are related because they bear the seeds for each other and thus form an integrated whole (Chen, 2002). In this light, the contradictory opposites of a paradox are “not merely intertwined in a state of tension, but are in fact the very substance of a state of wholeness” (Chen, 2008, p.297).

The Chinese yin-yang perspective provides a promising avenue to better understand the nature of the contradictory opposites in a paradox. First, it helps avoid the polarisation of opposites by taking an *either/and* view, which enables us to view exploration and exploitation as interdependent. Second, this perspective can lead to a better understanding of the paradox and enable managers to implement an improved and

more sustainable strategy (Smith and Lewis, 2011). By avoiding polarisation, this perspective juxtaposes the coexisting opposites and helps managers to conceive the opposites simultaneously and interdependently.

3.2 *The Penrosean balancing process in the yin-yang perspective*

The Penrosean theory of the growth of the firm has critical implications for international business (Dunning, 2003b; Hutzschenreuter et al., 2011; Kay, 2005). While the transaction costs/internalisation theory provides the *raison d'être* of the multinational firm, the Penrosean theory of the growth of the firm lays the theoretical foundation for the direction of firm expansion into new product or geographical markets (Pitelis, 2000; Tan and Mahoney, 2007), which is tightly related to the two main questions of the current paper: *motivation* and *location choice*. As will be discussed in the following section, the Penrosean theory of the growth of the firm provides a framework to achieve transparadoxical integration of exploitative and explorative FDI. Thus, the current paper employs the Penrosean theory of the growth of the firm as its foundational framework and re-conceptualises exploitative and explorative FDI from the transparadox perspective. The following section first briefly reviews the Penrosean insights into the theory of the growth of the firm and then discusses insights from the yin-yang perspective.

4 Penrosean growth of the firm and the balancing process

4.1 *Penrosean growth of the firm*

Building on the Penrosean theory of the growth of the firm (Penrose, 1959), the current paper introduces the concept of a balancing process, which is defined as the process of a firm dynamically adjusting its resource bundle by *simultaneous* exploitation and exploration to achieve rapid and sustainable growth. Based on the dilemma, dialectic or the economic notion of equilibrium's perspectives, the 'balance' in the balancing process can be understood as a status in which there is no binding constraint and thus no 'bottleneck' (Penrose, 1959, p.72) in the level of capabilities and resources that impedes the growth of the firm. It is essentially the 'state of rest' referred to in the Penrosean theory of the growth of the firm (Penrose, 1959, p.68). However, as Penrose (1959) insightfully noted, a firm continuously develops new knowledge on the basis of the subjective opportunity set of its managers and thus never reaches a "state of rest" (p.68). Indeed, this is consistent with the yin-yang philosophy in that balance is both a state and a process for a holistic and dynamic interaction between opposite elements.

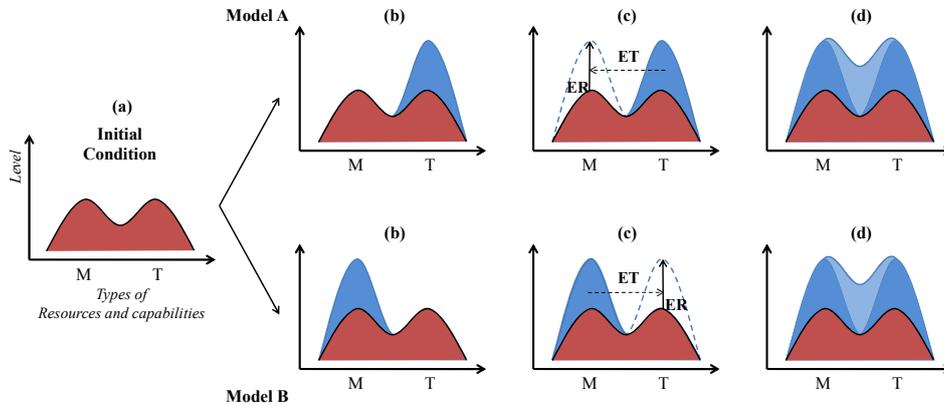
Given the initial conditions and managerial choices (Foss et al., 2008; Porter, 1991), a firm can be viewed as having n different resources and capabilities and the making of products and services, which require a bundle of different resources and capabilities. However, some resources are typically indivisible. An example would be production capacity that can be acquired only in a lumpy (i.e. indivisible) way by adding a plant or a machine. A firm needs to acquire at least a machine with a capacity of producing 100 units even if only 50 units are in demand, because a machine cannot function in half. The level of outputs that a firm can produce corresponds to the least common multiple outputs that can be obtained from each (sometimes indivisible) individual resource

(Penrose, 1959). A firm has incentives to increase outputs from its productive resources to avoid underutilisation, and therefore takes on specialisation of the resources. Consequently, the extent of specialisation depends on the scale of the firm's operations. Likewise, the firm must have an appropriate extent of specialisation to achieve efficient operations and to maintain its competitiveness in the market. This reasoning leads to "the 'virtuous circle' in which 'specialisation leads to higher common multiples, higher common multiples to greater specialisation'" (Penrose, 1959, p.73).

However, imbalance occurs when, among the n resources and capabilities comprising the firm, any resource or capability falls below the level of the least common multiples required for the optimal specialisation. On the one hand, there is a shortage in the resource that is under the level of the least common multiples and therefore constitutes the binding constraint that impedes the growth of the firm (Penrose, 1959). On the other hand, the other resources that are above the least common multiples required for optimal specialisation are initially underutilised in that for them to function fully they need to be combined with the resource that constitutes the binding constraint. These not-fully-utilised resources need to be further exploited. One scenario of such imbalance would be when a firm over time develops a reputation for reliable services while enjoying limited success in new product sales due to its shortage of technological capabilities. In this case, technological capabilities fall below the level of the least common multiples required for the optimal specialisation of the reputation. To recover from the imbalance, the firm will need to *explore* the resources that constitute the binding constraint of the firm. However, exploration typically requires substantial investments. As March (1991) notes, exploration is a resource-consuming process, while exploitation is a resource-generating process. As such, exploration of new resources and capabilities requires exploitation of existing underutilised resources and capabilities (Katila and Ahuja, 2002). A successful exploration of resources then relieves the firm from its binding constraint. This path leads to new learning and capabilities that induce further exploitation (Cohen and Levinthal, 1990). The next binding constraint may arise from the shortage of a different resource due to a different subjective opportunity set of managers (Penrose, 1959).

We illustrate this approach with the following example. Consider a firm possessing two types of competencies: *Market* (M) and *Technology* (T). Suppose the profit-generating market competence (M) is derived from economies of scale that are protected by isolating mechanisms (Mahoney and Pandian, 1992; Rumelt, 1984), while the technology competence (T) is derived from R&D capabilities (Cheng and Bolon, 1993; Nelson and Winter, 1982). The levels of resources and capabilities of the firm will be a bimodal distribution as depicted in *the initial conditions* of Figure 1.⁴

The graph in Figure 1(a) shows the initial conditions between the two types of resources and capabilities. A firm's current resources and capabilities are a unique bundle because they result from the firms' past decisions, opportunities and initial endowments (Chang, 1995; Madhok and Liu, 2006; Narula, 2012). This unique bundle of resources and capabilities then leads to unique patterns of specialisation of resources. Graph (b) of Model A shows that Firm A pursues a higher degree of specialisation in technology, while Graph (b) of Model B illustrates that Firm B pursues a higher degree of specialisation in market access. The specialisation process results in an imbalanced situation in both firms. As specialisation raises the level of lowest common multiples in each firm, the stock of market competence of Firm A [in Graph (b) of Model A] and the stock of technology of Firm B [in Graph (b) of Model B] fall below the level of the lowest common multiple and become the binding constraint, hindering the growth of both firms.

Figure 1 An example of the balancing process (see online version for colours)

Notes: M: market; T: technology; ET: exploitation; ER: exploration.

In order to sustain the growth of the firm, the firm must *explore* the resources that form the binding constraint. Supporting the *explorative* activity requires the firm to *exploit* other underutilised resources and capabilities.⁵ Thus, the firm in Model A would exploit its technological capabilities so as to explore its market competence [Graph (c) in Model A]. Likewise, the firm in Model B would exploit market competence in order to support its exploration of the lacking technological capabilities. The two firms would continue to explore the resources and capabilities until the stocks of resources and capabilities rise above the lowest common multiples required for the current specialisation. The two firms iterate this balancing process as they grow because a firm continuously develops new knowledge and never reaches a “state of rest” (Penrose, 1959, p.68). In the next cycle of the balancing process, the firms may initiate the same or a different balancing process, depending on their subjective opportunity set.

The so-called ‘Penrose effect’ (Shen, 1970; Tan, 2003; Tan and Mahoney, 2005) provides another illustration of the balancing process. Penrose (1959) maintains that a lack of managerial capabilities is often the binding constraint on the rate of the growth of the firm. Thus, a fast growth rate in one time period would result in a slower growth rate in the next time period. This Penrose effect can be viewed as a result of a firm dynamically balancing its resources and capabilities. Since a firm has incentives to increase the valuable services from its specialised resources and capabilities, it increases its scale of operations so that it can raise the lowest level of least multiple commons. As planning or specialisation requires managerial attention, this illustrates *exploration* of the specialised resources and capabilities with the services from the *exploitation* of the managerial capabilities. However, in so doing, the firm faces a managerial constraint. In order to be released from the binding (managerial) constraint, the firm should internally explore the managerial capabilities with supports from exploiting other underutilised resources and capabilities. During the time period of exploration of managerial capabilities, the firm experiences a slower rate of growth due to *dynamic adjustment costs* (Prescott and Visscher, 1980). In this light, March’s (1991, p.72) statement that “it is clear that exploration of new alternatives reduces the speed with which skills at existing ones are improved” corresponds to the main idea of the ‘Penrose effect’, in which managerial attention is the scarce resource.

4.2 The balancing process and yin-yang perspective

The balancing process can be viewed as a process of simultaneous exploitation and exploration in synergistic coexistence that spurs the growth of the firm: exploration of one resource with supports from the services from exploitation of others. The imbalance between resources to be explored and exploited occurs when the level of resources to be exploited is below 'least common multiples', and therefore constitutes a binding constraint on the rate of the growth of the firm. To address this binding constraint, the firm will enlist services from the currently underutilised resource for the exploration of the resource that constitutes the binding constraint. Over time, when the resource being exploited again falls below the level of the least common multiples, it constitutes a new binding constraint, limiting the growth of the firm. In this way, this process reiterates, spurring the growth of the firm, whose direction is determined by the subjective opportunity set of managers (Penrose, 1959).

The circular nature of exploration and exploitation in the balancing process provides a good example of interdependent opposites and corresponds to the yin-yang perspective, which suggests that any two elements in a contradictory opposite relationship can be in a balance only when one of them takes a dominant position. The element in the dominant position will dynamically shift towards a subordinate one when the other previously subordinate element takes over as the new dominant one. The subordinate element will complement the dominant one until its complementary role becomes a conflicting one (Chen, 2008; Li, 2012a; Li, 2012b). In the balancing process, specialisation implies the exploration of a resource with the services from other resources. Once relieved from the binding constraint, the firm initiates a new balancing process, in which the resource that has been exploited to support the exploration of others will now be explored. As such, consistent with the yin-yang philosophy and the transparadoxical perspective, imbalance and balance in the process of the balancing process interact with each other with a healthy tension to spur the growth of the firm.⁶ In other words, an imbalance between resources to be explored and exploited as a binding constraint in fact serves as a necessary antecedent to a new balancing process, resulting in both new exploration and new exploitation in accordance with managers' subjective opportunity. Indeed, this highlights that balance is both a state and a process for a holistic and dynamic interaction between opposite elements and that exploration and exploitation breed seeds for each other, resonating with what Lewis (2000) suggests: "When one force (e.g., Yin, femininity, intuition, dark) escalates to its extreme state, it retains elements of its opposition (e.g., Yang, masculinity, rationality, light), eventually reversing the trend" (p.763).

The preceding discussion articulates the transparadoxical nature of the balancing process. Exploration and exploitation are conflicting but simultaneously complementary in nature (March, 1991). Owing to this nature of duality, research studies from the dilemma or dialectic perspectives have viewed their relationship linearly as either negative (e.g. Farjoun, 2010; Tushman and O'Reilly, 1996) or positive (e.g. He and Wong, 2004). However, adopting the yin-yang philosophy and the transparadoxical perspective (Chen, 2002; Li, 1998; Li, 2012b), the balancing-process approach enables us to better understand them as partially conflicting (trade-off) and partially complementary (synergy), predicting a curvilinear relationship between exploitation and exploration. More specifically, on the one hand, they are conflicting because at a given time, owing to the quasi-fixed nature of the resources and capabilities available within a firm, a firm

faces trade-offs allocating resources for the two orientations (Ocasio, 1997), in addition to the long list of the conflicting nature discussed before. On the other hand, despite the conflicting relationship, they are complementary because they breed seeds for each other (Chen, 2002; Chen, 2008) and work together to increase the lowest level of the least common multiples, thus spurring the growth of the firm (Penrose, 1959). This partially conflicting and partially complementary relationship in contradicting opposites expounds 'opposites-in-unity', the fundamental aspects of the yin-yang philosophy and the transparadoxical perspective, and predicts a curvilinear relationship between exploitation and exploration by embracing in a non-linear manner as a duality, the mutually negating and mutual affirming aspects of interdependent opposites (Li, 2012b).

The balancing process recognises that, through synergistic coexistence, firm-level exploration and exploitation activities are interdependent and mutually enabling for value creation (Raisch et al., 2009; Rivkin and Siggelkow, 2003). Consequently, a firm can *simultaneously* implement *both* activities by exploring *one* (or more) resources and capabilities while exploiting *other* resources and capabilities (Miller et al. 2008; Wesson, 1999). In this way, exploitation and exploration in the balancing process, although contradictory, are interdependent opposites of a paradox and transcend the state of tension, forming a state of wholeness through the growth of the firm and its dynamic interactions.

In the following section, we apply the balancing process to the international business context and re-conceptualise the relationship between exploitative and explorative FDI from the yin-yang perspective.

5 The balancing-process approach to firm internationalisation

We now apply the balancing-process approach to international contexts in order to address two key questions posed at the beginning of this paper concerning *motivations* and *location choice* of FDI. We first discuss two unique attributes of international markets and then address the two questions.

5.1 Unique attributes of international markets

We consider international markets both as a place in which a firm can exploit its current resources and capabilities, and as a source from which the firm can explore new resources and capabilities. While domestic markets may also offer an opportunity for exploitation and exploration, international markets typically differ from the domestic market in at least two important attributes: (1) a higher level of market frictions and (2) a higher degree of heterogeneity (Kim, 2013).

First, international markets typically have a higher degree of market frictions than domestic markets. Countries differ along cultural, administrative/political, geographic and economic dimensions (Ghemawat, 2001; Ghemawat, 2003; Ghemawat, 2007). Owing largely to these differences, firms typically experience much higher informational asymmetry in foreign markets than in domestic markets since they face multiple layers of uncertainty in foreign markets and are subject to local government discrimination (Miller, 1992). These firms often lack legitimacy in host countries and lack local knowledge and relationships (Dunning, 1998; Teece, 1981; Vernon, 1966). All of these problems add to the costs of doing business abroad and give rise to the liability of foreignness (Miller and Richards, 2002; Petersen and Pedersen, 2002; Zaheer, 1995).

Second, international markets offer strategic resources of a higher degree of heterogeneity. International markets are a greater source of diverse resources and capabilities than domestic markets. Owing to national differences in factor endowments, sociopolitical institutions and technological and organisational principles (Brouthers et al., 2008; Cheng 1994; Henisz and Macher, 2004; Kogut 1991, Ricart et al., 2004), the set of resources and capabilities tends to be more heterogeneous among the firms across countries. Firms therefore can gain access to diverse location-specific strategic assets from international markets (Rugman and Verbeke, 2001), which, once obtained, can often be a barrier to imitation because such assets are locally embedded and are difficult to transfer across national borders (Szulanski, 1996; Teece, 1977; von Hippel, 1994; Zhao, 2006; Kim, 2013).

These two distinctive attributes of international markets provide benefits and costs. On the one hand, international markets allow MNEs to access more heterogeneous resources and capabilities, which can enhance development of innovative knowledge and competitive advantages (Schumpeter, 1934). On the other hand, accessing these heterogeneous resources and capabilities often incurs higher costs due to information asymmetry (Arrow, 1974), uncertainty (Miller, 1992) and a lack of local knowledge, legitimacy and relationships (Chan and Makino, 2007; Zaheer, 1995). Owing to their distinctive attributes, international markets provide an environment where a firm can access more heterogeneous resources and capabilities at higher costs.

5.2 *The question of motivation*

So why do firms conduct FDI? The balancing-process approach predicts that firms internationalise their operations to balance the level of resources through international markets. Traditional theories provide two alternative explanations for FDI: *exploitation* and *exploration*. However, the balancing-process approach in the Chinese yin-yang philosophy and the transparadox framework joins the two explanations in a single framework and suggests that both types of FDI serve the same purpose of overcoming the binding constraint. Our balancing-process approach indicates three closely related motivations for FDI: (1) access to strategic factors to maintain internal balance, (2) faster growth and (3) faster learning. The first motivation represents the case of firms forced to implement FDI, while the second and third motivations apply to firms implementing FDI as a proactive strategy even when strategic factors necessary to continue the balancing process are available in domestic markets.

First, when strategic factors (e.g. technological knowledge or market access) necessary for the balancing process are *unavailable* or *competitively pre-empted* in domestic markets, domestic firms may be forced to source at *higher* costs from international markets in order to secure the supply of strategic factors to maintain internal balance of resources and capabilities. In addition, strategic factors acquired at home could also be accessible by competitors at home, and thus are prone to pre-emption or are subject to imitation (Auh and Mengue, 2005; Tong et al., 2008). In this case, the exploitation and exploration necessary for the balancing process may not be feasible in domestic markets, thereby impeding the growth of the firm. The firm can turn to international markets to seek heterogeneous strategic assets (Rugman and Verbeke, 2001). This balancing process logic leads to our first proposition.

Proposition 1: *The greater the difficulty in accessing strategic factors to continue the balancing process in a domestic market, the greater the likelihood of the firm implementing FDI.*

Second, our balancing-process approach suggests that international expansion facilitates firm growth. It is important to recognise that, although exploration and exploitation can exist simultaneously at *the firm level*, exploration and exploitation at the level of *a particular resource or capability* follows a temporally sequential process, as discussed in the balancing process. In other words, a resource can be explored with services from the exploitation of other resources. Thus, exploration and exploitation can coexist within a firm. However, when the other resource that has been exploited to support the exploration falls below the level of the 'least common multiple', it should now be explored with support from the exploitation of the resource that has previously been explored. In this way, at the generic level, exploration and exploitation at the level of *a particular resource or capability* follows a temporally sequential process. This temporally sequential process provides an explanation of why the 'Penrose effect' (i.e. negative correlations of growth rates between two time periods) occurs, and managerial capabilities are exploited and explored in a sequential manner. The temporally sequential process also provides a strategic implication for multinational corporations; that is, *a firm can mitigate the temporal constraint of the balancing process by spreading this process over a geographic dimension*. International expansion reduces the time that a firm requires to regain its balance since an international presence enables the firm to spread its temporal sequence of the balancing process geographically. In so doing, an MNE can explore and exploit *the same* resources and capabilities in different countries simultaneously. This move reduces the time the firm needs to build up the resources for exploration, speeding up the balancing process and thus enabling faster growth.

It is important to note that the extension of a temporal dimension into a geographic dimension is not the result of a firm reconciling the tension between exploitation and exploration identified in the dilemma perspective employed in early research studies of the exploitation–exploration tension (Smith and Lewis, 2011; Tushman and Romanelli, 1985). This extension is *not* to examine contingencies on the spatial and temporal separation of exploitation and exploration (Gupta et al., 2006; Poole and Van de Ven, 1989), but to underscore the nature and advantages of the balancing process within an MNE. Thus, the balancing process is transparadoxical without introducing temporal and geographic dimensions.

This point highlights that firm internationalisation can be a strategic option for faster growth leveraging the synergistic coexistence of exploitation and exploration. Owing to the sequential nature of the balancing process, *a particular* resource cannot be simultaneously exploited and explored in a single market. By extending the sequencing from the temporal to the geographic dimension, the particular resource can be exploited and explored in a different market at the same time, thereby reducing the time for the balancing process and facilitating firm growth.

Previous research studies have shown the benefits of spreading the balancing process across multiple countries. Tan and Mahoney (2007) find that Japanese MNEs sending a greater number of expatriates to their US subsidiaries upon entry achieve, in successive time periods, high growth rates measured as changes in total employment. If an MNE would rely solely on the temporal dimension of the balancing process, managerial

capabilities of the subsidiary should first be internally (or locally) developed in order to be exploited later for the exploration of new (human) resources; otherwise, underdeveloped managerial capabilities in the subsidiary would become the binding constraint. By sending expatriates to the subsidiary, the MNE can extend the balancing process from the temporal to the geographic dimension by exploiting underutilised resources in the headquarters or other subsidiaries for the exploration of new resources in the new subsidiary. In this way, the MNE can simultaneously exploit expatriates in the headquarters or other subsidiaries and explore the local employment, thus reducing the time for the balancing process and achieving higher growth rates. This illustration highlights that internationalisation enables a multinational firm to achieve faster growth by extending the temporally sequential process into the geographic dimension. This logic leads to our second proposition.

Proposition 2: By extending the temporal sequence of the balancing process to the geographic dimension, a multinational firm achieves faster growth than a domestic firm.

Third, our balancing-process approach highlights faster learning as a motivation of firm internationalisation. In essence, the process of a multinational firm in balancing its resources and capabilities is a process of organisational learning. Exploitative FDI can be understood as exploitative learning based on *ex ante* knowledge stock and is path-dependent in nature. Furthermore, explorative FDI can be seen as explorative learning that involves seeking future knowledge flow in a path-breaking way (Li, 2010).

In the balancing process model, firm internationalisation can be understood as a process of simultaneously implementing both exploitative and explorative learning in foreign markets. The exploitation of underutilised capabilities could facilitate the creation of dynamic capabilities, which in turn could enable exploration of new capabilities (Penrose, 1960; Teece, 2007). At the same time, the newly explored capabilities would also enhance better exploitation of existing capabilities (Cohen and Levinthal, 1990; Rugman and Verbeke, 2001). As such, in line with Proposition 2, a firm balancing its level of capabilities through exploiting and exploring in international market would be able to mitigate the dynamic adjustment costs (Penrose, 1959) and therefore achieve faster learning. In addition, exploration and exploitation in the diverse and constant changing global environments enable the development of dynamic capabilities of the MNE (Teece et al., 1997; Teece, 2009). This development would in turn enable the firm to implement more effective learning processes.

Proposition 3: The resource balancing process within multinational firms speeds up organisational learning.

5.3 *The question of location choice*

We next consider the location choices in the process of FDI. Firms are embedded in the location of their operations in terms of resources and capabilities (Shan and Hamilton, 1991), social relationships (Granovetter, 1985) and historically determined economic conditions and political institutions (Hamilton and Biggart, 1988). Before internationalisation, a firm is embedded only in its home country. The domestic market or 'home base' (Porter, 1990) may exert significant influences on the path of the firm's balancing process in terms of providing the types of resources and capabilities with which the firm can implement specialisation and attenuate its binding constraint. In

this sense, technology is often the binding constraint for firms located in developing countries, while market access is often the binding constraint for firms located in developed countries. From this perspective, it is expected that firms from developing countries implement explorative FDI in developed countries, while those from developed countries conduct exploitative FDI in developing countries. From our balancing processing approach, the *explorative* FDI made by developing country firms in developed countries is also in its nature an *exploitative* one, as the firms exploit their market access resources to support their exploration of technological resources. Similarly, the *exploitative* FDI made by developed country firms in developing countries is at the same time an *explorative* FDI, since in this case the firms exploit their technological resources to support their exploration of local market access. Indeed, this point highlights the interdependent nature of exploitation and exploration in that each of them can only be defined in terms of its opposite and together form an integrated whole (Chen, 2008).

Accordingly, the balancing-process approach to firm internationalisation predicts that it is the type of binding constraint at the resource level of the firm, rather than the home-country effect (Luo and Wang, 2012; Narula, 2012), that *primarily* determines the location choice of the firm. In other words, the balancing-process approach suggests that the difference between explorative and exploitative FDI is the type of binding constraint a firm attempts to address in the balancing process, rather than the level of economic development in home countries. From the balancing process approach, given that firms are endowed with heterogeneous resources and capabilities and have different patterns of resource specialisation, they likely face different types of binding constraints and thus need to explore different resources and capabilities. Such heterogeneity explains why firms exploit and explore strategic assets in different countries. Firms also have different market (exploitation) opportunities in different countries because the level of competitiveness of their capabilities is high in some countries but low in others, which suggests that existing resources and capabilities constrain location choices of international expansion (Tseng et al., 2007) and that a balancing process leads the firm to conduct explorative and exploitative FDI in different locations (Dunning, 2001; Miller et al. 2008). This logic explains why firms with different types and levels of resources and capabilities show different location choices in the FDI process even though they are in the same industries or from the same countries (Berry, 2006; Fernhaber et al., 2008). In sum, firms choose host countries that provide location-specific factors (Rugman, 2010; Rugman and Verbeke, 1992; Rugman and Verbeke, 2001) to address a particular binding constraint they face in the balancing process. Thus, location choice is determined by the fit between the resources to be explored and the location-specific factors of the host country.

Proposition 4: Firms choose host countries that provide location-specific factors to address the binding constraint in the balancing process.

The resources and capabilities acquired from other countries will also increase the firms' resource endowments and thereby influence the formation of the new balance. As the MNE is an internationally integrated inter-organisational network (Ghoshal and Bartlett, 1990), the collection of individual locally embedded subsidiaries comprises a unique set of resources and capabilities, which form the basis for new firm-specific advantages (Rugman and Verbeke, 2001). As individual subsidiaries evolve via the accumulation or

depletion of resources and capabilities (Birkinshaw and Hood, 1998), the multinational firm may find existing location-specific factors obsolete and need new resources in order to sustain growth. This changing level and nature of the resources together with the subjective opportunity set of manager governs the direction of diversification (Penrose, 1959; Pitelis, 2004) and thus the dynamics in location choice.

Proposition 5: Changes in the level and nature of resources and capabilities in the balancing process would cause changes in a firm's location choices.

Our balancing-process approach suggests that a multinational firm has mixed location choices consisting of developed and developing countries. This result occurs because these countries provide different opportunities for exploitation of current resources and exploration of new strategic assets, which enable firms to simultaneously exploit and explore different types of resources and capabilities (Galan et al., 2007). For example, a firm may exploit one of its resources and capabilities in one country to support its exploration of other resources and capabilities in another country. When the resources that have been exploited to support exploration of others are exhausted, it will be explored with support from exploiting other resources in another country. In this way, the firm can extend the temporal dimension of the balancing process to a spatial dimension and can reduce the time it needs to recover from its binding constraint and to reach balance.

As the firm again deviates from internal balance, its preference for locations of exploitation and exploration may change because the new binding constraint may require exploiting and exploring different types of resources (March, 1991; Tan and Mahoney, 2005; Tan and Mahoney, 2007). As a result, the firm may reallocate their exploitative and explorative FDI by triggering new investments in some countries and divestments in others.

This reasoning, jointly with the logic leading to Propositions 2 and 3, suggests that internationalisation could be a mechanism to *sustain faster growth* than pure domestic firms, leveraging the synergistic coexistence of exploitation and exploration. The preceding discussion expounds that a multinational firm can maintain a different set of location portfolios, which enables the firm to *sustain* its growth. In addition, Propositions 2 and 3 articulate that a multinational firm achieves *faster growth and learning* than a domestic firm by extending the temporal sequence of the balancing process into the geographic dimension. It is important to understand that the learning process in international markets can in turn expedite the balancing process and thus facilitate the growth of the firm. More specifically, the simultaneous implementation of both exploitative and explorative learning in international markets enables MNCs to mitigate time compression diseconomies (Dierickx and Cool, 1989) and thereby adjust their managerial resources in a timely manner (Tan and Mahoney, 2007) so as to address the needs for seamless orchestration of diverse assets (Teece, 2007) in the balancing process. As such, in line with Proposition 3, the learning process in international markets would expedite the balancing process and mitigate the 'Penrose effect' (Tan, 2003; Tan and Mahoney, 2005), facilitating the growth of the firm. The foregoing discussion highlights that, in line with the yin-yang perspective, the balancing process and organisational learning contribute to the growth of the firm in a simultaneous and dynamic relationship. In other words, the exploitative learning and explorative learning form a "dynamic path of absorptive capacity" (He and Wong, 2004, p.483), by sowing

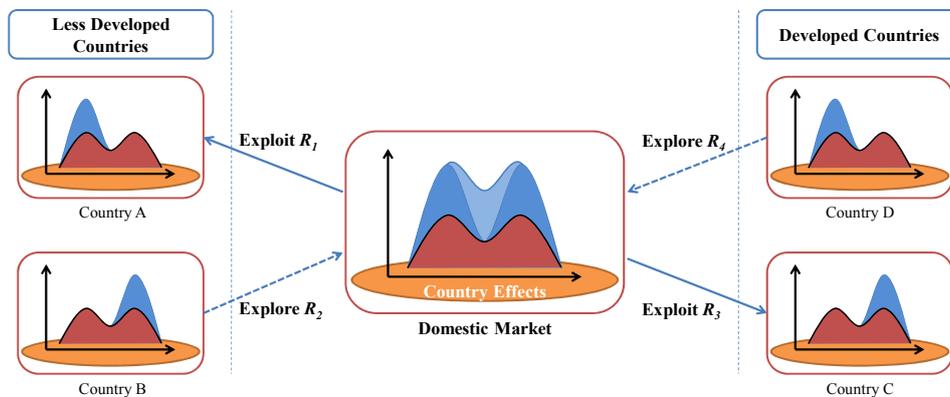
seeds and supplying fuel for each other in a cyclic way (Katila and Ahuja, 2002). Indeed (managers’) learning by doing could increase underutilised capabilities, fuelling exploitative learning (Penrose, 1959). In this light, extending the balancing and thus the learning process of exploitation and exploration into international markets provides opportunities for synergistic coexistence of exploitative and explorative FDI, which facilitates the growth of the firm and enhances the long-term competitiveness of firms (Li, 2010; Teece, 2009).

In sum, a multinational firm can sustain faster growth than a pure domestic firm by maintaining a location portfolio through which it can extend the temporal sequence of the balancing process into the geographic dimension as well as securing access to strategic assets necessary for the balancing process.

Proposition 6: By choosing and reconfiguring its location portfolio, a multinational firm is likely to sustain faster growth than a domestic firm.

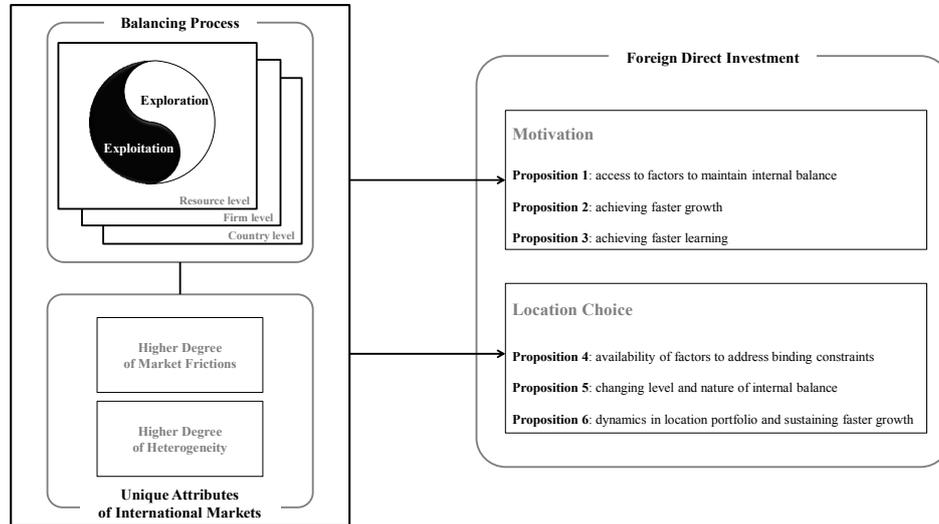
Figure 2 illustrates the balancing-process approach to firm internationalisation developed in this paper. In summary, when market frictions in domestic markets are high, firms likely find it advantageous to expand abroad to obtain resources required to restore their balance. FDI also enables the firms to extend the sequence of the balancing process from the temporal into the spatial dimension through simultaneous exploitation and exploration across different countries, thus achieving faster growth and learning.

Figure 2 A balancing-process approach to the firm internationalisation (see online version for colours)



Notes: R_i : the i th item in the vector of a firm’s resources and capabilities.

In the process of implementing FDI, firms choose locations that provide strategic assets and market opportunities to continue the balancing process. As can be seen in Figure 2, the firm can use the services from the exploitation of one set of resources (R_1 and R_3) for the exploration of another set of resources (R_2 and/or R_4). In the next cycle, R_2 and R_4 may be exploited for the exploration of other resources and capabilities. In this way, MNEs can potentially benefit from a synergistic locational portfolio of complementary knowledge assets (Cantwell, 2009). Figure 3 illustrates the overall framework of the current paper.

Figure 3 Overall framework

6 Discussion and conclusions

We draw on Penrosean theory of the growth of the firm and the transparadox perspective of exploitation and exploration to develop a balancing-process approach that explains a firm's FDI motivations and location choices. This approach posits that a firm exploits its current underutilised resources and capabilities in an attempt to support its exploration of resources to achieve fast and sustainable growth of the firm. In this approach, FDI is viewed as a means to support the balancing process in that both exploitative and explorative FDI are essentially the drivers by which a firm balances its level of resources and capabilities (Galan et al. 2007; Makino et al., 2002). As such, this approach can explain both exploitative and explorative FDI in a single transparadoxical framework. *In this light, exploitative and explorative FDI are not primarily home country-specific but are rather firm-specific phenomena embedded in home-country effects.*

In particular, the balancing-process approach to firm internationalisation maintains that both exploitative and explorative FDI serve the same purpose of addressing the binding constraint. Owing largely to stages of economic development in their home countries, firms from developing countries often face the binding constraint in advanced technological knowledge, while those in developed countries often encounter the binding constraint in market access. Thus, firms from developing countries would be more likely to explore advanced technology in developed countries with supports from its strong network (Elango and Pattnaik, 2007; Yiu et al., 2007) or from exploiting capital market imperfections, special ownership advantages and institutional support from the home country (Buckley et al., 2007b; Hennart, 2012). Likewise, firms from developed countries would be more likely to explore new markets with supports from exploiting their advanced technological knowledge in developing countries (Dunning, 1977; Hymer, 1960/1976). However, owing to their heterogeneous bundles of resources and

capabilities (Amit and Schoemaker, 1993), firms likely have different patterns of resource specialisation and thus face different types of binding constraint. This heterogeneity at the resources and capabilities level explains why firms exploit and explore strategic assets in different countries even though they are from the same industries and home countries. The balancing-process approach underscores that the motivation and location choices in the process of exploitative and explorative FDI should be understood in a joint consideration of location-specific factors and firm-specific factors.

Employing the Penrosean balancing process from the Chinese yin-yang perspective, we contribute to the IB literature by advancing a more general theory and suggesting a new perspective on motivation and location choices in the process of firm internationalisation. In the extant IB literature, exploitative and explorative FDI have been examined independently and have been explained as driven by different motivations that are often a product of home-country characteristics. By re-conceptualising FDI as a means to balance a firm's portfolio of resources and capabilities through utilising resources and capabilities available in international markets with the ultimate goal of achieving fast and sustainable growth, our balancing-process approach joins the two independent streams of research in a single framework. This paper does not merely join the two separately developed perspectives in a mechanical way that the whole can be fully decomposable into sub-components. Rather, it illuminates synergistic coexistence of the two perspectives, and thus joins them in an organic manner by uncovering a new and more fundamental mechanism (i.e. resource-level balancing process) that drives the two types of FDI. This balancing process enables a unifying prediction concerning the motivation and location choices of firm internationalisation: addressing the binding resource constraint. This approach also enables us to eliminate contingencies on the types of FDI (i.e. home-country effects) and thus to expand the boundary conditions of FDI theories. Extending boundary conditions and providing more fundamental mechanisms concerning the causal relationship between constructs (Bacharach, 1989), the current study contributes towards a more general theory of firm internationalisation (Thompson, 1956; Van de Ven, 2007).

In addition to the contribution to the IB literature, re-conceptualisation of the exploitative and explorative FDI in the balancing-process approach enriches our understanding of the Penrosean theory of the growth of the firm. Recent discussion on the nature of paradox as a dynamic equilibrium model highlights the transparadoxical insights into the Penrosean growth of the firm:

“The metaphor of dynamic equilibrium highlights the model's key features—the persistence of conflicting forces and purposeful, cyclical responses over time that enable sustainability. Static equilibrium denotes a system at steady state, when all components are at rest. When episodic action creates an imbalance, the system responds to regain equilibrium. Dynamic equilibrium, in contrast, assumes constant motion across opposing forces. The system maintains equilibrium by adapting to a continuous pull in opposing directions.” (Smith and Lewis, 2011, p.386)

More specifically, this discussion highlights how resource indivisibility and specialisation continuously lead to resource imbalance and eventually form the binding constraint, and how managers can explore the binding constraint by exploiting their capabilities. As discussed in the balancing process, exploitation and exploration as

interdependent opposites sow seeds for each other and “pull in opposing directions” through the “cyclical responses” in the balancing process, thus “sustaining” the growth of the firm (Smith and Lewis, 2011, p.386).

The balancing-process approach can be directly applied to the analysis of MNEs’ global expansion strategy, such as Porter’s (1986) configuration-coordination model and Bartlett and Ghoshal’s (1989) *transnational solution*. These models emphasise geographical dispersion and global integration, two key factors influencing the simultaneous exploitation and exploration in different geographic dimensions. Future research studies can apply the balancing-process approach to explain the global expansion strategy of MNEs.

The balancing-process approach also enriches the implication from the Boston Consulting Group (BCG) business matrix. From our balancing process perspective, the BCG matrix can be seen as a process of a firm balancing its exploitation and exploration through configuring its product portfolio. The BCG matrix suggests that a firm should compare its strategic business units to each other based on its relative market share and growth prospect. It maintains that through proper configuration of a firm’s product portfolio, strategic business units with relative high market shares (i.e. exploitation of cash cows) could provide financial support to nurture the development of business units with high but unrealised growth prospects (i.e. exploration of question marks). The balancing-process approach extends the BCG matrix by adding a geographical dimension. It suggests that MNEs should evaluate international markets and their own resources and capabilities based on their potential to achieve competitiveness and to gain location-specific strategic assets in these international markets, and that based on this evaluation, MNEs should maintain an FDI location choice set in which they can simultaneously explore and exploit strategic assets. Future research could join both BCG matrix and the balancing-process approach to analyse how a firm designs its product and geographical portfolios to maintain its balance of exploitation and exploration.

The current paper has limitations, which provide important avenues of research for future studies. First, the level of analysis is at the resources and capabilities level. However, factors in other levels can also influence motivations and location choices of MNEs. For example, recent research studies show that country-level institutions exert significant influences on the dynamics in location choices (Flores and Aguilera, 2007; Jensen, 2006; North, 1990). Future studies should examine the interactive effects between the resources/capabilities of the firm and the institutional characteristics on location choices.

Second, we develop our theoretical framework based on the premise that a firm can be conceived as possessing n different resources and capabilities, given its initial conditions and managerial choices (Foss et al., 2008; Porter, 1991). However, our framework does not explain the emergence of the initial conditions and managerial choices of firms. We suggest that initial explorative and exploitative resources may be explained by the entrepreneurial capabilities of owners/managers (Foss et al., 2008) or the location-specific factors in home countries (Porter, 1990; Rugman and Verbeke, 1992). Future research studies may extend the balancing-process approach to address these considerations. This extension would likely contribute to the burgeoning research literature on ‘born global’ firms or international entrepreneurship (Fernhaber et al., 2008; Knight and Cavusgil, 2004; Oviatt and McDougall, 1994).

Third, we focus primarily on the synergistic coexistence of exploitation and exploration. However, the advantage of the Chinese yin-yang perspective is its capability to simultaneously embrace exploration and exploitation as partially conflicting (trade-off) and partially complementary (synergy). Future studies taking into consideration the partially conflicting aspect in addition to the partially complementary one would provide fuller implications on the motivations and the location choices in the process of firm internationalisation.

Future research studies can also empirically test the propositions advanced in the current paper concerning the relationship between the types of binding constraint a firm faces and its choice of locations into developing or developed countries. More specifically, empirical findings that a single firm implements exploitative and explorative FDI into developing and developed countries, respectively, in order to address the binding constraint with the country-specific factors that each country provides, would corroborate this paper's main thesis. In addition, future research studies can also examine the impact of the changes in the type of binding constraint on the dynamics of location choices. As a firm grows through the balancing process, the type of binding constraint would also change because the dynamic process of exploitation and exploration would alter the resources and capabilities available within the firm. This process would, in turn, require different patterns of exploitation and exploration, resulting in dynamics of location choices. Future studies can empirically test our propositions by tracing the changes in a firm's resources and its location choices including new entries and divestment.

Acknowledgements

We thank CIBER in the College of Business at the University of Illinois at Urbana-Champaign for providing funding in support of this research. We also thank Ruth Aguilera, Marcelo Bucheli, Joe Cheng, Glenn Hoetker and Rose Luo, and *EJIM* Editor Vlad Vaiman, the anonymous reviewers and the participants at the 2009 Academy of International Business conference in San Diego, CA, for their comments and suggestions. The usual disclaimer applies.

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Notes

- 1 The current study focuses on the shared notion of Chen (2002), Chen (2008), Li (1998) and Li (2012b), especially the balance between opposite elements with the holistic and dynamic features of balanced opposites as a duality (i.e. opposites in unity for partial synergy and partial trade-off).
- 2 It should be noted that coexistence does not necessarily mean a synergistic relationship because opposites can also coexist even in a trade-off relationship. By synergistic coexistence, we mean a state where exploitation and exploration exist simultaneously, sowing seeds and

supplying fuel for each other (Katila and Ahuja, 2002), in such a way that exploration produces gains that benefit exploitation and vice versa. The synergistic coexistence can take forms of the *symmetrical* synergy (e.g. 50% gain of exploration is 50% gain of exploitation) or the *asymmetrical* synergy (e.g. 50% gain of exploration is less than 50% gain of exploitation). The unique insights into the yin-yang perspective employed in the current study enable us to understand not only the *symmetrical* form of synergy but also the *asymmetrical* form of synergy. We thank an anonymous reviewer for providing this insight.

- 3 Dunning's (1977) and Dunning's (1979) initial OLI paradigm focuses on the *exploitative* view and considers ownership *advantage* as a necessary condition for MNCs to compensate for their liability of foreignness in host countries (Hymer, 1960/1976; Zaheer, 1995). Dunning (1995), Dunning (2000) (*inter alia*) later expanded the paradigm to incorporate the *explorative* view (i.e. strategic asset seeking) into the framework.
- 4 For a generalisation of the discussion, one can expand the number of competencies to three or four or even n , thus resulting in tri-modal, quarto-modal or n -modal distribution.
- 5 Underutilised resources are still above the level of the least common multiples, while others have fallen below this level and constitute a binding constraint in the process of firm specialisation. They are underutilised *relative* to the resource constituting the binding constraint. It is not that firms need to have underutilised resources in order to initiate the exploration process, but that the focal resource that constitutes the binding constraint renders other resources as underutilised *relative* to itself. At this point, the binding constraint needs to be explored with the service from the exploitation of the relatively underutilised other resources, in order to continue the balancing process and thus the growth of the firm.
- 6 We thank an anonymous reviewer for providing this insight.