

A Review of Research on the Growth of Multinational Enterprises: A Penrosean Lens

Danchi Tan^{*1}

Professor of International Business
Department of International Business
National Chengchi University
64, Chih-nan Rd., Sec. 2, Wenshan, Taipei 11623, Taiwan
dctan@nccu.edu.tw

Weichieh Su

Associate Professor of International Business
Department of International Business
National Chengchi University
64, Chih-nan Rd., Sec. 2, Wenshan, Taipei 11623, Taiwan
weichieh@nccu.edu.tw

Joseph T. Mahoney

Caterpillar Chair of Business
Professor of Strategy, Entrepreneurship, and International Business
Gies College of Business
University of Illinois at Urbana-Champaign
140C Wohlers Hall, 1206 South Sixth Street, Champaign, IL 61820
217-244-8257
josephm@illinois.edu

Yasemin Kor

Beckwith Chair of Management Studies
Judge Business School
University of Cambridge
Trumpington Street, Cambridge, CB2 1AG, UK
y.kor@jbs.cam.ac.uk

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* Corresponding author: dctan@nccu.edu.tw.

¹ Authors are listed in reverse alphabetical order. All authors have contributed equally to the paper.

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Abstract

We provide a comprehensive review of the growth of multinational enterprises (MNEs) based on a quarter-century (25 years) of scholarly international business publications. We synthesize research insights on the determinants of the growth of MNEs through the lens of Penrose's theory of firm growth, which is the most influential theoretical perspective on firm growth. The review takes stock of the research findings on the facilitators, constraints, and the trajectory of growth of MNEs, and elaborates on the commonalities and differences between research on the growth of MNEs that draws on Penrose's theory and research that does not. This comparison highlights the opportunity to build an internally coherent theory of the growth of MNEs, that is, a theory that connects 'what an MNE is' to 'what determines an MNE's growth.' It also indicates that past research placed a strong emphasis on exogenous factors (e.g., cross-country distances) as key constraints on growth even though the Penrosean lens suggests a close consideration of endogenous factors that drive international growth, as well as endogenizing the ostensibly exogenous growth determinants. The review highlights the importance of firm-specific managerial knowledge and learning, which shapes the direction of the growth of MNEs and ensures its administrative coherence.

Keywords: growth; international business; multinational enterprises (MNEs); Edith Penrose

INTRODUCTION

Growth is a fundamental concept in the research related to multinational enterprises (MNEs). In mainstream international business (IB) research, such as research on the entry into foreign markets and the internationalization processes, growth is essentially an implicit corporate objective, although some studies have focused explicitly on the growth of MNEs (Belderbos & Zou, 2007; Hutzschenreuter, Voll, & Verbeke, 2011; Tan, 2009). International expansion involves the corporate-level decision to pursue profitable growth in foreign markets (Buckley & Casson, 2007; Meyer, 2006). The growth of MNEs is manifested by sequential expansion of their subsidiaries in existing host countries as well as their entries into other countries. Since growth constitutes “an evolutionary process” (Penrose, 1995: xiii), research on divestments and exits of MNEs also contributes to our understanding of the growth trajectory of multinational firms.

In this review paper, we synthesize research insights on the determinants of the growth of MNEs through the lens of Edith Penrose’s (1959) seminal book, *The Theory of the Growth of the Firm*², to develop a more coherent and comprehensive understanding of research on the growth of MNEs and envision opportunities for future research. We chose Penrose (1959) as a guiding framework in our review because her theory is the most influential reference (highest citation count) in management research on the growth of firms (Zupic & Drnovsek, 2014). The IB research community also has recognized the importance of Penrose’s work.³ Penrose was the second scholar to receive the John Fayerweather Eminent Scholar Award given by the Academy of International Business fellows. Prominent IB scholars, including Buckley, Casson, Dunning, Pitelis, Teece, and Verbeke, have shown that Penrose’s (1959) insights on the nature of the firm and its growth have implications for MNE research. Her work also influenced the development of the influential internationalization process model (Vahlne & Johanson, 2017). Although Penrose’s work, especially her conceptualization of a firm as a collection of productive resources, has

² Penrose did not apply her work on explaining the growth of MNEs (Kay, 1999; Pitelis, 2002, 2009), although she did mention briefly that her theory of the growth of the firm “seems by and large to apply equally well to expansion by direct foreign investment in its modern form” (1995: xv).

³ Forty-three articles (i.e., 22%) in our sample cite Penrose’s work at least once, and some of these studies base their theory development directly on Penrose’s (1959) theory as a (disequilibrium) process theory of firm growth (particularly research on the growth trajectory of the MNE). Her impact in general management discipline is quite prominent, as a recent bibliometric analysis of over 400 management studies shows that Penrose’s work is the most cited reference on the growth of firms (Zupic & Drnovsek, 2014). Moreover, as of March 1, 2020, Penrose (1959) had over 35,000 citations based on Google Scholar.

been extended to resource- and capability-based theories of firms, these theories focus primarily on the characteristics of resources and capabilities to explain and predict the heterogeneity of firm-level performance. Yet, at the center of Penrose's (1959) theory is the *profitable growth* of the firm (Augier & Teece, 2007; Kor & Mahoney, 2000, 2004; Rugman & Verbeke, 2002). Penrose's attention to the drivers, constraints, and processes of growth provides a framework for organizing and synthesizing the various determinants found in research on the growth of MNEs. Resource-based and in particular dynamic capabilities approaches (Teece, 2014) also offer important insights about how versatile resources and (dynamic) capabilities of firms can enable them to achieve long-term profitable growth in fast-paced changing environments. Thus, we take note of these insights in our review of firm-specific resources as facilitators of the growth of MNEs.

We submit that taking stock of research related to the growth of MNEs with a framework inspired by Penrose's growth theory can enable scholars to make better sense of the accumulated research insights, which are rich but remain scattered across different studies with different theoretical roots, levels of analysis (e.g., firm vs. subsidiary growth), and national contexts. With a focus on the facilitators, constraints, and processes of a firm's growth, this framework facilitates the organization and synthesis of the insights, which then can guide new research on the growth of MNEs.

In addition, this review provides an opportunity to elaborate on the similarities and differences between research on the growth of MNEs that draws on Penrose's growth theory and research that does not. This comparison enables us to reflect on concepts and ideas that have not been examined thoroughly in the research related to the growth of MNEs. One of these under-examined ideas is firm-specific managerial learning. Even though the extant research regularly cites Penrose's (1959) conceptualization of the firm as a unique bundle of resources, it often neglects the idea that managerial choices shape the productive services of resources, and the interactions between managers and resources jointly drive the growth of firms. Thus, managerial knowledge about the firm's unique resources or *firm-specific managerial learning* can contribute to the creation of new productive resources that facilitate international growth. Our review of research on the growth of MNEs suggests that this research has emphasized the role of host-country knowledge while giving insufficient attention to firm-specific managerial knowledge and learning. However, for an MNE, either as a hierarchy (administrative organization) that relies on

managers to allocate resources (Buckley & Casson, 1976; Hennart, 1982) or as a group of geographically dispersed and goal-disparate organizations (Ghoshal & Bartlett, 1990), firm-specific managerial knowledge can be crucial in maintaining organizational coherence (Teece, Rumelt, Dosi, & Winter, 1994). Such firm-specific knowledge and organizational coherence are needed for effective coordination and knowledge transfer (Cantwell, Dunning, & Lundan, 2010), and for curbing managerial opportunism (Hoenen & Kostova, 2015) as part of the successful pursuit of long-term profitable growth for the overall MNE.

This comparison also allows scholars to consider developing an internally coherent theory of the growth of MNEs, which connects ‘what an MNE is’ to ‘what determines an MNE’s growth.’ Penrose and dominant foreign direct investment (FDI) theories (Buckley & Casson, 1976; Hennart, 1982) share a similar notion of firms as administrative organizations that rely on managers to allocate resources. In Penrose’s theory, ‘what a firm is’ explains ‘how the firm grows,’ and the underpinning logic derives the necessary and sufficient conditions for growth as well as its constraints. However, in IB research, discussions on how ‘an MNE functions’ and ‘how an MNE grows’ are in different streams of research. This separation results in an incomplete understanding of the process by which an MNE grows as an administrative organization.

Finally, Penrose (1959) offers an endogenous growth model in which growth determinants are generated internally, and the external environment is perceived subjectively and could be strategically influenced by managerial actions. While MNE research recognizes some of the endogenous aspects of profitable growth (such as experiential learning in foreign markets), it places a strong emphasis on exogenous factors, such as cross-country distances, as key constraints on growth. Our review highlights research opportunities based on a close consideration of endogenous factors that drive international growth, as well as endogenizing some of the ostensibly exogenous growth determinants.

The next section provides an overview of Penrose’s theory of the growth of the firm to develop a framework for organizing our review of research on the growth of MNEs. Next, we explain our review methodology and present our review and synthesis of the literature through a Penrosean lens. Then, in connection with the review and research gaps we identified, we offer our suggestions for new directions for future research.

PENROSE'S GROWTH THEORY

In Penrose's (1959) theory, the determinants of the growth of the firm derive from a conceptualization of the firm and its objective. Thus, we summarize the theory in terms of (1) the nature of a firm, (2) the objective of the firm, (3) the (facilitating and constraining) determinants of the growth of the firm, and (4) the growth trajectory of the firm.

What is a firm? In Penrose's (1959) theory, a firm is an administrative organization that requires managerial decision-making (Barnard, 1938; Simon, 1947). However, as Penrose elaborates, "a firm is... also a collection of productive resources the disposal of which between different uses and overtime is determined by administrative decision" (1959: 24). This conceptualization of a firm offers a foundation for firm heterogeneity based on the firm's bundle of resources and the central role of managers in shaping and utilizing these resources. Specifically, managers act as catalysts in converting a firm's resources into productive services (Mahoney, 1995) through decisions on resource development, deployment, utilization, and combination. We note that Penrose's conceptualization of a firm, as an administrative organization, is similar to international business (IB) research on internalization theory. In particular, the use of authority or managerial fiat to organize exchanges is the *raison d'être* for multinational firms and what distinguishes them from market mechanisms (Buckley & Casson, 1976; Hennart, 1982).

What is the objective of the firm? Penrose submits that the objective of the firm is long-term growth through investing in profitable expansion (1959: 29). Because a firm is not confined to particular products or locations, "there are opportunities for profitable investment open somewhere in the economy" (1959: 43). Penrose offers product diversification as a solution for unfavorable external conditions, and, in this vein, a firm's entry into new foreign markets also can be a *profitable growth* solution to stagnant home and host markets. Therefore, new foreign entries, along with subsequent growth in existing host markets, constitute the MNE's overall growth.

What facilitates the growth of the firm? Penrose maintains that the growth of the firm is derived from internal facilitators, which include underutilized firm resources, innovation, and managerial learning. She posits that, as long as current operations do not fully utilize productive resources, "there is an incentive for a firm to find a way of using them more fully" (1959: 67). In Penrose's theory, what makes resources underutilized is their indivisibility (e.g., lumpy physical capital) and fungibility (Augier & Teece, 2007), as well as 'resource learning'

(the creation of new knowledge) during ongoing operations of the firm (1959: 69). These underutilized resources facilitate further innovation as managers experiment with new resource combinations to more fully and productively utilize existing resources through the growth of the firm (1959: 86).

Managerial learning also is an important driver of the growth of firms. Learning increases and enriches managers' tacit knowledge about the bundle of resources in the firm, which in turn expands the range of productive services from those resources (1959: 5). Thus, the growth of a firm is a dynamic process of management interacting with resources (Kor, Mahoney, Siemsen, & Tan, 2016). In addition, Penrose considers managers' entrepreneurial capabilities as crucial for the firm's growth (1959: 8). Entrepreneurial capabilities consist of the ability to shape creative imagination and vision for the firm (1959: 36), the ability to create confidence in investors (1959: 38), and the ability to develop and utilize information-gathering and consulting facilities that enable managers to evaluate and manage risk and uncertainty in different growth directions (1959: 41). These capabilities enable firms to continue to create or discover new markets to utilize their resources fully.

What constrains the growth of the firm? Penrose emphasizes that the binding constraint on the profitable growth of a firm arises from the need for managers to accumulate firm-specific knowledge, which is essential for formulating and implementing growth plans. However, it takes time for managers to accumulate this knowledge. Thus, firms face an inelastic supply of managerial services in the short run because no such labor market exists.

Penrose does not consider external conditions as serious barriers to growth because a firm can always escape stagnant markets by diversifying into other product markets or geographical locations (1959: 43). According to Penrose, the notion that a firm's growth is inhibited by external conditions typically should be attributed to its lack of entrepreneurial capabilities. She acknowledges that it is difficult for a firm to diversify into entirely new areas of specialization, and she favors finding new markets in which the firm can build on its existing competencies (1959: 130). This early Penrosean insight is consistent with research that empirically corroborates and explains why firms are more successful when conducting related rather than unrelated product diversification (Teece, 1982). Similarly, for international expansion, it is difficult for a firm to penetrate a distant host country because its underutilized resources can be costly to transfer across borders (Rugman & Verbeke, 2003). Dissimilarity between the firm's existing activities and markets and the new activities (and the new market conditions) increases the amount

of managerial services required for the successful execution of international entrepreneurial activities (Verbeke & Yuan, 2007); this managerial bottleneck reduces the speed of international expansion (Hutzschenreuter et al., 2011).

Growth trajectory. The managerial constraint on the growth of a firm, or the so-called “Penrose effect” (Shen, 1970; Slater, 1980), predicts that a fast-growing firm will encounter managerial problems that impede its growth in the subsequent time period. The Penrose effect has been corroborated empirically in both domestic and international contexts (e.g., Hashai, 2011; Mohr, Batsakis, & Stone, 2018). Penrose (1959) describes an endogenous model of the growth of a firm in which managerial learning within the firm can facilitate and constrain the growth of the firm (Pitelis, 2000). This endogenous model implies that firms can manage their own growth through careful organizational design. The upshot of Penrose’s theory is the message that *management matters*.

Even though Penrose (1959) did not explain the process and the growth of MNEs explicitly,⁴ a few prominent IB scholars have extended Penrosean theory to explain and predict the growth of MNEs. For example, internationalization process theory (Johanson & Vahlne, 1977, 1990), which is influenced by Penrose’s growth theory, presents the process of international expansion as an iterative process of commitment to host markets and learning that leads to the accumulation of knowledge about the markets. Dynamic capabilities (Teece, Pisano & Shuen, 1997), for which Augier and Teece (2007) credit Penrose (1959) as being an inspiration, consider the firm’s ability to shape and configure resource bases to respond to changing technologies and markets as the foundations for long-term profitable growth of firms. Augier and Teece (2007) suggest that, while Penrose might not have fully developed the capability concept for MNEs, the development of the dynamic capability approach can be applied usefully to MNEs. Teece (2014) emphasizes dynamic capabilities and the importance of entrepreneurial management and transformational leadership in enabling MNEs to sustain performance in changing global environments. Furthermore, Buckley and Casson (2007) offer a mathematical model of Penrose’s growth theory that considers international expansion and product diversification as alternative growth directions, and it incorporates technological innovation as a key driver of growth in which decreasing returns to R&D act as a growth constraint. Building on Penrose, Dunning (2003) identifies a number of conditional ownership advantages that

⁴ Penrose maintains that the establishment of foreign subsidiaries is “still part of the process of growth of the parent company” (1956: 225), except that foreign subsidiaries might have a greater degree of independence from their corporate parent because they operate in different environments (1956: 226).

accrued to large, multinational firms, which can be the basis for MNEs achieving profitable growth. Relatedly, Pitelis (2002) articulates Penrosean insights relevant to Dunning's (1980) ownership, location, and internalization (OLI) paradigm and explained how Penrose's work can contribute to theories on foreign direct investment (FDI) and enhance the understanding of the growth of MNEs. Pitelis and Verbeke (2007) propose three ways of extending Penrose's theory to explain the growth of MNEs, including technology-based firm-specific advantages, dynamic capabilities, and integrating location-bound and internationally transferable knowledge. Verbeke and Yuan (2007) apply Penrose's ideas to propose three conditions under which firms are more likely to encounter managerial constraints, such as a broad scope and high complexity of international activities, dissimilarity between existing and new activities, and dissimilarity between existing and new market conditions. In addition to these conceptual contributions, several empirical studies have drawn from Penrose (1959) to examine the growth of MNEs, which we discuss in the review section of this paper.

REVIEW METHODOLOGY

Penrose's (1959) theory provides useful guidance for constructing our review of research on the determinants of the growth of MNEs. In particular, Penrose considers diversification as a general growth policy in which growth is not restricted to particular geographical or product markets. Therefore, new entry and sequential expansion in a particular foreign market (either in the form of growth of the subsidiary or establishment of additional subsidiaries) contribute to the growth of MNEs. In addition, Penrose's assumption that firms seek profitable growth implies that divestments and exit activities of MNEs ultimately are part of the growth process. Thus, we consider such research relevant in our literature review.⁵ Given space limitations and the considerable amount of literature on foreign market entry, we focused on the conceptual and empirical articles published between 1995 and 2019 in leading management journals, e.g., *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Management*, *Journal of Management Studies*, *Organization Science*, and the

⁵ We focused on the growth of MNEs and avoid overlapping with prior literature reviews on growth of new ventures (Gilbert, McDougall, & Audretsch, 2006), small- and median-sized firms (Coviello & McAuley, 1999), international entrepreneurship (Terjesen, Hessels, & Li, 2016), performance of international joint ventures (Ren, Gray, & Kim, 2009), and international diversification (Hitt, Tihanyi, Miller, & Connelly, 2006b). We did not review studies on foreign market, but readers can refer to Brouthers and Hennart (2007) for this information. However, we included eight articles based on small-sized and medium-sized firms because these articles discuss the long-term growth of venture/small firms as MNEs, and the international growth of the sample firms in the articles include FDI. Hence, we consider these articles relevant to our review.

Strategic Management Journal. Also, we focused on leading IB-specific journals from 1995 to 2019, including the *Journal of International Business Studies*, *Global Strategy Journal*, *Journal of World Business*, and *Management International Review*. Thus, we curated scholarly publications dating back for a quarter of a century. We searched titles and abstracts of these targeted journals for the keywords of grow/growth, market entry, expand/expansion, internationalize/internationalization, (internationalise/internationalisation), speed, trajectory, evolve/evolution, exit/survival, divest/divestment, downsize/downsizing, and Penrose/Penrosean. Our initial search identified 3,020 articles, and we reviewed the titles and abstracts of the articles for relevance. Many articles were eliminated due to their lack of international content. Further, for the *Journal of International Business Studies*, the flagship journal that focuses on international business research, we reviewed the title and abstract of each article for all issues over the study period, thereby identifying six additional articles. These search processes produced 190 articles that are of interest. Next, we searched titles and abstracts of the targeted journals for the keywords of international performance and international diversification, because studies that focus on these topics might measure performance based on growth. This search yielded 1,244 articles, 68 of which appeared in our earlier keyword search. We reviewed the titles, abstracts, and the methodology sections of all of the remaining articles; we identified nine additional articles with dependent variables that consist of at least one measure of growth. Combining this with the 190 articles, our final sample consists of 199 articles.

Note that our review focus on research related to the growth of MNEs. Although Penrose's work on MNEs (e.g., 1956, 1968, 1973) focused mainly on the impact of MNEs on the economic welfare of host countries (Dunning, 2003; Pitelis, 2004; Rugman & Verbeke, 2002), our review does not cover this topic because it has been well covered elsewhere. On this topic, interested readers could refer to recent reviews on the impact of MNEs on host economies, such as spillovers (Abebe & Begum, 2016; Meyer & Sinani, 2009) and host-country competition (Forte, 2015).

A REVIEW OF INTERNATIONAL BUSINESS RESEARCH ON MNE GROWTH

Overview of the Focus in Research on MNE Growth

Our literature review consists of 199 articles in which the research inquiries are focused on the determinants of the growth of MNEs, which could be the result of entering new foreign markets as well as expansion/divestment in the

host country. To understand how the focus of the research evolved, we classified all articles into five key categories: (1) growth via initial entry into foreign markets; (2) sequential expansion in the foreign markets; (3) survival, exit, or divestment; (4) overall growth of the MNE in the form of international scope and intensity (including international diversification and multinationality); and (5) the growth trajectories of the MNEs. These categories are not mutually exclusive, and we assigned some articles to more than one category. For example, Nachum and Song (2011) examine whether MNE characteristics have different impacts on their foreign expansion and contraction. Therefore, this journal article was classified under both category (1) and category (3). Figure 1a shows the number of articles in each category for every five-year period from 1995 to 2019. Overall, the number of studies on the growth of MNEs has been increasing in recent years. Studies on foreign market entry constitute the largest research category in the research relative to the growth of MNEs (approximately 32% of our review articles), and this is followed by studies on the international scope and intensity (28%). These two categories received substantial research attention because they represent fundamental inquiries associated with the existence of MNEs. Approximately 24% of the studies focus on survival, exit, and divestment as well as subsequent expansion (21%). Research on the trajectory of the growth of MNEs received less attention (9%), probably because this topic requires longitudinal data, which are difficult to attain. In summary, Figure 1a shows that four areas of research, i.e., foreign market entry, sequential expansion, multinationality, and growth trajectory, increased over the study period (1995-2019), indicating that the growth of MNEs is a trending issue in the IB research literature.

Given that we use Penrose's growth theory to organize our review, we consider how many and what types of studies on MNE growth cited Penrose. Figure 1b classifies the articles that cite Penrose by our five categories, and it shows that Penrose's theory is relevant to every topic related to MNE growth, but it is particularly influential concerning the topic of growth trajectory, in which 39% of the articles cite Penrose's work. Her direct influence on the other categories is reflected by the citation percentages of 32% for expansion in foreign markets, 23% for foreign market entry, 15% for survival, exit, and divestment, and 16% for international scope and intensity.

Overview of the Determinants of MNE Growth

Given that Penrose's theory pays central attention to the facilitators, constraints, and process of the growth of firms, we present our review in three sections that summarize and synthesize research findings of the facilitators,

constraints, and trajectory of the growth of MNEs. *Facilitators* are theoretically grounded factors that enhance the growth of MNEs, where growth can take the form of new entries into foreign markets, subsequent expansion in a particular market, or an increased level of internationalization of the MNE. *Constraints* are theoretically grounded factors that impede the growth of MNEs, including those that deter the entry to and expansion in host countries and those that lead to exits from or divestments in host countries. In addition, our review reveals that certain factors moderate the effects of facilitators and constraints, and we report these findings in the sections on facilitators and constraints. Given that we review the growth of MNEs through a Penrosean lens, we conclude each subsection with a discussion of Penrose's insights into the research findings related to MNEs' growth. Figure 2 shows a conceptual diagram for determinants (including facilitators, constraints and moderators) of the growth of MNEs.

Facilitators of MNE Growth

Several mainstream IB theories have offered key theoretical insights concerning the facilitators of the growth of MNEs. The internalization theory of FDI explains the existence of multinational firms, and it maintains that firm-specific advantages, the transfer of which involves high transaction costs, facilitate the growth of firms in foreign markets (Buckley & Casson, 1976; Hennart, 1982; Rugman 1981). Internationalization process theory, which has its roots in Penrose's theory of the firm, suggests that experiential learning of knowledge about the host country increases a firm's commitments in pursuing growth in the host country (Johanson & Vahlne, 1977). Recent research on emerging-economy MNEs (EMNEs) suggests that resource deficiency at home motivates these firms to seek strategic assets in advanced economies (Luo & Tung, 2007; Makino, Lau, & Yeh, 2002).

In our review, we find that factors that facilitate the growth of MNEs can be categorized broadly into the following categories, i.e., underutilized firm-specific resources, managerial resources, experiential learning, and external drivers. Concerning the facilitators of growth, not all research on the growth of MNEs draws explicitly on Penrose's theory, but this research is consistent with Penrose's theory in that it focuses on underutilized, firm-specific resources, managerial resources, and experiential learning as key drivers of the growth of the firm. In terms of the fourth facilitator, i.e., external drivers, the two lines of research differ in how they view the role of external conditions. Penrose suggests that managers perceive and interpret market conditions subjectively; hence, markets are 'created.' She focuses on purposeful internal drivers of growth (i.e., endogenous growth), and

attributes the lack of growth opportunities to weak entrepreneurial capabilities and/or a lack of impregnable resource bases in the firm. In contrast, many studies of the growth of MNEs have attributed a firm's international growth primarily to external conditions. From a Penrosean perspective, the fact that favorable conditions in the host market encourage a firm to expand indicates that its managers are aware of market conditions and are capable of responding to them. Thus, knowledge of these market conditions and the vision of how to penetrate such markets are understood as part of the firm's entrepreneurial capabilities. Below we report findings from our review concerning the effects of the four key facilitators on the growth of MNEs. Table 1 summarizes these findings.

Firm-specific resources. Internationalization theory (Buckley & Casson, 1976; Hennart, 1982; Rugman, 1981) views firm-specific resources, especially those that are intangible, as the main reason firms pursue international growth because the economic value of such resources does not depreciate through use. Since these resources constantly are underutilized (Caves, 1971), managers are motivated to pursue further exploitation in foreign markets. Given that intangible resources are fraught with contractual hazards and incur substantial costs when exchanged in the market, it often is relatively cost-efficient for firms to exploit them through FDI rather than through market mechanisms. Thus, the exploitation of firm-specific intangible resources largely explains the emergence of MNEs and their growth in foreign markets. In addition, firm-specific intangible resources often are proprietary, resist imitation (Chi, 1994), and provide monopolistic advantages that enable MNEs to overcome the liability of foreignness (Hymer, 1960). These resources enable firms to outcompete rival firms in foreign markets, and achieve and sustain profitable growth. Classic examples of firm-specific intangible resources shown to facilitate the growth of MNEs include technological knowledge and marketing knowledge (Chang, 1995; Delios & Beamish, 1999; Hennart & Park, 1994; Tan & Vertinsky, 1996; Tseng, Tansuhaj, Hallagan, & McCullough, 2007). A meta-analysis (Kirca et al., 2011) reports that technological knowledge has a more significant positive effect on the internationalization of firms than does marketing knowledge. R&D activities help generate a continuous stream of new products and enable firms to maintain competitiveness and profitability when pursuing growth in global markets (Buckley & Casson, 2007). Firm-specific resources include production-related proprietary resources as well as “an organizational capability to efficiently coordinate and control the MNEs' asset base” (Rugman & Verbeke, 2001: 238). An example,

documented by Pedersen and Shaver (2011), is firm-specific management infrastructure for international expansion, which has natural economies of scale that promote further international growth.

Exploiting firm-specific intangible resources requires a firm to transfer or replicate resources in foreign operations (Teece, 1977). The costs of transferring intangible resources increase with the tacitness of resources (Kogut & Zander, 1992; Teece, 1981). Martin and Salomon (2003) show that the tacitness of a firm's technology has an inverted-U shaped relationship with the likelihood of a firm choosing FDI, which suggests that even though technology assets in general encourage international growth, the cost of transferring *highly tacit* technology can hamper a firm's growth in foreign markets. In addition, the (limited) fungibility of resources across national borders influences international growth. Some of the intangible resources of the firm might be valuable for all regions (i.e., non-location-bound), while others may be relevant only for certain regions or countries (i.e., location-bound) (Rugman & Verbeke, 1992, 2004). Location-bound resources inhibit the firm's growth in other locations (Mauri, Song, & de Figueiredo, 2017).

Firm-specific resources may lose value not only in different geographical locations but also in changing environments. Therefore, MNEs must develop dynamic capabilities to adapt to changing environments (Luo, 2000; Pitelis & Teece, 2010; Teece, 2007, 2014; Teece et al., 1997). Vahlne and Ivarsson (2014) propose that the dynamic capabilities of MNEs might consist of their entrepreneurial ability and transformational leadership to identify and implement growth opportunities (Teece, 2007, 2014), networking capability (Johanson & Vahlne, 2009), technology development capability (Buckley & Casson, 2007; Dunning & Lundan, 2008), and the capacity to develop knowledge on managing foreign operations. Research on MNE growth also emphasizes operational flexibility (Chi, Li, Trigeorgis, & Tsekrekos, 2019), which is associated with the ability of firms to relocate sourcing, production, or distribution activities from one geographical location to another in short time-periods when facing environmental changes. Further, international expansion can be viewed as a mechanism through which firms can renew their firm-specific resources through (1) their interaction with foreign environments (Cantwell, 1989, 2009; Dunning, 1979; Pitelis & Teece, 2010; Rugman & Verbeke, 1992, 2001), (2) acquiring new strategic assets in advanced economies (Luo & Tung, 2007), and (3) leveraging subsidiaries' initiatives (Birkinshaw, 1997; Birkinshaw & Hood, 1998). Finally, foreign subsidiaries can play an important role in shaping the overall

capabilities of MNEs (Birkinshaw, 1997; Cantwell & Mudambi, 2005), but, in our sample, only two empirical studies (Kafouros & Aliyev, 2016; Lee, Chung, & Beamish, 2019) focus on resources at the subsidiary level.

In summary, research concerning the growth of MNEs has provided ample evidence for the materiality of the firm-specific (especially intangible) resources for expansion of firms into foreign markets. The value to be derived from firm-specific intangible resources depends on the degree of tacitness, fungibility, and adaptability of those resources. It is noted that the research streams on the growth of MNEs and on Penrose (1959) consider underutilized, firm-specific resources as the basis on which firms can expand into new geographical or product markets. For research on the growth of MNEs, resources are underutilized primarily because of their intangible nature, whereas, in Penrose's theory, resources are underutilized due to the indivisibility of assets, fungibility, and continuous managerial learning about resources. In terms of enablers of long-term, profitable growth, the research on MNE growth emphasizes the dynamic capabilities and operating flexibility that help firms adapt to changing technological, economic, and institutional environments. Also, this research considers inter-national expansion as an opportunity to adapt and strengthen firm-specific resources. Similarly, Penrose emphasizes the capability to build versatile and impregnable (technological) "bases" (1959: 137) that enables the pursuit of growth via (related) product diversification (Buckley & Casson, 2007), which creates a virtuous cycle of 'resource learning' and innovation.

Managerial resources. Research on the growth of MNEs has shown that managers have a key role in orchestrating the growth of their firms. In addition to Penrose's growth theory, this research draws on upper echelon theory, agency-theoretic corporate governance, and internationalization process theory, and it focuses on managerial attributes and governance conditions that shape managerial incentives and capabilities to formulate or implement international growth strategies.

An extensively examined managerial attribute is international work experience, which, in theory, enhances managers' awareness of promising international business opportunities and effective implementation of international expansion. Empirical research has corroborated that MNEs whose managers have greater international experience achieve a higher level of internationalization (Athanasios & Nigh, 2002; Carpenter & Fredrickson, 2001; Chen, Chang, & Hsu, 2017; Nielsen, 2010; Sambharya, 1996). However, case-study research indicates

that an imprinting effect of prior international experience may reduce managerial motivation to learn, which can have a negative effect on the long-term growth of the firm (Bingham & Davis, 2012). Other managerial attributes, such as industry experience and elite education, also are shown to facilitate international growth (Chen et al., 2017; Tihanyi, Ellstrand, Daily, & Dalton, 2000).

In addition to managerial experience, managers' network connections also are an important driver for identifying opportunities for profitable international growth (Johanson & Vahlne, 2006, 2009). Managerial connections can be particularly useful when MNEs seek to penetrate a foreign market. For example, managers' cooperative relationships with local and central governments in host countries provide firms with preferential access to scarce resources, such as permits and licenses, resulting in higher subsidiary growth (Luo, 2001). Co-ethnic networks in one location of the host country increase the likelihood of subsequent investment in other co-ethnic locations, and they accelerate the overall pace of growth in the host country (Stallkamp, Pinkham, Schotter, & Buchel, 2018). However, managerial connections also might constrain growth opportunities in terms of the geographical locations that managers favor due to close ties and/or prior experience (Musteen, Francis, & Datta, 2010). Similarly, home country network connections tend to promote domestic growth at the expense of international expansion (Bai, Chen, & He, 2019; Fernández-Méndez, García-Canal, & Guillén, 2018; Iurkov & Benito, 2018). Overall, international diversity is the type of managerial connection that leads to long-term international growth (Hagen & Zucchella, 2014; Stoian, Dimitratos, & Plakoyiannaki, 2018).

Given that managers work collectively as a team, the composition of the management team matters. Top management team (TMT) diversity, which implies heterogeneity in experience, skills, and viewpoints, can facilitate the exploration of new growth opportunities in foreign markets. TMT diversity is shown to increase the novelty of FDI locations (Barkema & Shvyrkov, 2007), but the link between the diversity of the TMT and the growth of MNEs remains unclear. Some empirical studies find a positive association between the growth of MNEs and the diversity of the TMT's international experience (Sambharya, 1996), education (Carpenter & Fredrickson, 2001), and firm/team tenure (Carpenter & Fredrickson, 2001; Tihanyi et al., 2000), but other research studies fail to find such associations (Barkema & Shvyrkov, 2007). It may be that too much diversity on a team can lead to difficulties in reaching consensus when making decisions, thereby hampering inter-

national growth. Yet, few attempts are made to test the curvilinear relationship between the growth of MNEs and the diversity of the TMT, and those attempts lack empirical support (Carpenter & Fredrickson, 2001).

Several research studies have utilized the upper echelon theory, the corporate governance literature, and information processing theory to examine the managerial characteristics or corporate governance mechanisms that influence managers' incentives to pursue growth in risky international markets. Narcissistic CEOs tend to be aggressive and have more confidence in pursuing international growth (Agnihotri & Bhattacharya, 2019). A young and elitely educated TMT or a large board expands a firm's information processing capacity, and increases managers' willingness to assume risk and undertake international expansion (Hitt et al., 2006b; Singh & Delios, 2017; Tihanyi et al., 2000). Outside directors and institutional investors (such as mutual funds or pension funds) can assist managers in identifying international opportunities and thus promote international expansion (Majocchi & Strange, 2012; Tihanyi, Johnson, Hoskisson, & Hitt, 2003). CEO duality, which agency theory predicts to be an undesirable board leadership structure, is found to be linked positively with international expansion because CEO duality can serve as unified leadership and expedite decision-making (Singh & Delios, 2017). Similarly, CEOs who are owners of the firms have the power to take on strategic decisions, including undertaking international expansion (Chittor, Aulakh, & Ray, 2019). In addition, contingent pay and firm-level resource slack increase managerial incentives to seek new international growth opportunities (Dagnino, Giachetti, La Rocca, & Picone, 2019; Lin, 2014, Tihanyi, Hoskisson, Johnson, & Wan, 2009). Similarly, in state-owned enterprises (SOEs), soft-budget constraints and long-term investment horizons can encourage managers to take on risky projects, such as international investments (Rudy, Miller, & Wang, 2016), especially when the governance framework in the country curtails SOE managers' pursuits for private benefits (Estrin, Meyer, Nielsen & Nielsen, 2016) or even sets goals for SOEs to pursue international growth (Mariotti & Marzano, 2019). On the negative side, top managers' inertia and unwillingness to take risk inhibit decisions to expand into foreign markets (Dow, Liesch, & Welch, 2018).

Several studies have drawn on the research literature on expatriate managers (Boyacigiller, 1990; Edström & Galbraith, 1977) and Penrose (1959) to examine the utilization of expatriates on subsidiary growth. Given that expatriate managers serve as knowledge transfer and coordinating mechanisms between the head-

quarters (HQ) of the MNEs and their subsidiaries, multinational firms that send more expatriates (most of whom are managers) to their subsidiaries in initial periods and those who replace expatriates with foreign personnel at a slower rate achieve higher growth rates over time. Essentially, these firms are better able to transfer knowledge (Kawai & Chung, 2019) and to train and integrate the new members in their subsidiaries (Riaz, Rowe, & Beamish, 2014; Tan & Mahoney, 2007).

Note that the empirical results reviewed in this section are based on the managers at the HQs of the MNEs. However, subsidiary initiatives are an important part of corporate entrepreneurship that can drive the growth of MNEs in foreign markets (Birkinshaw, 1997). Thus, additional empirical research is needed to examine how subsidiary managers influence the overall growth of MNEs.

Overall, the extant growth research of MNEs on managerial resources has focused primarily on managerial attributes and governance conditions that might affect managerial incentives and capabilities to formulate and implement international growth strategies as opposed to firm-specific managerial capabilities in maintaining coordination within MNEs, which receives central attention in Penrose's growth theory. Given that an MNE consists of a group of geographically dispersed, goal-disparate organizations (Ghoshal & Bartlett, 1990), maintaining internal coordination and control within the MNE involves challenging managerial problems, such as potential conflicts and the incongruence of goals between the HQ and the foreign operations (Nohria & Ghoshal, 1994; Verbeke & Yuan, 2005). Thus, whether and how firm-specific managerial experience at the HQs of MNEs enhances the management of foreign operations and facilitates growth is likely a worthy research direction.

Recent developments in the dynamic capabilities approach (Teece, 2014) and dynamic managerial capabilities (Adner & Helfat, 2003; Helfat & Martin, 2015) have emphasized the entrepreneurial qualities of the TMT as a key factor in sustaining long-term competitive advantages in global markets. Our review suggests that the diversity of the experiences of the TMT might contribute to such qualities. More research is needed to understand what constitutes the entrepreneurial capabilities of MNEs that facilitate continued entries into new foreign markets.

Experiential Learning. The growth of MNEs requires general knowledge of international management and market-specific knowledge, much of which is less structured and gained mainly through experience (Johanson

& Vahlne, 1977). Internationalization process theory (Johanson & Vahlne, 1977, 1990) suggests that experiential learning enables managers to recognize growth opportunities better, and reduces the perceived risk associated with growth, thereby increasing commitments in foreign markets. Experiential learning takes the form of direct learning and indirect learning (i.e., learning from the experience of other people) (Bingham & Davis, 2012). Extant research has drawn on internationalization process theory, organizational learning literature, and the behavioral theory of the firm to examine the impact of both types of learning on the growth of MNEs. In terms of direct learning, a firm's experience in international activities increases the speed of its overall international expansion (Hutzschenreuter, Kleindienst, Guenther, & Hammes, 2016), but its impact is decreased when the firm already has host-country experience (Henisz & Delios, 2001). The transferability of general international experience to a particular subsidiary is also reduced when the cultural context of the subsidiary is more distant from the cultures in which the firm has accumulated experience (Barkema, Bell, & Pennings, 1996). In addition, the geographical makeup of a firm's international activities makes a difference. Specifically, the depth of international activities (as reflected by a firm's experience in a certain host country) has an inverted U-shaped relationship with the speed of international expansion (Casillas & Moreno-Menendez, 2014). This outcome occurs because, even though it is easier for firms to expand in markets where they already have experience, opportunities for further learning are limited in such markets. The impact of the diversity of international activities (i.e., host-country dispersion) on growth is found to be mixed (i.e., direct positive and indirect negative effects). A high level of international diversity enables firms to accumulate extensive knowledge of the markets, which supports international growth in the long term (Casillas & Moreno-Menendez, 2014; Nachum & Song, 2011; Zhou & Guillén, 2015). However, high international diversity also creates coordination costs (Schu, Morschett, & Swoboda, 2016) and information overload that impedes technological learning, which has an indirect negative effect on international growth (Zahra, Ireland, & Hitt, 2000).

Market-specific experience matters when it comes to international growth. Research shows that experience in the host country increases a firm's sales growth in that market (Luo, 1999) and reduces the exit rate in both the host country (Delios & Beamish, 2001; Gaur & Lu, 2007; Li, 1995) and other countries with similar institutional environments (Perkins, 2014). The positive effect of host-country experience on growth is even greater in

countries in which the quality of institutions is poor (Lu, Liu, Wright, & Filatochev, 2014). However, once exiting from a host country, the experience the firm accumulated during its stay in that country has no impact on the firm's further decisions in that country (Surdu, Mellahi, & Glaister, 2019). Moreover, experiential learning *at home* is found to contribute to international growth. A firm's experience with a certain technology in its home country can reduce the cost of transferring the technology to foreign operations, thereby enabling greater international growth (Martin & Salomon, 2003). Firms with substantial experience in making domestic and foreign acquisitions have built and refined acquisition routines that facilitate the firm's international growth through acquisitions (Nadolska & Barkema, 2007). Similarly, a firm's domestic dispersion enables the firm to develop capabilities to coordinate remote business units, which can subsequently be used to support international growth (Santangelo & Stucchi, 2018). Finally, a firm's prior experience of inward internationalization at home, such as export and original equipment manufacturing activities, nurtures its international management capabilities and enables faster international growth (Luo & Bu, 2018).

In addition to direct experiential learning, indirect learning also can facilitate international growth. Observing or interacting with other firms that have experience in the host country enables a firm to gain knowledge and information that help to reduce uncertainty about the host country. Research shows that firms can achieve greater international growth and a lower exit rate if they have foreign alliance partners (Cesinger, Hughes, Mensching, Bouncken, Fredrich, & Kraus, 2016; Hong & Lee, 2015), interlocking partners (Xia, Ma, Tong, & Li, 2018), and inward international activities (Li, Li, & Shapiro, 2012; Li, Yi, & Cui, 2017), as well as following a shared industry recipe (Monaghan & Tippmann, 2018). Firms also can obtain information spillover from other firms (Henisz & Delios, 2001; Shaver, Mitchell, & Yeung, 1997), such as other firms from the same country of origin (Hernandez, 2014; Tan & Meyer, 2011) unless agglomeration with other firms creates a knowledge leakage hazard that threatens survival (Mariotti, Mosconi, & Piscitello, 2019; Shaver & Flyer, 2000). Although these different sources of external experiential knowledge all make positive contributions to international growth, their relative impacts might be different. For example, prior acquisition experience of a firm's interlocking partners has a greater impact on the growth of MNEs than that of joint venture partners (Xia et al., 2018). In addition, *intra*-MNE networks or business groups can be a reservoir for learning (Eriksson, Johanson, Majkgård, & Sharma, 1997). Subsidiaries

achieve greater growth by learning from strategic decisions of the intra-MNE network (Banerji & Sambharya, 1996; Gaur, Kumar, & Singh, 2014; Gaur & Lu, 2007; Guillén, 2003; Kim, Lu, & Rhee, 2012). The learning opportunities within the intra-MNE networks are greater in the presence of diversity. For example, a subsidiary's learning from its sister subsidiaries yields more non-redundant knowledge if they are from different entry cohorts (Kim et al., 2012).

Research has indicated that direct learning and indirect learning are alternative sources of knowledge about foreign markets. Firms with direct experience are less influenced by other firms' experience in making their decisions concerning international expansion (Gupta & Misangyi, 2018; Henisz & Delios, 2001). Similarly, in the presence of indirect learning, direct experience is less influential on the firm's international growth (Cui, Li, Meyer, & Li, 2015; Hutzschenreuter et al., 2016). Even so, empirical evidence shows that direct learning can be supportive of indirect learning by enhancing a firm's ability to absorb knowledge from other firms. For example, Kim et al. (2012) report that the prior experience of sister subsidiaries can reduce the exit rate of a subsidiary more effectively when the parent has experience in the host country or general international experience. In sum, direct and indirect sources of learning have been found to be substitutive, but these sources of learning also can be complementary and reinforcing. These substitution and synergistic effects constitute a fertile ground for future empirical studies.

Overall, MNE growth research and Penrose's theory are similar in that they indicate that growth can be generated internally through experiential learning. Penrose's growth theory suggests that the process of learning-by-doing that occurs within a firm generates new knowledge for further utilization. The research on the growth of MNEs corroborates that experiential learning through international expansion enables a firm to accumulate knowledge concerning the host country (Johanson & Vahlne, 1977, 1990), combine locational advantages with its own resources (Dunning, 1993), and locally adapt their firm-specific advantages (Rugman & Verbeke, 2001). Yet, there is a notable difference between the two approaches when it comes to the main objects of learning. Penrose focuses on (direct) firm-specific learning that facilitates the integration of new knowledge and enhances the coordination of the complex (i.e., internationally diversified) organization. In contrast, much of the MNE growth research focuses singularly on the need to address differences in foreign markets, and thus pays attention to any learning (direct or indirect) that provides knowledge about foreign markets (Steen & Liesch, 2007). Other streams of research in the IB literature have substantial discussions on maintaining integration within MNEs (e.g.,

O'Donnell, 2000; Prahalad & Doz, 1987), but most do not connect the notion of administrative coordination to the growth of MNEs.

External drivers. Extant research has drawn on emerging economy research and institutional economics to examine a wide range of host and home country-level conditions that drive a firm's profitable growth in international markets. Empirical studies have shown that improved conditions in the host country, such as high demand growth, pro-market reform, market-supporting institutions and infrastructure, and regulatory support from the country's governments, enhance the survival and growth of subsidiaries in the host country (Belderbos & Zou, 2007; Dau, 2012; Dunning & Kundu, 1995; Guler & Guillén, 2010a; Liao & Yu, 2012; Paul & Wooster, 2008; Surdu et al., 2018; Surdu, Mellahi, Glaister, & Nardella, 2019; Tschogl, 2002; Van Den Bulcke, Zhang & Li, 1999). Support from home governments also can facilitate the international expansion of firms (Finchelstein, 2017; Gaur, Ma, & Ding, 2018). In addition, a firm's international growth can be an outcome of its attempt to escape unfavorable conditions at home, such as having a small home market (Lindqvist, 1991), poor protection of investors and a limited market for external capital (Li & Yue, 2008), corruption (Bertrand, Betschinger, & Laamanen, 2019), and institutional uncertainty and turbulence (Fathallah, Branzei, & Schaan, 2018; Shi, Sun, Yan, & Zhu, 2017), especially for young and non-group affiliated firms that have substantial disadvantages at home (Kumar, Singh, Purkayastha, Popli, & Gaur, 2020). In particular, home-based scarcity of advanced technology motivates the expansion of EMNEs into advanced countries so they can acquire advanced technological knowledge (Gaur et al., 2018; Luo & Tung, 2007). However, inward FDI activities in the EMNEs' home countries might provide similar benefits and reduce such a propensity (Li et al., 2012; Li et al., 2017). Expanding into more advanced countries gives EMNEs access to strategic resources (Luo & Tung, 2007; Madhok & Keyhani, 2012; Young, Huang, & McDermott, 1996) and facilitates organizational change in the EMNEs (Kalasin, Dussauge, & Rivera-Santos, 2014). Then, with stronger competitive positioning, these firms can pursue sequential expansion in global markets.

A wide spectrum of competitive and cooperative conditions in the industry can shape the growth of MNEs. Early FDI research shows that a firm's international expansion can be an oligopolistic reaction to domestic competitors (i.e., follow-the-leader) or foreign competitors (exchange-of-hostage) (Flowers, 1976; Hennart & Park, 1994; Knickerbocker, 1973; Yu & Ito, 1988). Studies that are more recent have corroborated that firms are more

likely to expand in a host market as a response to foreign competitors (Hutzschenreuter & Gröne, 2009; Ito & Rose, 2002). Firms also follow their domestic competitors' FDI moves (Guillén, 2002; Li, Xia, Shapiro, & Lin, 2018), but they only do so when they have a large or comparable market share compared to their competitors in domestic markets (Gimeno, Hoskisson, Beal, & Wan, 2005). In addition, firms are less likely to follow either foreign or domestic competitors to enter a host market when competition in the market is intense (Chan, Makino, & Isobe, 2006; Martin, Swaminathan, & Mitchell, 1998).

Empirical studies have reported that a firm's expansion in foreign markets can be motivated by its domestic client's entry into the host market (Martin et al., 1998). Firms that occupy central positions in home networks are in a better position to attract exchange partners, which facilitates their expansion into foreign markets (Guler & Guillén, 2010b). When MNEs are early entrants into a host market, they tend to capture early-mover advantages over competitors and achieve greater sales growth (Luo, 1998). Industries that are rapidly globalizing also push firms to expand their foreign activities to achieve economies of scale and scope so they can remain competitive with their global rivals (Chang & Rosenzweig, 1998).

Overall, research has shown that host and home country-level and industry-level conditions have significant effects on a firm's profitable growth in international markets. From a Penrosean perspective, the fact that these external conditions encourage a firm to expand indicates that its managers are aware of market conditions and are capable of responding to them. Thus, knowledge of these external conditions and the ambition to penetrate the foreign markets constitute part of the firm's entrepreneurial capabilities.

Relationships between Facilitators. Penrose's theory and the research on the growth of MNEs take slightly different approaches to theorizing the relationships among facilitators. In Penrose's theory, the three main facilitators, i.e., firm-specific resources, managerial resources, and experiential learning, are interrelated and have their roots in the conceptualization of the firm. Penrose (1959) considers a firm as an administrative unit and a collection of productive resources, the disposal of which is determined by managers' decisions. Managerial firm-specific learning results in an increase in managers' knowledge and understanding about firms and their resources, which, in turn, increases the services available from those resources. Accordingly, Penrose predicts positive interactive effects between managerial firm-specific learning and resources. In comparison, in much of the MNE research, the growth

effects of underutilized firm-specific resources, managers, and experiential learning are examined *separately*. The conceptualization of the firm typically is not used to derive the sources of facilitators of the growth of MNEs or to examine the interrelationships among them. Even so, our review of the research indicated that facilitators interact to make impacts on the growth of the MNEs. For example, managerial experience and the managers' connections with clients have a synergic effect on a firm's level of internationalization because experience enables managers to exploit their connections more effectively (Hitt, Bierman, Uhlenbruck, & Shimizu, 2006a). International experience makes unfavorable conditions at home a stronger motivator for international growth (Gaur et al., 2018; Shi et al., 2017). International experience also increases the tendency of a firm to follow its clients (Qian & Delios, 2008), but it decreases the firm's likelihood of matching its peers' entry into foreign markets (Gupta & Misangyi, 2018). In terms of experiential learning, managerial characteristics and external conditions can influence how firms/managers learn. For example, narcissistic CEOs rely more on direct learning rather than indirect learning (Zhu & Chen, 2015). The Internet might speed up experiential learning and facilitate international expansion (Petersen, Welch, & Liesch, 2002), especially for firms with prior international experience (Rhee, 2005). In summary, we have preliminary empirical evidence of interactions among the key facilitators of growth. However, more studies are needed to provide a theoretically grounded, empirical examination on how all four facilitators interact to influence the growth of MNEs.

Constraints on MNE Growth

Several research streams have provided insights concerning what constrains the growth of MNEs. Monopolistic advantage theory (Hymer, 1976) and research on the liability of foreignness (Zaheer, 1995) contend that MNEs incur additional costs when doing business abroad. The integration-responsiveness framework, which elaborates on the contingent strategies of MNEs based on their organizational setting (Prahalad & Doz, 1987), underscores the importance of adapting to host-country differences while maintaining internal coordination. Research on cross-cultural management (Hofstede, 1984) and emerging economies (Hoskisson, Eden, Lau, & Wright, 2000) also recognizes the challenges for MNEs in dealing with cross-country differences in cultural and institutional environments. Our review of the research on the growth of MNEs indicated that many of the studies focused on cross-country differences and risk/uncertainty, which are related to external conditions for MNEs. There

are also studies that examined internal constraints, such as financial and managerial constraints, with the latter drawing explicitly on Penrose's growth theory. Penrose does not consider external conditions as serious barriers to growth, and she attributes any inability of a firm to alleviate external constraints to its insufficient managerial capabilities. Thus, Penrose would predict that managerial attributes/actions moderate (e.g., alleviate the negative) impact of external constraints on growth. This logic is consistent with many of the studies that discuss the conditions and strategies (managerial choices) that are likely to moderate the impacts of the external constraints on the growth of the MNEs. Below, we report the findings of these studies, which are summarized in Table 2.

Cross-country differences. Cross-country differences in terms of cultures, institutional conditions, and economic development increase a firm's knowledge gaps in host countries, create difficulties in transferring firm-specific resources and in building legitimacy (Ghemawat, 2001; Xu & Shenkar, 2002), thus creating extra costs of doing business (Cuervo-Cazurra, Maloney, & Manrakhan, 2007) and the liability of foreignness (Mata & Freitas, 2012; Qian, Li, & Rugman, 2013; Zaheer & Mosakowski, 1997). As a result, firms might withhold their resource commitment to such host countries (Johanson & Vahlne, 1977, 1990). Empirical evidence suggests that, in general, cross-country differences inhibit market entry (Berry, Guillén, & Zhou, 2010), reduce the speed of expansion (Hutzschenreuter et al., 2011; Schu et al., 2016), and result in an exit from the host country (Demirbag, Apaydin, & Tatoglu, 2011; Kang, Lee, & Ghauri, 2017). These studies also show that cross-country distances have differential effects on firms. For example, the negative impact of cultural distance on the longevity of subsidiaries has been found to be stronger for joint ventures and acquisitions than for wholly owned investments and greenfield investments because the former modes require MNEs to accommodate both host country and corporate cultures of the target subsidiaries (Barkema et al., 1996). The negative impacts of cultural distance on the growth of MNEs also are stronger for larger and older firms because these firms tend to be bureaucratic and rigid, and they have difficulties in adapting to culturally distant host countries (Li, Zhang, & Shi, 2019). Cross-country differences typically take the form of the Euclidean or Mahalanobis distance between home and host countries. However, given that a firm's stock of foreign market knowledge expands when it grows into different foreign locations, the concept of cross-country distance can be dynamic and firm-specific. Zhou and Guillén (2015) show that a firm's foreign location portfolio, or "home base," can better predict its foreign market entry than its home country.

Early FDI theories posit that the liability of foreignness might be alleviated if MNEs possess monopolistic advantages (Dunning, 1980; Hymer, 1976). Empirical evidence has corroborated that a firm's technological capabilities reduce the negative impact of cross-country distance on the exit of its subsidiary (Kang et al., 2017). Yet, Xu and Shenkar (2002) propose that MNEs with strong firm-specific, routine-based, competitive advantages might be more vulnerable to normative institutional distances, because such firms tend to impose their own institutional norms and rules on foreign subsidiaries, and, thus, they are likely to find it costly to do so in host countries that are normatively distant.

Given that cross-country differences create a firm's knowledge gap, host-country experience should help to reduce the gap and the negative impact of cross-country differences (Johanson & Vahlne, 1977, 1990). Indeed, cross-country differences are more strongly linked to the exits of the subsidiaries of MNEs that do not have experience in the host countries (Berry et al., 2010). However, research shows that the moderating effects of host-country experiences might be complex. Zeng, Shenkar, Lee, and Song (2013a) report that, at low levels, host-culture experience increases the mortality of subsidiaries in the host country until the MNEs have made four or more investments in the host culture. Moreover, Zeng, Shenkar, Song, and Lee (2013b) report similar empirical results for the growth of firms with limited (general) international experience in culturally dissimilar countries. Thus, it is likely that low levels of experience increase the propensity of the firms to make erroneous inferences from their experience.

In general, cross-country differences are viewed as a source of complexity and additional costs, but these differences can provide MNEs with arbitrage opportunities (Ghemawat, 2007; Nachum & Song, 2011), and empirical evidence corroborates this view. For example, Tsang and Yip (2007) find that the exit rates of subsidiaries are lower in both economically less-developed countries and more developed countries (as opposed to moderately developed countries), because such variance provides opportunities for MNEs to explore or exploit the economic differences. Arregle, Miller, Hitt, and Beamish (2016) show that a moderate level of institutional diversity within a region enables firms to arbitrage institutional differences across countries within the region, but institutional diversity at high levels can create managerial and organizational problems for MNEs. In addition, cross-country differences can provide learning opportunities for the MNE as a whole. Two meta-analyses find that, even though cultural distance influences an MNE's entry and exit in a host country, it does not

diminish its overall performance and the extent of its internationalization as a whole (Beugelsdijk, Kostova, Kunst, Spadafora, & van Essen, 2018; Tihanyi, Griffith, & Russell, 2005). Such empirical findings suggest that operating in culturally different countries might provide potential learning benefits for the entire MNE. Indeed, Zeng et al. (2013a) report that prior experience in dissimilar cultures improved the ability of the firm to generalize and apply its learning to a distant culture, resulting in reduced mortality of its subsidiaries.

Risk and uncertainty in host countries. Risk and uncertainty make it difficult for firms to assess the economic value of their investments in the host countries and hence deter entry. Once investments are made, unexpected events can change the payoff prospect of investments and increase the likelihood of divestments. Economics literature and the real options literature distinguish between endogenous and exogenous uncertainty (Bowman & Hurry, 1993; Dixit & Pindyck, 1994; Folta, 1998). Endogenous uncertainty arises from insufficient knowledge about foreign markets, and it can be mitigated by the acquisition of knowledge about the markets through direct or indirect learning (Buckley, Chen, Clegg, & Voss, 2020; Johanson & Vahlne, 1977, 1990) or by a real options approach in investment strategies, which can be applied to equity joint ventures (Kogut, 1991). Exogenous uncertainty is unaffected by the firm's actions and is typically reduced over time.

Our review finds that host-country uncertainty leads to slower growth as manifested by modest, incremental investments (Delios & Henisz, 2003a, 2003b; Rhee & Cheng, 2002) and delayed entry (Gaba, Pan, & Ungson, 2002). Research also has examined exogenous uncertainty in a variety of forms, including political hazards (Dai, Eden, & Beamish, 2013; Fernández-Méndez, García-Canal, & Guillén, 2019; Henisz & Delios, 2001; Zhong, Lin, Gao, & Yang, 2019), institutional weakness (Dhanaraj & Beamish, 2009; Getachew & Beamish, 2017; Sartor & Beamish, 2020), the fluctuation of exchange rates and labor costs (Fisch & Zschoche, 2012; Song, 2014, 2015), economic crises (Belderbos & Zou, 2009; Chung, Lee, Beamish, & Isobe, 2010; Chung, Lee, & Lee, 2013), and discontinuous shocks, such as war, terrorist attacks, natural disasters, and technological shutdowns (Dai, Eden, & Beamish, 2017; Oetzel & Oh, 2014; Pek, Oh, & Rivera, 2018). These forms of uncertainty are found to deter investments or to lead to an exit from the host country, but the overall effect of uncertainty is more prominent when the macroeconomic environmental change in the host country is highly correlated with other countries in which the MNE has operations (Belderbos & Zou, 2009). In addition, some forms of

exogenous uncertainty have greater impacts than other forms. For example, Oh and Oetzel (2011) find that MNEs react more to technology disasters and terrorist attacks (via divestments) than they do to natural disasters. This outcome likely occurs because the impacts of the former types of disasters are more amplified socially.

This line of research identifies a number of characteristics and strategies of firms that act as moderators to alleviate the negative impact of risk/uncertainty on the growth of MNEs. These characteristics and strategies of firms can be classified broadly into five categories. First, firms with *superior resources*, such as technological capabilities and organizational slack, are less sensitive to the uncertainties associated with the host countries (Pek et al., 2018; Rhee & Cheng, 2002). Firms with a broad scope of products and services have a greater likelihood of providing the right product and service to a host country when facing (endogenous) uncertainty associated with being earlier movers in the country (Gaba et al., 2002). MNEs that have greater ownership in their subsidiaries can implement corporate systems that prevent their subsidiaries from being entangled in corruption in host countries (Sartor & Beamish, 2020). Second, *managerial networking* facilitates information exchange and enables access to external resources and supports. For example, Dai et al. (2013) finds that locating in country-of-origin agglomeration enables MNEs to undertake joint actions, such as lobbying to reduce political hazards in host countries. Chen, Li, and Fan (2018) propose that home and host political connections enable firms to grow in host countries with different institutional environments by providing them with resource support and legitimacy. Albino-Pimentel, Dussauge, and Shaver (2018) find that firms with home political connections have more choices of locations in foreign markets because they are more able to deal with government authorities in politically challenging environments. Third, *direct learning* helps to develop the skill repertoire that firms can use to manage risks. For example, MNEs with experience in dealing with political hazards and certain types of discontinuous risks are found to be less sensitive to such risks (Dai et al., 2017; Delios & Henisz, 2003b; Oetzel & Oh, 2014). The experience of EMNEs in dealing with weak institutional environments at home cultivates their capability in overcoming (or even leveraging) institutional weaknesses in other emerging and least developed economies (Cuervo-Cazurra & Genc, 2008; Luiz, Stringfellow, & Jeffhas, 2017). Experiences may have to be specific to be useful in addressing exogenous uncertainty because general inter-national operating experience does not reduce the negative impact of exogenous uncertainty in a

particular host country (Buckley et al., 2000). That said, international experience does enable firms to better discern and react to uncertainty by delaying entry decisions (Dowell & Killaly, 2009). Fourth, firms with *operating flexibility* can escape unfavorable host-country conditions by shifting their operations to other countries (Kogut & Kulatilaka, 1994). The choice of the location of a foreign market can be made in a way to diversify a firm's portfolios of locational and institutional risks (Luiz et al., 2017). In general, firms with multinational plant networks are better able to cope with changes in labor costs due to their flexibility in relocating product operations (Belderbos & Zou, 2007). In addition, when facing fluctuations in macroeconomic conditions in host countries, firms are less likely to divest their subsidiaries that engage in greater intra-firm transactions (Chung et al., 2013; Song, 2015; Song & Lee, 2017). This is especially the case for subsidiaries that are located in weak institutional environments in which intra-firm exchanges can attenuate transaction costs (Gaur, Pattnaik, Singh, & Lee, 2019). Fifth, varieties of *non-market strategies* are shown to enable MNEs to solicit cooperation from the stakeholders in the host countries, thereby reducing the negative impact of exogenous uncertainty (Heidenreich, Mohr, & Puck, 2015). Pek et al. (2018) show that firms' philanthropic capabilities enhanced their sociological legitimacy and enabled them to secure resources from stakeholders, such as governments or customers, to deal with industry disasters in the host countries. Ma and Delios (2010) suggest that the establishment of host-country HQs can be a political strategy for MNEs to reduce intervention from host governments in emerging markets. We also remind that some of the firm's characteristics that moderate the link between its growth and external conditions (e.g., firm-level resources, direct learning, and managerial networking) have direct effects on the growth of the MNE as facilitators, as discussed earlier in the current review.

Other host and home country conditions. Host-country cultural dimensions, such as uncertainty avoidance and collectivism, can challenge the viability of the online business model and inhibit international growth (Rothaermel, Kotha, & Steensma, 2006). Also, other home conditions can impede international growth. Narula (2015) suggests that the poor state of knowledge of the infrastructure in India inhibits the development of innovation by small Indian firms and hampers their growth in international markets. Soule, Swaminathan, and Tihanyi (2014) report that social disapproval in the home country (e.g., the anti-Burma protests) reduces the

inclination of MNEs to invest in a controversial host country (or encouraged divestment from this market).

Financial constraints. Research has shown that financial constraints affect both international growth and divestment decisions. Specifically, MNEs that do not have sufficient financial resources (indicated by low profitability, inadequate free cash flow, or too much debt) struggle to support international growth initiatives (Dagnino et al., 2019; Powell, 2014). Yet, evidence also shows that firms can strategically utilize company overvaluation to reduce the cost of external financing and thus to relieve their financial constraints (Yuan, Qian, & Pangarkar, 2016). Unsatisfactory financial performance might increase the propensity of a firm searching for new markets (Shapira, 2017), but performance that is far below aspiration has a strong influence on an MNE's decision to withhold foreign market entry (Lim, 2019) or divest a foreign operation unless the poorly performing operation (e.g., subsidiary) has innovation capabilities (Tan & Sousa, 2019), or is in a business domain related to that of the parents (Chang, 1996; Tan & Sousa, 2018). Divestment becomes less likely in that case, especially when the subsidiary resides in a high-growth host country (Berry, 2013). A strong organizational image and identity also can create hysteresis that delays the divestment decision (Wan, Chen, & Yiu, 2015).

Managerial constraints. Research on the growth of MNEs has provided corroborating empirical evidence that MNEs encounter managerial constraints when the Penrose effect occurs; that is, when a firm expands its operations more rapidly than its managers can administer the growth process effectively, the firm's growth rate is diminished in subsequent periods of time. Several empirical studies, some of which are explicitly based on Penrose's growth theory, corroborate the presence of the Penrose effect (Gao & Pan, 2010; Hutzschenreuter et al., 2011). For example, Hashai (2011) finds that the geographical scope of expansion of international new ventures is associated negatively with their expansion in subsequent periods. Johanson and Kalinic's (2016) case-based research indicates that the growth process undergoes periods of acceleration and deceleration because it takes time and resources for firms to integrate and transform their experience into useful knowledge and routines. However, firms might be able to alleviate managerial constraints with organizational design and strategies. For example, Mayer, Stadler, and Hautz (2015) show that firms with substantial diversification experience can leverage the organizational and managerial mechanisms they developed in prior growth initiatives to achieve subsequent rapid expansion in both diversified product areas and international

markets. As another relief to the Penrose effect, Tan (2009) finds that growth in the form of acquisition attenuates managerial constraint and enables faster growth than organic (greenfield) growth when the HQ and subsidiaries are weakly interdependent, such as in the case of multi-domestic industries or the codified transfer of knowledge. In addition, firm- and industry-level characteristics that facilitate managerial learning can attenuate the constraints on growth. For example, international experience enables firms to rapidly acquire and assimilate host-country knowledge and strengthen managerial ability to coordinate diverse foreign operations. As a result, firms with international experience are less vulnerable to the negative impact of internationalization at a faster rate (Hashai, 2011; Mohr et al., 2018). A stable industrial environment also makes it easier for managers to learn from their international experience, which enables their firms to achieve growth in subsequent periods (Tan & Mahoney, 2007).

Some of the studies that examine the role of managerial constraints on internationalization focus on family firms. These studies identify the key constraints that hamper international growth, including over-reliance on family management, the pursuit of non-economic objectives, and differential treatment of family assets and non-family assets (Alessandri, Cerrato, & Eddleston, 2018; Arregle, Duran, Hitt, & van Essen, 2017; De Massis, Frattini, Majocchi, & Piscitello, 2018; Kano & Verbeke, 2018; Ray, Mondal, & Ramachandran, 2018). Firms may alleviate some of these family-based constraints if they instill professionalism in the management and control (Kano & Verbeke, 2018), are managed by later generations (Fang, Kotlar, Memili, Chrisman, & De Massis, 2018), have foreign equity holding (Bhaumik, Driffield, & Pal, 2010), or are located in countries in which the political ideology is aligned with their non-economic objectives (Duran, Kostova, & van Essen, 2017). Family firms can also escape resource and managerial constraints by using a global niche business model in which an emphasis on global, standardized products and services alleviates the need for managerial efforts in addressing local responsiveness (Hennart, Majocchi, & Forlani, 2019). In addition, the unique approach that family firms use to manage knowledge helps to alleviate managerial constraints. Specifically, compared to non-family firms, family firms do better at retaining the country-specific knowledge that they learned through international expansion (Tsang, 2020). As a result, they achieve greater innovation from internationalization (Tsao & Lien, 2013).

Overall, research on the growth of MNEs provides insights concerning four key factors that constrain the

growth of MNEs, i.e., (1) cross-country differences, (2) risk and uncertainty in host countries, (3) financial constraints, and (4) managerial constraints. Cross-country differences and uncertainties are shown to limit the growth of MNEs in host countries. However, from Penrose's lens, these (external) constraints do not have long-lasting impacts on the growth of the MNEs because there will always be profitable growth opportunities outside the host countries. These seemingly exogenous barriers to growth could be endogenized and overcome by internal factors, such as learning and entrepreneurial capabilities that can be influenced by the administrative and organizational design of MNEs. Indeed, the research on the growth of MNEs shows that constraints, such as cross-cultural differences, do not limit the growth of MNEs as a whole because managers can turn these differences into learning opportunities. This research also shows that firm-level resources and strategies (as managerial choices) can mitigate the negative impacts of external constraints.

Trajectory of MNE Growth

Several studies have described and explained the growth trajectory of multinational firms. This line of research, which often is based on internationalization process theory (Johanson & Vahlne, 1977), suggests that growth involves an incremental learning and capability-building process. Initially, firms tend to enter their core businesses in a foreign market and then expand into non-core businesses (Chang, 1995; Chang & Rosenzweig, 1998; Goerzen & Makino, 2007). As an MNE gradually increases its portfolio of subsidiaries, it accumulates knowledge that enables a specific international growth pattern (Hutzschenreuter & Matt, 2017). Therefore, a firm's initial sub-national entry location in a foreign market and its overall location portfolio influence its subsequent growth rate and choices of locations (Hutzschenreuter & Harhoff, 2020; Nachum & Song, 2011). MNEs that make path-breaking moves might experience both upside potential and downside risk, with the latter potentially resulting in an undesired exit (Santangelo & Meyer, 2017).

Viewing the growth of MNEs as a learning and capability building process implies that MNEs have different challenges and thus require different supporting management activities over different stages of their growth (Birkinshaw, Ambos, & Bouquet, 2017; Hendry, 1996; Li, Li, & Dalgic, 2004). For example, Fisch (2008) finds that MNEs are more sensitive to the economic conditions of a host country during their first year in the market than they are in later years. Likewise, Chen (2003) report that network resources are particularly

important in initial periods of international growth for Taiwanese electronic firms, which explains why these firms often start at locations close to the home base where support can be drawn from domestic networks. Over time, these firms build up their own foreign support networks and move to locations that are more distant. Thus, the evolving capabilities of MNEs influence their international growth patterns.

Studies also have suggested that the growth of MNEs might be a non-linear process. Sarkar, Cavusgil, and Aulakh (1999) report a discontinuous pattern in the internationalization of telecom carriers. Their study shows that telecom firms initially made large commitments to foreign markets, but they slowed down before they embarked on another series of large expansions. Pedersen and Shaver (2011) also show a discontinuous process of international expansion for Danish firms. These firms initially took a long time to build a management infrastructure to support their first international investments, but subsequently they made investments in shorter periods of time. Maitland, Rose, and Nicholas (2005) suggest that clustering the timing of investments enables parent managers to reduce the administrative disruption that might be caused by establishing a new foreign subsidiary. Thus, various studies indicate the presence of both the Penrose effect and the learning curve effect in international growth.

In addition, a firm's growth in foreign markets is shown to be interdependent with other aspects of its strategy, such as product diversification. In particular, the relationship between international growth and growth via product diversification generally is substitutive (Bowen & Sleuwaegen, 2017; Kumar, 2009; Kumar, Gaur, & Pattnaik, 2012) with the exception of firms that have significant prior experience with diversification (Mayer et al., 2015). These interdependencies also influence the exit decisions of MNEs. For example, foreign subsidiaries that are not in the parent firm's core businesses tend to have a higher exit rate (Li, 1995). That said, in host countries with weak institutional environments, within-country product diversification could reduce the negative impact of market imperfections, thereby enhancing the growth of subsidiaries (Delios, Xu, & Beamish, 2008).

Overall, research that draws on Penrose, and research that does not, consider the growth of firms to be a learning or capability-building process, but these studies differ on the objects of managerial learning. Research that builds on Penrose's growth theory emphasizes managerial learning about the firm's resource and competency bases,

while other studies emphasize managerial learning about foreign markets. Yet, the overall emphasis of the research on learning implies that the growth of a (multinational) firm essentially is based on the “cumulative growth of collective knowledge” (Penrose, 1995: xiii).

Comparison between MNE Growth Research that Draws on Penrose’s Theory and Research that Does Not

Table 3 summarizes the comparison between the research on the growth of MNEs that draws on Penrose and the research that does not. We highlight a few commonalities and differences here. First, both types of research share a similar underpinning conceptualization by considering a firm as an administrative organization that relies on managers to oversee the use of resources. However, in Penrose’s theory, ‘*what a firm is*’ explains ‘*how it grows*.’ The capacities of managers, who are characterized as indispensable in firms, constitute both facilitators and constraints of the growth of a firm. The availability of managers that have experiential knowledge of the firm’s resources and capabilities is what enables growth because (1) this knowledge allows *identification* of the markets in which the firm’s unique resources and advantages can be best leveraged, and (2) it enables managers to effectively *coordinate* the growth process by making critical decisions on the utilization, deployment, combining, and discarding of resources, as well as the creation of modified systems and strategies to integrate with markets in foreign territories. In comparison, MNE growth research that does not build on Penrose tends to treat ‘how an MNE grows’ and ‘how an MNE functions as an administrative unit’ in different research streams. This separation results in an incomplete understanding of the intricate process by which an MNE grows and achieves coordination. When the key drivers of international growth, such as underutilized, firm-specific resources, managers, experiential learning, and external conditions, are discussed and examined separately, the theory fails to capture the ultimate insight, which is the interactions and interlinkages among these drivers that make up the actual story of the growth of MNEs.

Second, both types of research identify a similar set of internal growth facilitators that include underutilized resources, managers, and learning. However, they also differ in terms of the emphasis on the types of managerial qualities and the objects of learning. Research that draws on Penrose’s theory focuses on managerial knowledge about the firm and the resources, so it highlights the importance of managers’ *firm-specific learning* as a result of resource-manager interactions during growth and experimentation. In comparison, research that does not draw on Penrose pays limited attention to firm-specific managerial experience and learning. Instead, it focuses primarily on

managers' foreign market experience and incentives for achieving international growth. In the section on the direction of future research, we elaborate on the potential merits of incorporating in research the central role of firm-specific managerial learning for the growth of MNEs.

Third, in terms of the key constraints on the growth of MNEs, the two types of research have different points of focus. Research that does not draw on Penrose emphasizes external constraints, such as cross-country differences, which mirrors the importance it places on learning about foreign market conditions as a key facilitator of growth. This research aims to identify the firm's attributes and strategies that may mitigate the negative impact of external constraints. In comparison, in Penrose's theory, the external environment is perceived subjectively and could be influenced by managerial actions. A firm's failure to address unfavorable conditions in certain host countries reflects the lack of entrepreneurial abilities of its managers (such as the lack of ingenuity and entrepreneurial imagination). From this perspective, the firm's attributes and strategies that are useful in reducing the negative impact of external conditions can be conceptualized as part of the entrepreneurial capabilities of the firm. Accordingly, we highlighted new research opportunities based on a close consideration of the endogenous factors that drive international growth, as well as endogenizing some of the seemingly exogenous growth determinants.

Fourth, in terms of the trajectory of growth, there is significant convergence in insights produced by both types of research. Each type reports the path-dependent nature of international growth (going from core to non-core and from close to distant locations), and each type suggests that path-breaking growth patterns are more likely to result in an exit. The non-linear growth pattern reported by research (i.e., fast growth followed by slower growth) is consistent with the Penrose effect. Extending this idea, research that draws on Penrose also underscores the interdependent (substitutive) relationship between product and international diversification, where there is competition for resources (especially firm-specific managerial resources). Therefore, despite focusing on different resources that drive the path-dependency of the growth trajectory (i.e., firm-specific managerial resources vs. foreign markets), both research approaches view growth as an incremental learning and capability-building process. Firms can achieve a more successful growth trajectory in the long run, if they can map and sequence their growth initiatives based on both evolving managerial capabilities and foreign market expertise as well as the interdependencies among (existing and proposed) growth initiatives.

FUTURE RESEARCH DIRECTIONS

In this section, we reflect on the review of the research on the growth of MNEs and suggest several future research opportunities. Table 4 summarizes some research inquiries from the reflection.

Concepts of firms/MNEs – what constitutes the growth of MNEs?

The growth of the MNE in its entirety.

Our review indicates that a major part of the findings on the determinants of the growth of MNEs is based on firms' entry and subsequent expansion/exit in a *single* host market. This is a critical gap because the entry and sequential expansion/exit of an MNE in one particular market explain only a fraction of the story of the growth of the MNE as a whole. We recommend theory development and empirical examination that capture the strategies and growth/performance of MNEs in their entirety (Cuervo-Cazurra, Mudambi, & Pedersen, 2018), a few of which we highlight here. First, a multinational firm's decision to expand in or exit from a particular market is not determined solely by market- and subsidiary-specific conditions, but also by the conditions in other markets where the MNE operates. For example, the decision to enter or exit from a market might be a result of the MNE's purposeful configuration of its FDI locations to reduce the uncertainty associated with fluctuations in exchange rates and market growth (Song, Makhija, & Lee, 2014). Here, a transaction-specific or market-specific focus provides only a partial understanding of the complex tradeoffs that the HQ of an MNE must consider in managing its global network of international initiatives.

Second, there are interdependencies among various international activities that involve entries into new markets, expansion, downsizing/downscoping, and exit (Vidal & Mitchell, 2018). For example, expansionary (or downsizing/downscoping) activities require coordination by managers with firm-specific and host-country knowledge, including the deployment of their relational capital with internal and external constituents. A limited supply of experienced managers (and employees) creates a difficult to escape limit to the rate of growth and adjustment of the MNEs' global business activities (as predicted by the Penrose effect). As a result, future research can examine how MNEs *manage* interdependencies (positive and negative synergies) among their activities across different geographical locations and *re-configure* their foreign operations portfolio. This

type of research involves moving away from a discrete approach that focuses on a single strategic choice at a point in time (Langley, Smallman, & Tsoukas, 2013), to one that examines the sequencing and patterns of strategic moves and responses over time (Pettus, Kor, Mahoney, & Michael, 2018).

Third, modern multinational firms often grow in both diversified product and geographical areas. Our review suggests that these two growth directions can be either substitutive or complementary in that product diversification can compete for HQ's resources with international expansion; at the same time, synergies between the two directions can yield competitive advantages that support and sustain profitable growth in various foreign markets. Future research can provide a more refined understanding of the costs and benefits of a sequential or simultaneous pursuit of these growth strategies, as well as the firm-specific and contextual contingencies that moderate their effects on growth.

The nature of firms/MNEs (Implications from the Penrosean theory)

In Penrose's growth theory, the assumption that firms are administrative organizations has direct implications for the key determinants of firm growth. That is, management runs firms, and could facilitate and constrain the rates of growth of firms (Penrose, 1995: xii). Here, the growth of a firm, including the determinants and pattern, is explained under a coherent theorizing framework. Research on MNE growth shares a similar notion of firms with Penrose and recognizes the role of managerial or administrative authority in decision-making within multinational firms. However, with a few exceptions (e.g., Buckley & Casson, 2007; Pitelis, 2002; Teece, 2014), research has not systematically incorporated the nature of MNEs into a theory of growth for MNEs. There is an opportunity to build an internally coherent theory of the growth of MNEs, that is, a theory that connects 'what an MNE is' to 'what determines an MNE's growth.' Teece (2014) proposes that to build a general theory of MNEs, scholars should pay more attention to entrepreneurial management. This dynamic capabilities approach sees MNE activities as "driven by the opportunity to leverage capabilities and create and capture value from innovation on a global scale" (Teece, 2014: 22), and thus managers' ability to sense, shape, and exploit the opportunities is crucial to the long-term competitiveness of MNEs in changing global environments.

From the Penrosean perspective, future studies can further explore the role of managerial authority and coordination within MNEs. Research on the growth of MNEs has examined the role of managers' foreign

experience and relational capital in facilitating growth, but these two research areas are worthy of further investigation. First, research can pay more attention to firm-specific managerial learning. Firm-specific knowledge is important for MNEs to achieve coordination and synergies among geographically dispersed and goal-disparate organizations (Ghoshal & Bartlett, 1990). Some of the early IB research has illustrated examples of firm-specific managerial knowledge within MNEs and its effects. For example, a shared understanding of the MNE's values (Nohria & Ghoshal, 1994) and objectives (Kuemmerle, 1997), and the knowledge about individual subsidiaries (Birkinshaw & Morrison, 1995) improve coordination within the MNE. Managers' relationships with other subsidiary managers within the multinational network facilitate knowledge sharing and contribute to the collective gain of the MNEs (Kostova & Roth, 2003). Recent studies examine the functions of HQ and regional HQ in coordinating subsidiaries (Belderbos, Du, & Goerzen, 2017; Birkinshaw et al., 2017; Buckley, 2009). Building on this early and recent work, we ask two research questions: (1) What constitutes HQ-level capabilities to achieve effective control and coordination within a multinational network? (2) How do firm-specific knowledge and social capital relate to these capabilities? We see value in future research that further examines the role and impact of firm-specific managerial knowledge (which might be embedded in regional or general HQs and subsidiaries), and how such managerial knowledge can be cultivated across an MNE's global network.

Second, managerial capabilities must be joined with incentives to achieve MNE growth. Research on MNE growth has captured the importance of managers' foreign experience, but underexplored the *adverse* role of management in shaping the growth of MNEs. The boundaries of managerial authority in organizing resources constitute a major reason why contractual or hybrid forms of resource exchange sometimes are chosen over hierarchy (Hennart, 1993). However, MNE growth research has paid limited attention to how managerial opportunism can constrain the growth of MNEs (Hoenen & Kostova, 2015). Managerial opportunism in MNEs can occur at both the subsidiary- and HQ-levels. Subsidiary-level managerial opportunism can increase with the pressure for local responsiveness, which motivates subsidiaries to accumulate host-country knowledge and develop their own competences (Andersson, Forsgren, & Holm, 2007). As a result, subsidiaries gain increasing bargaining power that enables them to seek economic rents within the multinational firms (Mudambi & Navarra, 2004) and to use dysfunctional conflict and negotiation tactics against the HQ (Schotter & Beamish, 2011). The HQ's lack of host-country knowledge limits

its ability to monitor and control. For example, Holm, Decreton, Nell, and Klopff (2017) report that subsidiary managers tend to postpone their response to HQ's requests when they are incongruent with the host-country environment. Thus, effective control and coordination require HQ's managers to gain access to subsidiary-specific knowledge. In terms of the knowledge required for subsidiary-level managers, even though Penrose (1959) did not focus on managerial opportunism, her theory informs us about the value of firm (HQ)-specific knowledge for subsidiary managers. Investing in the human capital of subsidiary managers and promoting their understanding of the HQ's strategic framework not only help to mitigate subsidiary-level managerial opportunism, but also result in superior strategy and system design for growth. We see value in research on how the growth of MNEs is affected by subsidiary-level managerial opportunism.

Further, HQ-level managerial opportunism is an agency problem in that managers act in their own interests, such as pursuing international growth with empire-building motives. Extensive research on the relationship between multinationality and performance suggests that MNEs experience financial loss when their foreign presence exceeds a certain threshold. However, MNEs typically operate in global industries in which size can yield scale advantages and legitimacy in the long run, especially for firms in weak institutional environments. Therefore, the long-term performance consequences of empire-building driven growth remain an empirical question.

Facilitators of MNE growth

In this review, we drew on research on foreign market entry and subsidiary expansion to identify the facilitators of MNE growth. However, do facilitators of initial entry into a host market also enhance MNE's subsequent growth in the particular market? It is reasonable to expect that firm-specific advantages such as R&D capabilities promote both new market entry and subsidiary sequential growth, as knowledge-based resources have long-lasting positive impacts on international growth (Tseng et al., 2007). However, for other facilitators, the answer might not be as clear. For example, research indicates that ethnic ties might help to initiate a firm's entry into a new market, but it is unclear whether such ties can guarantee long-term success in the market.

We also see value in research on the *long-term growth* of MNEs, including divestments and exits, as potential corrections to their evolving growth strategy. This research can investigate the environmental and organizational factors that promote post-entry growth in foreign markets. In this inquiry, research might benefit

from the dynamic capabilities approach (Petricevic & Teece, 2019; Teece, 2014), which highlights the importance of responsiveness to external changes. While changes frequently occur in product markets, for MNEs, external changes also arise from fluctuations in the host country's (geographical) conditions and unexpected shocks from sociopolitical and institutional environments. Our review indicates that some firms effectively develop capabilities and adjust their location and equity portfolios to respond to external changes (Vahlne & Ivarsson, 2014). Future research can examine what constitutes an MNE's dynamic capability to deal with host-country uncertainties and sustain growth in ever-changing foreign markets.

As part of MNEs' dynamic capabilities, there is also a need for more refined research on dynamic *managerial* qualities (Kor & Mesko, 2013) that facilitate the growth of MNEs. We note two research opportunities in particular. First, international diversification is an important solution to address stagnant growth in particular host markets. This type of growth often requires the presence of entrepreneurial competence in the HQ and subsidiaries (Birkinshaw, 2000; Teece, 2014), which comes in the form of ambition and ability to *initiate* proposals for exploring new geographical areas (Penrose, 1959: 183). Penrose further suggests that entrepreneurial competence is a "necessary (though not sufficient) condition for continued growth," (1959: 8) because identifying the right set of opportunities, and implementing a growth plan, also requires managerial competence. Administrative competence involves effective coordination that reflects an intimate understanding of the firm's capabilities as well as thorough knowledge of host-country conditions. We see value in research that identifies, measures, and examines entrepreneurial and administrative competencies, including their synergistic effects on MNE growth. Such research can investigate the roles of both firm-specific, and 'cosmopolitan and diverse' experiences in shaping the entrepreneurial and administrative (execution) capabilities of managers. This research can also capture practices, processes, and challenges in recruiting and developing such dynamic managerial capabilities in MNEs (Teece, 2014).

As an example, some coordination and cooperation challenges attributed to subsidiary management stem from a lack of understanding by subsidiary managers of corporate strategies and practices, and from HQ managers' insufficient knowledge of host-country conditions. Here, a co-creation or team entrepreneurship model (Foss, Klein, Kor, & Mahoney, 2008) might be preferable when the MNE needs to adapt to host-country conditions. This type of

collaboration requires shared, experiential (tacit) knowledge of both corporate and subsidiary domains, emphasizing the importance of visits, interactions, and training for the launch of growth initiatives. It might also involve HQ managers developing a versatile portfolio of experiences for a pluralistic understanding of different markets and gaining cross-cultural skills. Managerial skills in the forms of empathy, effective communication, and relationship-building can be relevant in promoting mutual trust and collaboration. An appreciation of different expectations about teamwork and collaboration (horizontally and vertically) is important, as individuals in different nations and organizational contexts are likely to hold substantially different interpretations (Gibson & Zellmer-Bruhn, 2001).

Relatedly, our review finds that the majority of research focused on HQ-level managers, and there is limited research on the influence of subsidiary-level managers on the growth of the MNEs. This is a critical gap because subsidiary-level managers play a key role in host-country learning. Their capabilities and incentives influence the development of host-country knowledge and its transfer to other units (including HQ), thereby contributing to the growth of the MNEs. Future research might draw on the extensive research on expatriates and enhance the understanding of MNE growth.

In addition, our review finds that while Penrose-inspired research focused on direct learning, other research emphasized the importance of indirect learning, i.e., observing or interacting with other firms that have experience in the host country. Direct and indirect learning can be complementary. Relying exclusively on direct learning can put a limit on how much managers and organizations can “experience.” Research indicates that established routines and internally institutionalized norms can make it harder for firms to adjust to cross-country differences when they grow. Indirect learning from business partners, subsidiaries, and outside board members/advisors can help to weaken the inertia tendencies and expand managerial vision and the growth opportunity set for the firm. The importance of indirect (often externally-sourced) learning underscores the importance of developing capabilities and systems for the firm to effectively learn from partnerships, subsidiaries, and other relationships and become good at disseminating knowledge across the MNE network. However, these new insights still need to be combined with firm-specific knowledge on how to leverage and mobilize the firm’s unique resources. Therefore, the firm also needs to develop ways to *integrate* firm-specific knowledge and indirectly acquired knowledge to produce the most synergistic growth outcomes. While indirect learning expands the learning repertoire of the firm, applying *others’*

experience without infusing it with the experiential knowledge of how the firm's unique resources can become a blindfold approach to international growth. Future research can explore the relationships between direct host-country experience, indirect experience, and firm-specific experience and their impacts on MNE growth.

Constraints on MNE growth

Our review reveals that many studies that discuss the constraints on MNE growth also examine the conditions that alleviate these constraints. Some external constraints on MNE growth (such as cross-country differences and risk/uncertainty) can be attributed to insufficient host-country knowledge and insufficient entrepreneurial capabilities on the part of the MNEs. Thus, the binding constraint of MNE growth might originate from the (lack of) organizational design and mechanisms for the acquisition and assimilation of host-country knowledge, as well as entrepreneurial initiatives. Given that such design and mechanism were discussed in other research streams such as organizational learning, knowledge management, and subsidiary initiatives, incorporating these research streams might advance the research on MNE growth.

Our review corroborates the prevalence of managerial constraints on MNE growth, which arise from the need for close administrative coordination in the growth process. In this situation, can MNEs use autonomous organizational structures to reduce the need for coordination and thus escape managerial constraints? Given current intensified pressure for local responsiveness, it might be difficult or even unnecessary to impose managerial systems that originate from the HQ on foreign subsidiaries (Doz & Prahalad, 1981; Meyer, Mudambi, & Narula, 2011). This issue might be rooted in the central concern of internalization theory of FDI regarding the tradeoff between control and incentives (Hennart, 1993; Rugman & Verbeke, 2003) and in the classic debate of a tradeoff between global integration and local responsiveness (Roth & Morrison, 1990). Wang, Luo, Lu, Sun, and Maksimov (2014) report that Chinese multinational firms give autonomy to their foreign subsidiaries to overcome their insufficiencies in host-country experience and capabilities. Zellmer-Bruhn and Gibson (2006) show that a departure from globally integrated models towards subsidiary-driven local responsiveness increases learning and performance in team settings. However, would delegating key value-creation functions to subsidiaries result in loss of control in the MNE's firm-level learning of knowledge bases that are required to propel long-term growth? Would it propel agency problems and make the MNE captive to subsidiary managers with specialized knowledge? Alternatively, would an

autonomous structure help foster subsidiary capabilities and create spillover-learning effects for the MNE? When do these possibilities become prevalent? Can a co-creation or team-entrepreneurship model be an alternative where some subsidiary autonomy is combined with the close but collaborative engagement of MNE managers, allowing a two-way information flow and synergistic problem solving? These theoretical and empirical questions are good candidates for the next generation of research on MNE growth.

Relatedly, potential agency problems in HQ-subsidary relationships highlight a more significant underpinning issue about the *growth boundaries* of MNEs. Penrose (1959) embraced a resource-driven growth strategy in which the firm's bundle of resources and capabilities serve as the key driver of growth, and this approach preserves the company's strategic coherence (Teece et al., 1994). The Penrosean theory excludes companies that are led by empire-building ambitions that pay little attention to the path-dependent nature of organizational learning and firm-specific competency development. Penrose's theory posits that *new growth* occurs because the firm intends to join existing capabilities with new ones to compete in new domains. However, in the past few decades, the emergence of new (lucrative) markets around the globe has offered time-based competition and opportunities that require risky early moves (market entry) and strategic investments that involve steep organizational learning and limited leveraging of existing competencies. Likewise, companies have been faced with demands from their customers and business partners to expand into a range of foreign markets; failing to do so has meant a loss of core customers and business. Consequently, and even in the absence of empire-building ambitions, the boundaries of Penrose's 'coherent' corporation have been stretched substantially (Kor, Mahoney, & Tan, 2020). In some cases, these bold growth initiatives have enabled MNEs to develop dynamic capabilities and successfully operate in multiple markets. In other cases, they have resulted in increased agency problems in HQ-subsidary relationships, loss of HQ power and control, tarnished reputations, and the loss of competitive positions, when opportunity-driven (or imposed) market entry and investments were followed by painful exits in subsequent years. Therefore, today's MNEs face a challenge of losing strategic coherence as the strategies, business models, and dominant logics adopted across markets have proliferated (Farjoun, 2007). These developments in part explain the reduced overall FDI rates by MNEs in the past decade and the MNEs' search for a revised growth strategy that may bring more sustainable advantages.

It might be that MNEs are starting to pivot back to a more Penrosean growth strategy based on strategic coherence. Future research can further explore how MNE growth and broader governance systems address the issue of eroding strategic coherence and its consequences.

Moderators of MNE growth

Our review identifies a number of studies that uncover the presence of interaction effects among managerial, firm-level, and environmental characteristics. A systematic examination of these interactions may involve multilevel models that might be data-intensive (Peterson, Arregle, & Martin, 2012). We encourage scholars to collect the data and help improve our understanding of the complex interplay among individual-, firm-, and environment-level factors. A potential direction for modeling such interaction effects is to consider how managerial characteristics, such as their entrepreneurial proclivity, experiences, and incentives, join with firm-level resources to impact international growth. Penrose (1959) suggests that effective utilization of firm-level resources depends on managers' entrepreneurial vision and firm-specific knowledge of the unique resources within the firm. Firm-level experience also yields little learning without managerial intention to learn (Hutzschenreuter, Pedersen, & Volberda, 2007), which in turn can be influenced by external environments and firm-level corporate governance mechanisms. Future research can explore the dynamic interactions among managerial, firm-level, and environmental characteristics and their effects on MNE growth.

Trajectory of MNE growth

Earlier, we discussed the importance of examining the growth of MNEs in its entirety, such as considering the MNE's entire network of international activities to explain and predict a particular entry/expansion decision. There are interdependencies among different growth decisions in which sequential (multi-step) actions create a pattern of MNE growth. Some of the steps include corrections to overall growth strategy as the MNE learns from its growth efforts and renegotiates its competitive position under changing market conditions. The plurality of growth moves underscores the importance of *contracting* (de-growth) decisions such as divestment/exit and downsizing/downscoping as much as the *expansionary* moves, even though much MNE growth research has focused on the latter. Contracting might release resources for subsequent growth and contribute to learning, and the interplay between growth and contracting patterns is important for discovering what a

dynamic growth capability might constitute for MNEs.

MNE growth research and Penrose's theory emphasize the importance of learning, which serves as an engine for growth; in a feedback loop, growth yields new learning and knowledge accumulation. Accordingly, innovation in MNEs is a key source of growth, which should be incorporated into the theory of the growth of MNEs (Buckley & Casson, 2007). That said, innovation and learning activities might compete with international and product diversification for firm-level resources, such as managerial and employee resources. Despite synergies, there might be tradeoffs in pursuing diversification, internationalization, and innovation activities. How these positive and negative synergies emerge, enact, and drive organizational outcomes awaits research attention. As an example, Kor et al. (2016) provide a formal Penrosean model of the interplay and tradeoffs among key activities of production, training, and innovation where the availability of experienced managerial resources serves as a bottleneck.

Finally, our review also suggests a need for additional research that traces the evolution of MNEs over multiple stages of growth as early research was based mostly on mature companies. The recent rise of international new ventures and MNEs in emerging economies provides opportunities to observe and examine a new generation of "growing" multinationals. As MNEs are likely to encounter unique internal and external challenges in different stages of firm development, new research can generate insights into the process and management of growth of "younger" MNEs.

MANAGERIAL AND SOCIAL IMPLICATIONS

Based on our review of international business research, we identify important implications for policymakers and business practitioners. In particular, our review of the relevant research suggests that managers play a key role in planning and executing the international expansion of MNEs, and that their experiential learning has direct and indirect positive impacts on the growth of MNEs. Experiential learning directly facilitates MNE growth by enabling development of foreign market knowledge and international management skills. It also indirectly enhances growth by mitigating external constraints such as political risk, indicating the importance of designing an administrative structure and processes that encourages *managerial learning and development*.

Specifically, we highlight the need for international managers who have both breadth and depth in

experience. Some *subsidiary managers* might spend their careers specializing in a country or a regional domain, but they might benefit from a broader understanding of MNEs' growth strategy that includes a range of markets. Regular immersion experiences for these managers (e.g., via retreats and HQ visits) can promote development of their firm-specific human capital, cultivate synergies across subsidiaries or regions, and socialize managers with MNE's evolving values, priorities, and directions under new leadership and market conditions.

Likewise, developing managers with a variety of experiential opportunities creates a stronger pipeline of executives who can take on important roles at the HQ levels in MNEs (Carpenter, Sanders, & Gregersen, 2001). *Headquarters managers* involved in shaping MNEs' growth decisions should have prior exposure to challenges in multiple markets. Multi-country exposure can sharpen managers' ability to detect and evaluate new opportunities (entrepreneurial skills) and oversee new initiatives (execution skills). HQ managers who lose touch with the realities of various global markets have diminished credibility (and influence) when they interact with subsidiary managers who possess host-country expertise. As the gap between home and host-country conditions widens, a new synthesis of MNEs' established strategy and host-country expertise is required. This new synthesis requires a shared understanding of both MNE strategy and host-country conditions.

Finally, due to space limitation, this review does not cover research on the impact of MNEs on host economies and societies, but we acknowledge that MNEs have a substantial influence on world economies and the well-being of people. These impacts suggest the need for an ongoing self-audit of their 'footprints,' i.e., their intended and unintended impacts on businesses, communities, and people's livelihood and cultural experiences of host countries. Given their global reach and resource and capability foundation, MNEs have the potential to create *positive* externalities such as knowledge spillovers and employment opportunities. Yet, some of the *negative* cascading effects of MNE growth, such as the effects of eliminating traditional products or methods, are not always easy to foresee, and some effects take years to unfold or to be understood. Due to the magnitude of their impact, MNEs bear a responsibility to take a more sophisticated approach to decision making, including their corporate-level (e.g., market entry-exit) and product-level decisions (e.g., sourcing and pricing). We are not convinced that the sophistication of the MNEs decision and control systems is at par with the complexity of the product and geographical scope firms embrace. This gap between the two is significant

and concerning. One might argue that externalities produced by MNEs may ultimately even threaten their own existence. Scholars can play a vital role here by investigating and critically discussing the ongoing growth and evolution of MNEs with a close eye on their broad range of consequences.

CONCLUSION

Research on foreign market entry, sequential expansion, and divestment of multinational firms provides substantial insights into the growth of multinational firms. In this review, we have drawn on extensive but scattered research to identify major facilitators and constraints for the growth of the MNEs, and reviewed these findings through the lens of Penrosean growth theory. We recommended several future research directions, and, in particular, encouraged scholars to examine the growth and strategies of an MNE *in its entirety* and to consider further the role of management in explaining both the existence and the growth of the multinational firm. By so doing, we hope to improve both the scientific rigor and practical relevance of our understanding of the growth of a multinational firm as a whole.

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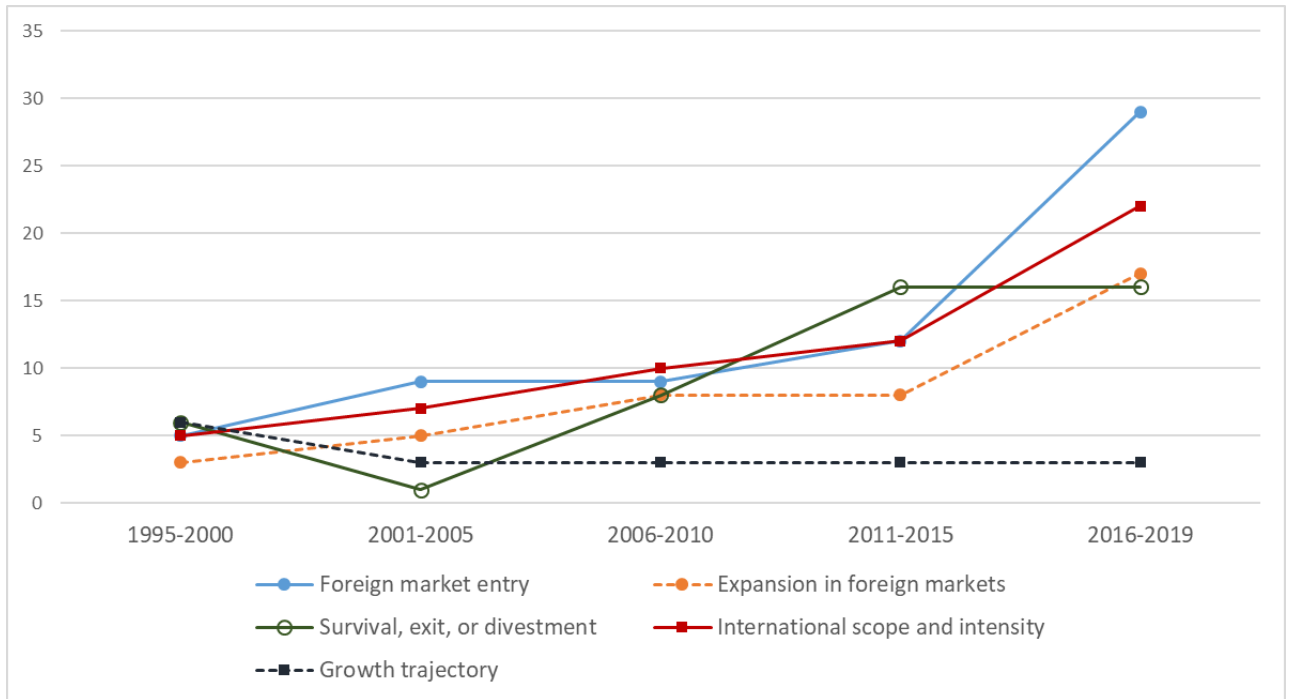
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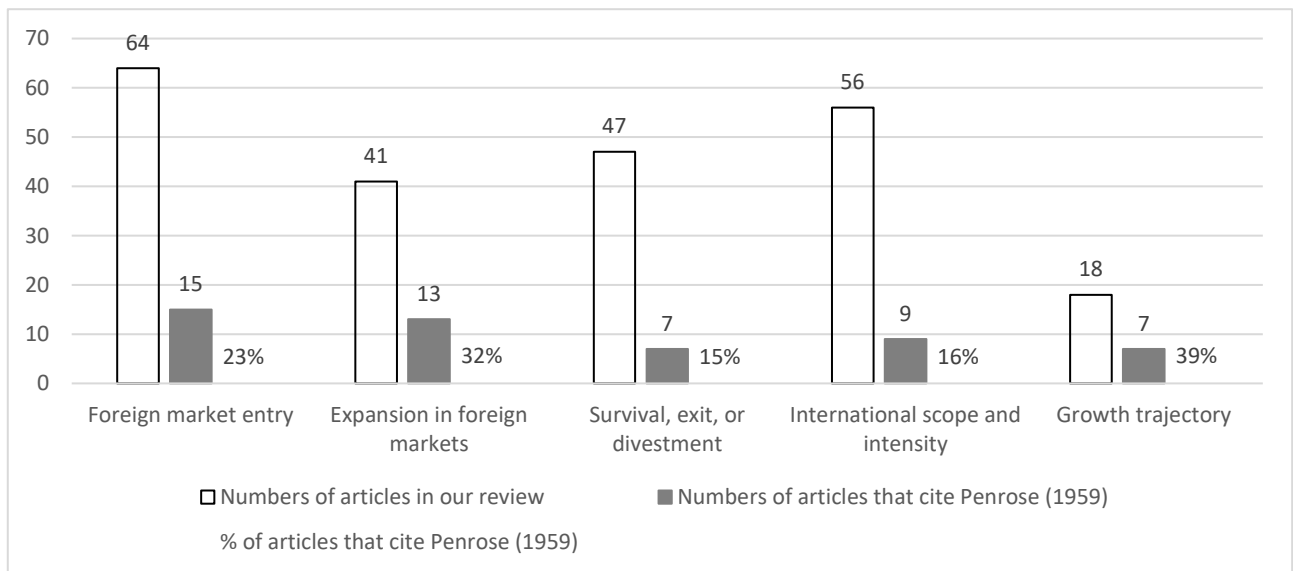
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Figure 1a. Proportion of Sample Articles by Topics



Note: The sum of all of the percentages is greater than 100% because some articles were classified under two or more topics. The percentage of articles in 2016-2019 includes six articles that were accepted in 2018, 2019, or early 2020 but not in print as of March 2020.

Figure 1b. Numbers of Articles in the Review That Cite Penrose (1959) by Topics



Note: Some articles were classified under two or more topics. Percentages are calculated as the numbers of articles that cite Penrose divided by the total numbers of articles in each of the specific topics on growth.

Figure 2. Conceptual Diagram for the Underpinning Determinants of the Growth of MNEs

* indicates concepts that are drawn from or corroborate with the Penrosean lens

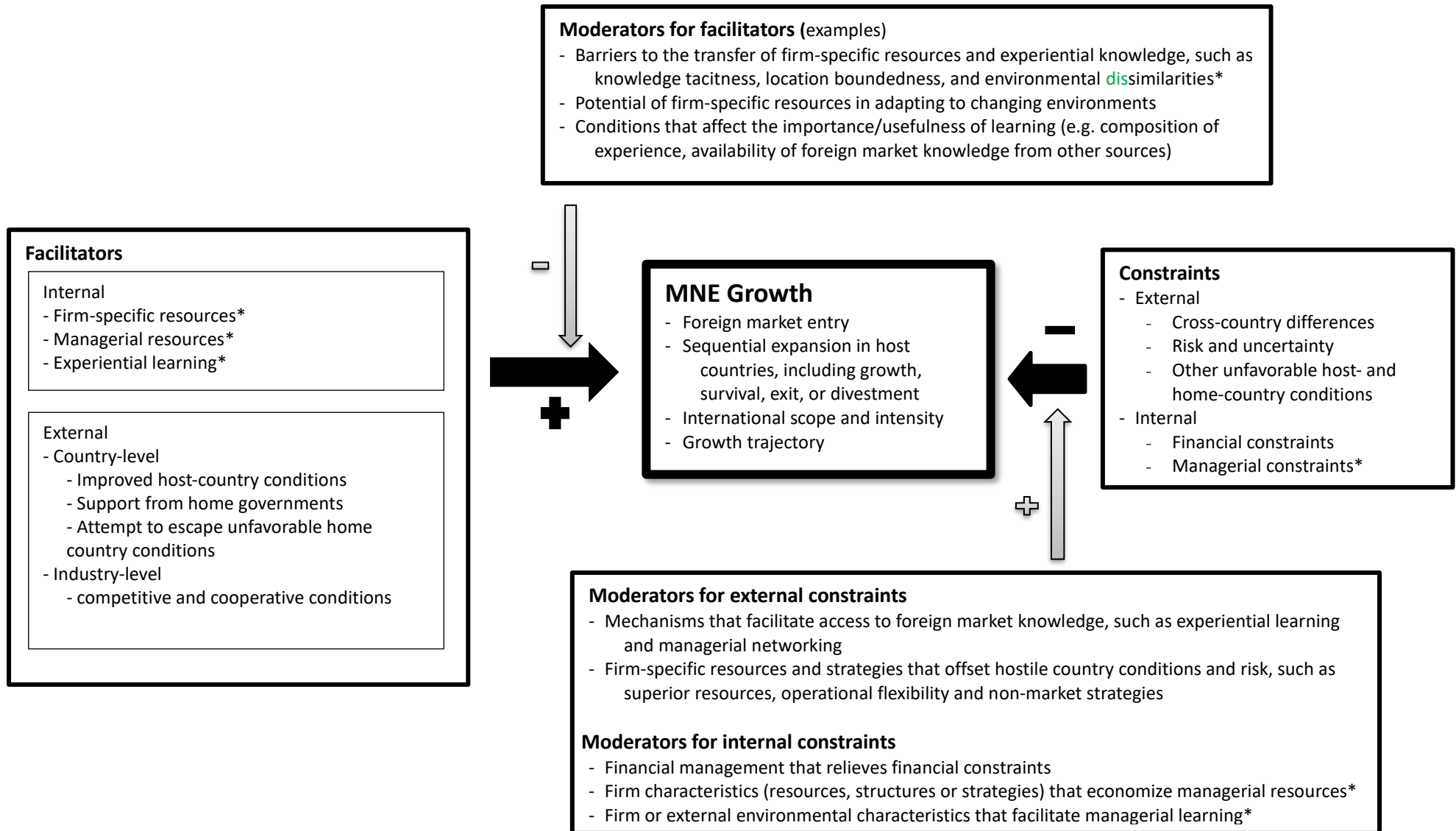


Table 1. Facilitators Examined in MNE Growth Research 1995-2019

Types of facilitators	Variety of facilitators	Conditions theorized or found to influence the impact of facilitators
Firm-specific resources	<ul style="list-style-type: none"> – Technological and marketing knowledge (Buckley & Casson, 2007; Chang, 1995; Delios & Beamish, 1999; Gaur et al., 2014; Kirca et al., 2011; Martin & Salomon, 2003; Tan & Vertinsky, 1996; Tseng et al., 2007) – Intangible assets (Kafouros & Aliyev, 2016; Kotha, Rindova, & Rothaermel, 2001) – Innovation (Buckley & Casson, 2007) – Management infrastructure (Pedersen & Shaver, 2011) – Capacity to leverage home-country institutions (Landau et al., 2016) – Subsidiary-level mandate portfolios (Lee et al., 2019) 	<p>Knowledge tacitness and location boundedness weaken the impact (Martin & Salomon, 2003; Mauri et al., 2017; Rugman & Verbeke, 2004).</p> <p>Adaptability to changing environments affects long-term growth potential (Pitelis & Teece, 2010; Teece, 2007, 2014; Vahlne & Ivarsson, 2014).</p>
Managerial resources	<ul style="list-style-type: none"> – Managers’ international and industry experience and education (Athanassiou & Nigh, 2002; Carpenter & Fredrickson, 2001; Chen et al., 2017; Nielsen, 2010; Sambharya, 1996; Tihanyi et al. 2000) – Network connections (Bai et al., 2019; Hagen & Zucchella, 2014; Johanson & Vahlne, 2006, 2009; Luo, 2001; Stallkamp et al., 2018; Stoian et al., 2018) – Composition of management team (Sambharya, 1996; Barkema & Shvyrkov, 2007; Carpenter & Fredrickson, 2001; Majocchi & Strange, 2012; Tihanyi et al., 2000) – Use of expatriate managers (Kawai & Chung, 2019; Riaz et al., 2014; Tan & Mahoney, 2007) – Managerial incentives to engage in international expansion (Agnihotri & Bhattacharya, 2019; Dow et al., 2018) 	<p>Imprinting and constraining effects of experience and connections weaken the impact (Bingham & Davis, 2012; Fernández-Méndez et al., 2018; Musteen et al., 2010).</p> <p>Corporate governance practices or institutional settings affect managerial motivation (Chittor et al., 2019; Dagnino et al., 2019; Estrin et al., 2016; Lin, 2014; Mariotti & Marzano, 2019; Rudy et al., 2016; Singh & Delios, 2017; Tihanyi et al., 2000; Tihanyi et al., 2003; Tihanyi et al., 2009).</p> <p>Synergistic effect exists between managerial experience and connections (Hitt et al., 2006a).</p>
Experiential learning	<p>Direct experience</p> <ul style="list-style-type: none"> – Own experience in foreign operations, including general international experience and host-country experience (Delios & Beamish, 2001; Gaur et al., 2014; Gaur & Lu, 2007; Hutzschenreuter et al., 2016; Li, 1995; Lu et al. 2014; Luo, 1999; Nachum & Song, 2011; Perkins, 2014; Surdu et al., 2018, 2019) – Own experience at home (Martin & Salomon, 2003; Luo & Bu, 2018; Nadolska & Barkema, 2007; Santangelo & Stucchi, 2018) <p>Indirect experience</p> <ul style="list-style-type: none"> – From outside of MNE, including foreign alliance partners, interlocking partners, inward international activities at home, using shared industry recipe, learning from other firms in the same market (Cesinger et al., 2016; Henisz & Delios, 2001; Hong & Lee, 2015; Hernandez, 2014; Li et al., 2012; Li et al., 2017; Mariotti et al., 2019; Monaghan & Tippmann, 2018; Shaver et al., 1997; Shaver & Flyer, 2000; Xia et al., 2018) 	<p>Transferability (Barkema et al., 1996) and geographical makeup (depth and breadth) of a firm’s international experience (Casillas & Moreno-Menendez, 2014; Perkins, 2014; Schu et al., 2016; Zahra et al., 2000; Zhou & Guillén, 2015) affect the impact of experience.</p> <p>Direct and indirect experience are substitutes but can be synergistic (Cui et al., 2015; Henisz & Delios, 2001; Hutzschenreuter et al., 2016; Gupta & Misangyi, 2018; Kim et al., 2012).</p> <p>Managerial characteristics influence the tendency of managers relying on direct vs. indirect learning (Zhu & Chen, 2015).</p> <p>External conditions such as the development of Internet influence the speed of experiential learning (Petersen et al., 2002; Rhee, 2005).</p>

	<ul style="list-style-type: none"> – From MNE/group inside (intra-MNE network) (Banerji & Sambharya, 1996; Eriksson et al., 1997; Gaur et al., 2014; Gaur & Lu, 2007; Guillén, 2003; Kim et al., 2012) 	
External drivers	<p>Country-level</p> <ul style="list-style-type: none"> – Improved host-country conditions (Belderbos & Zou, 2007; Dau, 2012; Dunning & Kundu, 1995; Guler & Guillén, 2010a; Liao & Yu, 2012; Mauri et al., 2017; Paul & Wooster, 2008; Surdu et al., 2019; Tschoegl, 2002; Van Den Bulcke et al., 1999) – Support from home governments (Finchelstein, 2017; Gaur et al., 2018) – Attempt to escape unfavorable home-country conditions (Bertrand et al., 2019; Fathallah et al., 2018; Gaur et al., 2018; Kalasin et al., 2014; Kumar et al., 2020; Li & Yue, 2008; Luo & Tung, 2007; Madhok & Keyhani, 2012; Shi et al. 2017; Young et al., 1996) <p>Industry-level</p> <ul style="list-style-type: none"> – Competitive and cooperative conditions (Chang & Rosenzweig, 1998; Chan et al., 2006; Gimeno et al., 2005; Guillén, 2002; Guler & Guillén, 2010b; Hutzschenreuter & Gröne, 2009; Ito & Rose, 2002; Kotha et al., 2001; Li et al., 2018; Luo, 1998; Martin et al., 1998) 	<p>Inward FDI activities at home reduce the need to escape from unfavorable home-country conditions (Li et al., 2012; Li et al., 2017).</p> <p>International experience affects the impact of country-level and industry-level conditions on growth (Gaur et al., 2018; Gupta & Misangyi, 2018; Qian & Delios, 2008; Shi et al., 2017).</p> <p>Competition in foreign markets reduces the tendency of MNEs to follow competitors' moves into foreign markets (Chan et al., 2006; Martin et al., 1998).</p>

Table 2. Constraints Examined in MNE Growth Research 1995-2019

Types of constraints	Variety of constraints	Conditions theorized or found to influence the impact of constraints
Cross-country differences	<ul style="list-style-type: none"> – Differences in cultures, institutional conditions, economic development, and geographic locations (Barkema et al., 1996; Berry et al., 2010; Beugelsdijk et al., 2018; Cuervo-Cazurra et al., 2007; Demirbag et al., 2011; Hutzschenreuter et al., 2011; Kang et al., 2017; Mata & Freitas, 2012; Qian et al., 2013; Schu et al., 2016; Tsang & Yip, 2007; Tihanyi et al., 2005; Xu & Shenkar, 2002; Zaheer & Mosakowski, 1997; Zeng et al., 2013a, 2013b; Zhou & Guillén, 2015) 	<p>Ownership advantages (Kang et al., 2017; Xu & Shenkar, 2002), firm size and age (Li et al., 2019), and host-country and international experience (Berry et al., 2010; Zeng et al., 2013a, 2013b) affect the impact of the differences.</p> <p>Cross-country differences provide opportunities for arbitrage (Arregle et al., 2016; Nachum & Song, 2011; Tsang & Yip, 2007).</p>
Risk and Uncertainty in host countries	<ul style="list-style-type: none"> – General host-country uncertainty (Delios & Henisz, 2003a; Gaba et al., 2002; Rhee & Cheng, 2002) – Exogenous uncertainty in the form of political hazard, institutional weakness, exchange rate and labor cost fluctuation, economic crisis, and discontinuous shocks, such as war, terrorist attacks, natural disasters, as well as technological shutdowns (Belderbos & Zou, 2007, 2009; Chung et al., 2010, 2013; Dai et al., 2013, 2017; Dhanaraj & Beamish, 2009; Fernández-Méndez et al., 2019; Fisch & Zschoche, 2012; Getachew & Beamish, 2017; Henisz & Delios, 2001; Oetzel & Oh, 2014; Oh & Oetzel, 2011; Pek et al., 2018; Sartor & Beamish, 2020; Song, 2014, 2015; Zhong et al., 2019) 	<p>The following firm characteristics and strategies weaken the impact of uncertainty</p> <ul style="list-style-type: none"> – Superior resources (Gaba et al., 2002; Pek et al., 2018; Rhee & Cheng, 2002; Sartor & Beamish, 2020) – Experience (Buckley et al., 2000; Cuervo-Cazurra & Genc, 2008; Dai et al., 2017; Delios & Henisz, 2003b; Dowell & Killaly, 2009; Luiz et al., 2017; Oetzel & Oh, 2014) – Operating flexibility (Belderbos & Zou, 2007; Chung et al., 2010, 2013; Gaur et al., 2019; Luiz et al., 2017; Song, 2014, 2015; Song & Lee, 2017) – Non-market strategies (Heidenreich et al., 2015; Ma & Delios, 2010; Pek et al., 2018) – Managerial networking (Albino-Pimentel et al., 2018; Chen et al., 2018; Dai et al., 2013)
Other host & home country conditions	<ul style="list-style-type: none"> – Certain host-country cultural dimensions (Rothaermel et al., 2006) – Adverse home conditions (Narula, 2015; Soule et al., 2014) 	
Financial constraints	<ul style="list-style-type: none"> – Insufficient financial resources (Dagnino et al., 2019; Powell, 2014) – Unsatisfactory financial performance (Chang, 1996; Lim, 2019; Ref & Shapira, 2017; Tan & Sousa, 2018, 2019) 	<p>Financial management (such as strategic utilization of over valuation) relieves financial constraints (Yuan et al., 2016).</p> <p>Host-country potential (Berry, 2013) and a strong organizational image (Wan et al., 2015) delay divestment decisions.</p>
Managerial constraints	<ul style="list-style-type: none"> – Managerial constraints from fast growth (i.e., Penrose effect) (Gao & Pan, 2010; Hashai, 2011; Hutzschenreuter et al., 2011; Johanson & Kalinic, 2016) – Managerial constraints in family firms (Alessandri et al., 2018; Duran et al., 2017; Kano & Verbeke, 2018; Ray et al., 2018) 	<p>Conditions that reduce the needs for managerial inputs and speed up managerial learnings relieve managerial constraints (Hashai, 2011; Mayer et al., 2015; Mohr et al., 2018; Tan, 2009; Tan & Mahoney, 2005, 2007).</p> <p>Family firms are less constrained if they adopt a global niche business model (Hennart et al., 2019), are run by later generations (Fang et al., 2018) or have certain corporate governance characteristics (Bhaumik et al., 2010; Kano & Verbeke, 2018).</p>

Table 3. Comparison between MNE Growth Research that Draws on Penrose’s Growth Theory and Research that Does Not

	Research that draws on Penrose’s growth theory	Research that does <i>not</i> draw on Penrose’s growth theory
Underpinning conceptualization of a firm	Firm as a collection of productive resources and an administrative organization in which managers oversee the uses of firm-specific resources.	Firm as a hierarchy, which relies on managerial authority to allocate resources, <i>and</i> as a differentiated network, which consists of a group of geographically dispersed and goal-disparate organizations
Facilitators of MNE growth	<p>Focuses on internal factors that include:</p> <ul style="list-style-type: none"> - Underutilized fungible resources - Managers with firm-specific experience - Direct learning about the firm and its resources - Enterprising management as a necessary condition <p>Predicts synergic effects between managerial learning and firm-specific resources</p> <p>Sees product diversification as a key mechanism of a firm expanding its resource and capability (technological) base for further growth</p>	<p>Focuses on both internal and external factors, including:</p> <ul style="list-style-type: none"> - Firm-specific (intangible) resources with special attention to technological and marketing knowledge - Managerial (international) experiences, connections, and incentives - Direct and indirect learning of host-country knowledge - Favorable host-country conditions <p>The growth effects of individual facilitators are in general examined separately. Interactive effects among individual facilitators are discussed on an ad hoc basis.</p> <p>Sees international expansion as a key mechanism of MNEs adapting and acquiring strategic resources for further growth</p>
Constraints on MNE growth	<p>Focuses on internal factors, specifically</p> <ul style="list-style-type: none"> - Managerial constraints (from limited availability of managers with firm-specific experience) <p>Sees the failure to address external constraints as the lack of entrepreneurial imagination and vision</p>	<p>Focuses more on external factors, including:</p> <ul style="list-style-type: none"> - Cross-country differences - Risk and uncertainty <p>Often discusses the firm attributes and strategies that mitigate the negative impact of the external factors</p>
Trajectory of MNE growth	<p>Predicts alternative periods of fast and stagnant growth.</p> <p>Views firm growth as the cumulative growth of collective knowledge</p>	<p>Corroborates the prediction of the Penrose effect</p> <p>Views international expansion as a capability building process</p>

Table 4. Some Research Inquiries from Review of Research on MNE Growth

Topics	Examples of research inquiries
The growth of an MNE in its entirety	<ul style="list-style-type: none"> - How can entry into a new market or subsequent growth in a particular foreign market be influenced by the entry, expansion, and exit decisions of the MNE in other foreign markets? - How can entry into a new market or subsequent growth in a particular foreign market be shaped by the HQ's resource allocation decisions and the bundle of competencies MNEs developed in diversified product markets? - What is the interplay between product diversification and international growth? Under what conditions do these alternative growth paths support each other rather than compete? - How do firm-specific resources at the subsidiary level influence the growth of an MNE as a whole?
The nature of an MNE as an administrative organization	<ul style="list-style-type: none"> - What constitutes the capabilities of the HQ in maintaining effective control and coordination within the multinational network? - What is the role of HQ-specific managerial knowledge in MNE growth? - How does managerial opportunism (from both HQs and subsidiary managers) influence the growth of MNEs?
Facilitators of MNE growth	<ul style="list-style-type: none"> - Do the drivers of new market entry also enhance MNE's subsequent growth in a particular market? - What determines the long-term growth of MNEs and what constitutes their dynamic capabilities? - What constitutes the entrepreneurial capabilities of MNEs that facilitate continued new foreign market entries? How do the entrepreneurial capabilities interact with administrative competences? - How do various portfolios of managerial experiences (including HQ-specific, host market-specific, and general international experience) influence the growth of MNEs? - How do subsidiary managers influence the post-entry growth and competitiveness of the subsidiary as well as the MNE as a whole? - How does the diversity of individual-level and firm-level experience affect the growth of MNEs? - How can firms avoid the imprinting effect of prior experiential learning? - What are the relationships between direct host-country experience, indirect experience, and firm-specific experience and their impacts on MNE growth?
Constraints on MNE growth	<ul style="list-style-type: none"> - To what extent can MNEs mitigate seemingly external constraints with organizational designs and strategies? - Can MNEs use autonomous organizational structures to reduce the need for administrative coordination and thus escape managerial constraints? - Should and how do MNEs achieve the balance between preserving their strategic coherence and responding to growth opportunities from foreign expansion?
Moderators of MNE growth	<ul style="list-style-type: none"> - How do managerial characteristics interact with firm-level and environmental characteristics to influence the growth of MNEs?
Trajectory of MNE growth	<ul style="list-style-type: none"> - Given that the growth of (multinational) firms reflects the cumulative growth of new knowledge, what is the interplay among innovation, product diversification, and international expansion? - How do the impacts of individual- and firm-level determinants vary across different stages of growth of MNEs?

Appendix: A Complete List of Articles Featured in the Sample

Author & Year	Journal	Themes	Growth type
Agnihotri & Bhattacharya (2019)	MIR	F	d
Albino-Pimentel et al. (2018)	SMJ	C	a
Alessandri et al. (2018)	GSJ	C	d
Arregle et al. (2016)	JIBS	C	d
Athanassiou & Nigh (2002)	MIR	F	d
Bai et al. (2019)	MIR	F	d
Banerji & Sambharya (1996)	JIBS	F	a
Barkema & Shvyrkov (2007)	SMJ	F	a
Barkema et al. (1996)†	SMJ	F, C	c
Belderbos & Zou (2007)†	JIBS	F, C	b, c
Belderbos & Zou (2009)	JIBS	C	c
Berry (2013)	OS	C	c
Berry et al. (2010)	JIBS	C	a
Bertrand et al. (2019)	GSJ	F	a
Beugelsdijk et al. (2018)†	JOM	C	a
Bhaumik et al. (2010)	JIBS	C	d
Bingham & Davis (2012)	AMJ	F	a, b
Bowen & Sleuwaegen (2017)†*	GSJ	T	d
Buckley & Casson (2007)†*	MIR	F	d
Buckley et al. (2020)	JWB	C	a
Carpenter & Fredrickson (2001)	AMJ	F	d
Casillas & Moreno-Menéndez (2014)	JIBS	F	b
Cesinger et al. (2016)	JWB	F	d
Chan et al. (2006)†	JIBS	F	a, b
Chang (1995)†	AMJ	F, T	e
Chang (1996)†	SMJ	C	a, c
Chang & Rosenweig (1998)†	JMS	F	b
Chen (2003)	JMS	T	e
Chen et al. (2017)	MIR	F	d
Chen et al. (2018)	GSJ	C	a
Chittoor et al. (2019)	GSJ	F	d
Chung et al. (2010)	JIBS	C	b
Chung et al. (2013)	MIR	C	c
Cuervo-Cazurra & Genc (2008)	JIBS	C	d
Cuervo-Cazurra et al. (2007)†	JIBS	C	c
Cui et al. (2015)	MIR	F	a
Dagnino et al. (2019)	GSJ	F, C	d
Dai et al. (2013)	JIBS	C	c
Dai et al. (2017)	SMJ	C	c
Dau (2012)	GSJ	F	d
Delios & Beamish (1999)†	SMJ	F	d
Delios & Beamish (2001)	AMJ	F	c
Delios & Henisz (2003a)	JIBS	C	b
Delios & Henisz (2003b)	SMJ	C	a, b
Delios et al. (2008)	JIBS	T	c
Demirbaga et al. (2011)	JWB	C	c
Dhanaraj & Beamish (2009)	MIR	C	c
Dow et al. (2018)†	MIR	F	b
Dowell & Killaly (2009)	OS	C	a
Dunning & Kundu (1995)	MIR	F	a

Duran et al. (2017)	JWB	C	d
Eriksson et al. (1997)†	JIBS	F	e
Estrin et al. (2016)	JWB	F	d
Fang et al. (2018)	GSJ	C	d
Fathallah et al. (2018)	JWB	F	a, b
Fernandez-Mendez et al. (2018)	JWB	F	a, b
Fernández-Méndez et al. (2019)	GSJ	C	c
Finchelstein (2017)	JWB	F	b, d
Fisch (2008)	JIBS	T	b
Fisch & Zschoche (2012)	SMJ	C	a
Gaba et al. (2002)	JIBS	C	a
Gao & Pan (2010)	JIBS	C	b
Gaur & Lu (2007)	JOM	F	c
Gaur et al. (2014)	JWB	F	a
Gaur et al. (2018)	JIBS	C	d
Gaur et al. (2019)	JIBS	C	c
Getachew & Beamish (2017)	GSJ	F	c
Gimeno et al. (2005)	AMJ	T	a
Goerzen & Makino (2007)†	JIBS	T	e
Guillen (2002)	AMJ	F	a, b
Guillen (2003)	JIBS	F	b
Guler & Guillen (2010a)†	JIBS	F	a
Guler & Guillen (2010b)	AMJ	F	a
Gupta & Misangyi (2018)	SMJ	F	d
Hagen & Zucchella (2014)	MIR	F	e
Hashai (2011)†*	JIBS	C	b, d
Heidenreich et al. (2015)	JWB	C	c
Hendry (1996)	JMS	T	e
Henisz & Delios (2001)	ASQ	F, C	a
Hennart et al. (2019)	JIBS	C	d
Hernandez (2014)	ASQ	F	c
Hitt et al. (2006a)	AMJ	F	d
Hong & Lee (2015)	JWB	F	a
Hutzschenreuter & Grone (2009)	JIBS	F	b, d
Hutzschenreuter & Harhoff (2020)	JIBS	T	b
Hutzschenreuter et al. (2011)†*	JMS	C	b
Hutzschenreuter et al. (2016)†*	MIR	F	b
Ito & Rose (2002)	JIBS	F	a
Iurkov & Benito (2018)	JIBS	F	c
Johanson & Kalinic (2016)	MIR	C	b
Johanson & Vahlne (2006)†	MIR	F	e
Johanson & Vahlne (2009)†	JIBS	F	e
Kafouros & Aliyev (2016)†	JMS	F	b
Kalasin et al. (2014)†	GSJ	F	a
Kang et al. (2017)	MIR	C	c
Kano & Verbeke (2018)	GSJ	C	e
Kawai & Chung (2019)	JWB	F	d
Kim et al. (2012)†*	JIBS	F	c
Kirca et al. (2011)	AMJ	F	d
Kotha et al. (2001)†	JIBS	F	d
Kumar (2009)†*	SMJ	T	d
Kumar et al. (2012)	MIR	T	d
Kumar et al. (2020)	JIBS	F	a

Landau et al. (2016)	GSJ	F	a
Lee et al. (2019)	JWB	F	c
Li (1995)	SMJ	F, T	c, e
Li & Yue (2008)	MIR	F	d
Li et al. (2012)	GSJ	F	a
Li et al. (2017)†	SMJ	F	a
Li et al. (2018)	JWB	F	a
Li et al. (2019)	SMJ	C	a
Liao & Yu (2012)	JWB	F	b
Lim (2019)	JMS	C	a
Lin (2014)	JWB	F	b, d
Lu et al. (2014)	JIBS	F	a
Luiz et al. (2017)	GSJ	C	e
Luo (1998)	JIBS	F	d
Luo (1999)	JMS	F	b
Luo (2001)	JIBS	F	d
Luo & Bu (2018)	GSJ	F	a, b
Luo & Tung (2007)	JIBS	F	a
Ma & Delios (2010)	JIBS	C	d
Madhok & Keyhani (2012)†	GSJ	F	a
Maitland et al. (2005)	JIBS	T	e
Majocchi & Strange (2012)	MIR	F	d
Mariotti & Marzano (2019)	JIBS	F	d
Mariotti et al. (2019)	SMJ	F	a, c
Martin & Salomon (2003)†	OS	F	a
Martin et al. (1998)†	ASQ	F	a
Mata & Freitas (2012)	JIBS	C	c
Mauri et al. (2017)	GSJ	F	d
Mayer et al. (2015)†*	SMJ	C, T	d
Mohr et al. (2018)†*	JIBS	C	c
Monaghan & Tippmann (2018)	JIBS	F	a
Musteen et al. (2010)	JWB	F	a
Nachum & Song (2011)†	JIBS	F, C, T	a, c
Nadolska & Barkema (2007)	JIBS	F	b, c
Narula (2015)	MIR	C	b
Nielsen (2010)†	MIR	F	a
Oetzel & Oh (2014)	OS	C	c, d
Oh & Oetzel (2011)	SMJ	C	c, d
Paul & Wooster (2008)	JIBS	F	d
Pedersen & Shaver (2011)†	GSJ	F, T	e
Pek et al. (2018)	SMJ	C	a, d
Perkins (2014)	ASQ	F	c
Petersen et al. (2002)	MIR	F	a
Powell (2014)	MIR	C	a
Qian & Delios (2008)	JIBS	F	a
Qian et al. (2013)	JIBS	C	d
Ray et al. (2018)	GSJ	C	d

Ref & Shapira (2017)†	SMJ	C	a
Rhee (2005)	MIR	F	e
Rhee & Cheng (2002)	MIR	C	b, d
Riaz et al. (2014)†*	JWB	F	b, d
Rothaermel et al. (2006)	JOM	C	a
Rudy et al. (2016)	GSJ	F	a
Sambharya (1996)	SMJ	F	d
Santagelo & Stucchi (2018)	JIBS	F	b
Sarkar et al. (1999)	JIBS	T	b, d
Sartor & Beamish (2020)	JIBS	C	c
Schu et al. (2016)†	MIR	F, C	a, b
Shaver & Flyer (2000)	SMJ	F	c
Shaver et al. (1997)	SMJ	F	c
Shi et al. (2017)	JIBS	F	a
Singh & Delios (2017)†	JWB	F	a, b
Song (2014)	MIR	C	c
Song (2015)	JWB	C	c
Song & Lee (2017)	MIR	C	c
Soule et al. (2014)	SMJ	C	c
Stallkamp et al. (2018)	JIBS	F	b
Stoian et al. (2018)	JWB	F	a
Surdu et al. (2018)	JWB	F	a
Surdu et al. (2019)	JIBS	F	a, b
Tan (2009)†*	JIBS	C	b
Tan & Mahoney (2007)†*	MIR	F, C	b
Tan & Sousa (2018)	GSJ	C	c
Tan & Sousa (2019)	MIR	C	c
Tan & Vertinsky (1996)	JIBS	F	a
Tihanyi et al. (2000)	JOM	F	d
Tihanyi et al. (2003)	AMJ	F	d
Tihanyi et al. (2005)	JIBS	C	d
Tihanyi et al. (2009)	MIR	F	d
Tsang & Yip (2007)	AMJ	C	c
Tschoegl (2002)	JIBS	F	b
Tseng et al. (2007)†	JIBS	F	d
Vahlne & Ivarsson (2014)†	JIBS	F	e
Van Den Bulcke et al. (1999)	MIR	F	e
Wan et al. (2015)	GSJ	C	c
Xia et al. (2018)	GSJ	F	a, b
Xu & Shenkar (2002)†	AMR	C	a
Young et al. (1996)	MIR	F	e
Yuan et al. (2016)	JMS	C	a, b
Zaheer & Mosakowski (1997)	SMJ	C	c
Zahra et al. (2000)	AMJ	F	d
Zeng et al. (2013a)	MIR	C	c
Zeng et al. (2013b)	JIBS	C	c
Zhong et al. (2019)	JIBS	C	c
Zhou & Guillén (2015)	SMJ	F, C	a
Zhu & Chen (2015)	ASQ	F	d

Notes:

1. † articles that cite Penrose (1959), * articles drawn on Penrose's theory
2. AMJ: Academy of Management Journal, AMR: Academy of Management Review, ASQ: Administrative Science Quarterly, GSJ: Global Strategy Journal, JIBS: Journal of International Business Studies, JMS: Journal of Management Studies, JOM: Journal of Management, JWB: Journal of World Business, MIR: Management International Review, OS: Organization Science, SMJ: Strategic Management Journal.
3. F: Facilitators, C: Constraints, T: Growth trajectory
4. a: Foreign market entry, b: Expansion in foreign markets, c: Survival, exit, or divestment, d: International scope and intensity (i.e., multinationality), e: Growth trajectory