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Foreign Subsidiary Management in the Contemporary Multinational Enterprise

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FOREIGN SUBSIDIARY MANAGEMENT IN THE CONTEMPORARY MULTINATIONAL ENTERPRISE

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To: Dean Joanne Li
College of Business

This dissertation, written by Daniel S. Andrews, and entitled Foreign Subsidiary Management in the Contemporary Multinational Enterprise, having been approved in respect to style and intellectual content, is referred to you for judgment.

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DEDICATION

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ABSTRACT OF THE DISSERTATION

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As multinational enterprises (MNEs) expand into foreign markets that are not only heterogeneous but also change in an unsynchronized manner, the locus of strategic decision-making increasingly lies with foreign subsidiaries as a means of coping with complex multinational operations. However, although this shift towards more subsidiary autonomy seemingly represents a key building block of contemporary MNE strategy, existing international business literature offers little theoretical clarity regarding when an MNE's headquarters will increase levels of autonomy over foreign subsidiary strategic decisions. Moreover, while prior research highlights increased decision-making autonomy as a key driver of subsidiary performance outcomes, several studies point to efficiency- and agency-based problems associated with higher levels of autonomy.

Following the predominance of subsidiary-focused research in international business studies over the last two decades, the aforementioned issues have resulted in scholarly calls to better our understanding of foreign subsidiary management by MNE headquarters and more generally revisit the role of MNE headquarters in subsidiary

success. Accordingly, this dissertation aims to propel a more coherent and contextualized understanding of these interrelated and pressing issues, thus advancing theory of MNE strategy and structure. I submit three essays towards that end.

Specifically, essay one leverages existing empirical evidence to conduct a meta-analysis of foreign subsidiary autonomy determinants, focusing on theoretically relevant conditions shaping the headquarters' inclination to increase subsidiary autonomy. Essay two offers a more nuanced, contextualized theory of the outcomes of subsidiary autonomy by demonstrating that subsidiaries can innovate without autonomy in specific contextual settings. Finally, essay three assesses the role of the MNE headquarters, relative to other classes of explanatory variables, in explaining foreign subsidiary performance differences. The result of these efforts is a more lucid theory of global MNE strategy and structure.

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I. INTRODUCTION

The strategy and structure of the multinational enterprise (MNE) has experienced considerable changes in recent decades (Menz, Kunisch & Collis, 2015). Historically, the MNE was viewed as a hierarchical organization where corporate strategy would originate centrally at the headquarters (Chandler, 1991). This was seen to be more structurally efficient than engaging in a series of disperse market activities across business units (Williamson, 1975). However, due to increasing local and global demands, firms began to expand into unfamiliar product and geographic markets that are heterogeneous and change in an unsynchronized manner (Andersson, Forsgren & Holm, 2002; Mudambi, 2011). To cope with such complex multinational operations, the locus of strategic decision-making began to shift to the foreign subsidiary (Birkinshaw, 1997; Ambos & Birkinshaw, 2010; Mudambi, Pedersen & Andersson, 2014). As a result, subsidiary autonomy – the extent to which a foreign subsidiary makes strategic decisions in its operating environment without interference by MNE headquarters (Ghoshal & Nohria, 1989; Birkinshaw & Morrison, 1995; Young & Tavares, 2004) – became a fundamental aspect of the MNE strategy and, thus, of international business (IB) theory.

However, although subsidiary autonomy represents a fundamental building block of contemporary MNE strategy, it is still unclear as to when an MNE's headquarters will increase levels of autonomy or maintain control over foreign subsidiary strategic decisions. In part, this is due to theory on its antecedents not being developed harmoniously – or, at least, complementarily. On the one hand, several theories suggest that increased autonomy may be beneficial. It helps to achieve strategic alignment with local conditions, foster entrepreneurial subsidiary behaviors, and fulfill subsidiary roles

within the MNE (Birkinshaw & Morrison, 1995; Ambos & Birkinshaw, 2010). Meanwhile, autonomy may also result in efficiency- (Sengul & Gimeno, 2013) and agency-based problems (Mudambi & Navarra, 2004; Bouquet & Birkinshaw, 2008) that may offset the benefits of increased autonomy. Thus, an understanding of why a given subsidiary is autonomous seems to be at a theoretical impasse.

Relatedly, while prior research highlights increased decision-making autonomy as a key driver of subsidiary performance outcomes such as innovation (Rugman & Verbeke, 2001; Cantwell & Mudambi, 2005; Phene & Almeida, 2008), several more recent contributions argue that this view is incomplete and warrants more conceptual nuance (Slangen & Hennart, 2008; Kawai & Strange, 2014). Prior research indicates that decision-making autonomy is a key determinant of innovation by foreign subsidiaries. It gives subsidiary managers the latitude to become locally embedded, develop network ties, and compile valuable inputs for their innovation efforts (Monterio, Mol & Birkinshaw, 2017). Yet, Ghoshal and Bartlett (1990) initially argued that autonomy might be beneficial only in some environmental and organizational contexts, and subsidiaries should be structurally differentiated to achieve an optimal trade-off "between the cost of each structural element and its efficacy in the context of the subsidiary" (Nohria & Ghoshal, 1994: 493). This suggests that while higher degrees of decision-making autonomy may be beneficial for some subsidiaries, an acontextual view of this structural lever may be problematic. Autonomy may foster product innovation only in specific institutional contexts and when deployed with complementary knowledge sources. From this perspective, subsidiary autonomy outcomes are likely not straightforward but rather conditional (Lazarova, Peretz & Fried, 2017).

The emergence of subsidiary autonomy is evident through the proliferation of subsidiary focused research, which, consequently, has come at the expense of our collective understanding of the MNE headquarters (Egelhoff, 2010; Menz et al., 2015). Prior literature has shown how the headquarters can either create (Nell & Ambos, 2013) or destroy value (Decreton, Nell & Stea, 2019) in local subsidiaries. However, research on the drivers of subsidiary performance is disparate and, at times, incoherent. One stream of research investigates how subsidiary performance is determined by the parent MNE (Feldman, 2020), while a related research stream focuses on the subsidiaries themselves as the main drivers of performance differences (Rugman & Verbeke, 2001). Although there are good theoretical and empirical reasons to expect that both the MNE and the subsidiary play a role in subsidiary performance (Menz et al., 2015), the relative importance of the MNE vis-à-vis the subsidiary remains unclear.

In this dissertation, I contribute to these interrelated discussions through a series of essays on foreign subsidiary management as a reflection of a broader global MNE strategy and structure. I integrate various literature streams to propel a coherent, contextualized understanding of subsidiary autonomy's antecedents and consequences and the effect of MNE headquarters on subsidiary performance. Further, I provide a comprehensive synthesis of literature, address several recent calls to explore theoretically relevant contextual conditions, and engage in a theory-based discussion on MNE strategy. This dissertation advances theory of the antecedents and outcomes of subsidiary autonomy and subsidiary management more broadly.

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II. STRUCTURAL DIFFERENTIATION WITHIN THE MNE: A REVIEW AND META-ANALYSIS OF SUBSIDIARY AUTONOMY

INTRODUCTION

Foreign subsidiaries of multinational enterprises (MNE) have been a central focus of international business (IB) research over the last four decades. As globalization progressed and MNEs established operations in disperse and heterogenous foreign locations, many MNEs increasingly evolved from centralized, hierarchical entities to various forms of interconnected federations (Andersson, Forsgren & Holm, 2002; Mudambi, 2011). Commensurately, subsidiaries came to be "at the forefront of many international business challenges as they operate in complex international environments and control some of the firm-specific advantages (FSAs) of the MNE" (Meyer, Li & Schotter, 2020: 538). To better understand these realities, IB scholars developed a rich research program on how MNE managers (should) configure their subsidiaries' strategy and structure to contribute to the success of the MNE. A fundamental facet of this literature is the locus of strategic decision making.

Starting with early works (e.g., Picard, 1977; Gates & Egelhoff, 1986; Ghoshal & Bartlett, 1990) and even in recent articles (e.g., Belenzon, Hashai & Patacconi, 2019; Rabbiosi & Santangelo, 2019; Ambos, Fuchs & Zimmerman, 2020), the role of subsidiary autonomy to IB research looms large. Cross-cultural management and organization theory scholars similarly emphasize the importance of autonomy, allowing subsidiary managers to adapt practices to local contexts (e.g., Slangen & Hennart, 2008; Sengul & Gimeno, 2013). However, because contemporary MNEs often find themselves

in unfamiliar and complex environments, MNE managers face inherent difficulties in centralizing control and efficiently making locally adaptive decisions. Accordingly, IB theory suggests that autonomy may be deployed to help MNE managers and their subsidiaries become embedded in their local context and develop, deploy, and revise capabilities and drive MNE success abroad (Beugelsdijk & Jindra, 2018). A recent meta-analysis on the performance outcomes of subsidiary autonomy suggests that, in general, autonomy leads to improved performance, but not always (Geleilate, Andrews & Fainshmidt, 2019).

Although MNE managers may be aware of the potential benefits of autonomy, prior research suggests that it is not systematically assigned, and some antecedents of autonomy may not necessarily be conducive to improving internationalization success (Ambos, Asakawa & Ambos, 2011). In some instances, autonomy may even have deleterious effects, such as inefficient resource allocation and self-isolating subsidiary behaviors (Filatotchev & Wright, 2011; Sengul & Gimeno, 2013). These reasons are likely related to why a subsidiary may be autonomous in the first place, but the commensurate research on the drivers of autonomy has been dispersed and incohesive, lacking a concentrated effort towards developing a more lucid theory of subsidiary autonomy. Barring notable explanations (e.g., Kostova, Nell & Hoenen, 2018; Cuervo-Cazurra, Mudambi & Pedersen, 2019), it remains conceptually unclear as to what ultimately drives differences in decision-making autonomy across subsidiaries, but it is such understanding that can help propel theory of the antecedents of global MNE strategy.

To answer this call, I comprehensively review existing research and synthesize the main research traditions that underpin autonomy's antecedents: First, research utilizing agency theory suggests that MNE headquarters may differentially allocate decision-making as a means to maintain strategic alignment between MNE headquarters and subsidiary (Björkman, Barner-Rasmussen, & Li, 2004). Second, work rooted in institutional theories argues that autonomy may facilitate local embeddedness and the establishment of legitimacy; thus, it is driven by host country environments as well as their similarity to the MNE home country (Kostova & Zaheer, 1999; Fenton-O'Creevy, Gooderham & Nordhaug, 2008). Third, studies leveraging resource-based perspectives suggest that autonomy is related to subsidiary roles, power, and responsibilities within the MNE, a broad category I label 'global strategy' (Cantwell & Mudambi, 2005; see Tallman & Yip, 2009). What is clear from this rich literature is that levels of autonomy vary by MNE and, more importantly, by subsidiary (Nohria & Ghoshal, 1994). Why that is the case, however, remains much more ambiguous, making this body of literature ripe for taking stock of the existing fragmented knowledge and formulating a revitalized roadmap for future inquiry.

Towards this end, my study follows the structure of Kostova et al. (2019) and has three objectives: First, I take stock of existing literature to distill a cumulative, comprehensive account of research traditions and their underlying mechanisms, thereby contributing to the construction of a nomological network of subsidiary autonomy research. Second, using the nomological network as a guiding framework, I conduct a quantitative, quasi-exploratory meta-analysis of autonomy's antecedents. A meta-analysis allows me to rigorously test prior predictions in a comprehensive sample and, perhaps

more importantly, test relationships stemming from multiple literature streams in the face of each other. Using 131 studies from 1986 to 2020 comprised of 31,017 subsidiaries, I provide robust and rigorous estimations of prior theoretical arguments. Finally, I combine these efforts and provide a theory-driven roadmap for future research into the drivers of autonomy, explicating how such research can propel a more lucid theory of MNE strategy, structure, and evolution.

SUBSIDIARY AUTONOMY: THEORETICAL BACKGROUND

Over the last forty years, IB research has extensively examined the antecedents of subsidiary autonomy and, by extension, global MNE strategy and structure (e.g., Stopford & Wells, 1972; Gates & Egelhoff, 1986; Hedlund, 1986; Ghoshal & Bartlett, 1990; Wang et al., 2014; Rabbiosi & Santangelo, 2019). With an initial focus on hierarchical organizations to, now, various forms of networked, subsidiary-focused perspectives (Mudambi, 2011), the allocation of autonomy to MNE subsidiaries seems to be a complex rather than a straightforward, performance-driven phenomenon. Moreover, as research progressed, so have the attitudes towards and various theoretical perspectives applied to subsidiary autonomy research, reflecting promising variety but unstructured scholarly conversations.

A review of prior research suggests varying nomenclature of subsidiary autonomy. IB scholars typically define it as the extent to which a subsidiary makes strategic and operational decisions without headquarters interference. With increased autonomy, subsidiaries can make decisions to improve new products and processes (Phene & Almeida, 2008), pursue subsidiary initiatives and local opportunities

(Birkinshaw, 1997), adapt to local conditions (Fenton-O'Creevy et al., 2008), and contribute to MNE knowledge stocks (Cantwell & Mudambi, 2005). Autonomy can also be demarcated by functional area, such that a subsidiary can exhibit autonomy in sales and marketing (Homburg & Prigge, 2014), research and development (Feinberg & Gupta, 2004), and other functional domains (Beugelsdijk & Jindra, 2018). The thesis is that autonomy enables subsidiary managers to independently allocate resources without attaining approval from its corporate headquarters.

Early work introduced the concept of decision-making autonomy in a way to optimize non-essential business activities in large corporations. Often limited to only a few specific functional areas, prior research argued that autonomy should only be sparsely allocated, all while the remainder of core decisions were centralized to unify cost savings (Williamson, 1975). For instance, Vernon (1966) suggested that key functions and decisions, such as product development, would take place centrally at the headquarters, and then products would be distributed abroad and sold by local subsidiaries with varying degrees of decision-making latitude. Subsidiary roles and the locus of decisions were thus pre-determined to match the corporation's strategy and structure (Chandler, 1962), with an overall emphasis on hierarchical control systems and planning. Several scholars probed into when the headquarters may begin to allocate more local (Pryor, 1965), regional (Williams, 1967), and even global (Buzzell, 1968) autonomy; however, findings mostly converged to suggest that key strategic decisions were to be made centrally by the headquarters.

As the global scope and diversity of firms increased, MNEs began to focus on scale economies and the efficient location of production. Here, MNEs sought to relocate

production to low-cost environments, and standardization subsequently became a prominent global strategy (Chandler, 1991). However, as globalization continued to progress, strategy formation became "excessively complex" (Paterson & Brock, 2002: 152), and MNEs began to face new challenges, such as pressures for local embeddedness and responsiveness (Doz & Prahalad, 1984). Bartlett and Ghoshal's (1989) transnational solution became the canonical work, and subsidiary autonomy consequently was seen as an important structural lever by which the MNE can differentially implement across subsidiaries to improve success in foreign locations (Nohria & Ghoshal, 1994). The cumulative research over the last several decades investigates how and when autonomy should be allocated to enable subsidiary leaders to adapt subsidiary strategy to fit local opportunities and needs (Meyer et al., 2020).

However, although the benefits of autonomy are well documented (Geleilate et al., 2019), several studies note that its allocation might yield incentive problems, inefficient resource allocation, and coordination costs (Ecker, van Triest & Williams, 2013). Consequently, MNEs may prefer to centralize decision-making to steer subsidiary's behavior and facilitate global coordination. Centralization – the exercising of fiat decision-making control by headquarters – facilitates a more definitive MNE strategy and streamlines global integration across disperse MNE networks of foreign subsidiaries (Sengul & Gimeno, 2013). Moreover, centralization helps prevent the misallocation and duplication of resources, particularly when headquarters managers are equipped to make

locally adaptive decisions (Keupp, Palmié & Gassmann, 2011). In this sense, autonomy is inversely related to centralization.[1]

What is clear from this literature is that although decision-making, broadly and autonomy in particular are evidently important to understanding differences MNE strategy (e.g., Cantwell & Mudambi, 2005; Fenton-O'Creevy et al., 2008; Kawai & Strange, 2014), it has been differentially applied and thus lacking a concentrated theory. While such diversity is often promising, a review of prior research points to several unclear theoretical prescriptions as to *when* a subsidiary will be more autonomous. Indeed, a comprehensive review on the state of autonomy research can be useful to bolster core IB theory and propel a concentrated theory of MNE strategy and structure.

ANTECEDENTS OF SUBSIDIARY AUTONOMY: THREE RESEARCH TRADITIONS

My review of literature points to numerous theoretical insights on the antecedents underpinning subsidiary autonomy differentials. To consolidate these, I followed prior studies taking a similar approach as mine and subsumed past research into three overarching research traditions: Agency theory, institutional theory, and global strategy. In Table 1, I outline each literature stream and their rationale. In the remaining sections, I synthesize these arguments to develop a cumulative, comprehensive account of

[1] Although autonomy is inversely related to centralization, it is not necessarily the opposite of global integration. Prior research suggests that subsidiary autonomy and integration may co-exist (Ghoshal & Bartlett, 1990). However, centralization and control are not interchangeable as control does not necessarily reflect centralization. Headquarters can maintain control through various coordination mechanisms, such as formalization and socialization (Zeng et al., 2018), while a subsidiary is still locally autonomous. For instance, headquarters control may help facilitate global integration and then subsidiary autonomy gives subsidiary managers the latitude to become locally embedded and identify how to best use their resources and capabilities to fit local conditions. The diversity in nomenclature is one cause for the mentioned conceptual ambiguity.

autonomy's antecedents, contributing to the construction of a theoretical nomological network of global MNE strategy and structure.[2]

---Insert table 1 here---

Agency theory

First, agency theory is a prominent theoretical lens for analyzing headquarters-subsidiary relationships (e.g., O'Donnell, 2000; Björkman et al., 2004; Ambos et al., 2019), and concerns the design of optimal contracts by headquarters (principal) to curtail opportunism by and misalignment of the subsidiary (agent) (Jensen & Meckling, 1976; see Kostova et al., 2018). Hoenen and Kostova (2015: 105) argue that headquarters-subsidiary agency can be explained in three-parts: (a) the headquarters may allocate decision-making rights to a subsidiary to more easily perform MNE functions in foreign locations. However, (b) the headquarters cannot always fully observe subsidiary operations, and (c) the loss of control through the delegation of decision-making authority may result in the divergence of the subsidiary, inducing undesirable behaviors and potentially plaguing subsidiary success. In this sense, the allocation of subsidiary autonomy is seen as comparatively riskier than headquarters centralization.

Prior research suggests that the possibility for opportunistic subsidiary behavior is a root agency concern and thus a key determinant of a headquarters' decision to limit

[2] I acknowledge that there are other theoretical perspectives relevant to understanding subsidiary autonomy, such as the attention-based view (Bouquet & Birkinshaw, 2008), network theory (Gammelgaard et al., 2012), and internalization theory (Verbeke & Kano, 2016). I include these perspectives and their contributions to autonomy's nomological network in my review. However, given their relatively low prevalence in autonomy research, for the purposes of this study, I subsume these various peripheral perspectives within my three-pronged framework.

subsidiary autonomy (Kostova et al., 2018). Subsidiary opportunism occurs when a subsidiary pursues self-interests and incongruent behaviors with the MNE. Even if subsidiaries are given only limited decision-making latitude to strategize around pressures for local adaptations (Ambos et al., 2019), subsidiary managers may still use that autonomy to "build their own little empires" (Birkinshaw, 1998: 362) and extend their roles to pursue independent objectives and self-interests (Mudambi & Navarra, 2004). While foreign subsidiaries are not mere mechanical instruments of their MNEs and may need autonomy to generate local competitive advantages (Cuervo-Cazurra et al., 2019), it is difficult to curtail subsidiary opportunism once a subsidiary has decision-making latitude.

Moreover, subsidiaries are boundedly rational, such that they have a limited capacity to interpret and attend to MNE strategies and directives (Kostova & Roth, 2003). Because subsidiaries are embedded in both their local and MNE context, it becomes difficult for a subsidiary to interpret MNE objectives, judge situations, and take appropriate action (Hoenen & Kostova, 2015). Subsidiaries may rely on their own heuristics and interpretation of MNE strategies, which may increase the risk of role overestimation and task misinterpretation (Foss & Weber, 2016). Headquarters themselves may also be boundedly rational, and Hendry (2002) argues that "there will be some degree of misunderstanding, misinterpretation, or misjudgment…corresponding to the difference in utility between achieving their objectives as they would understand them and achieving their objectives as the agents understand them" (p.102). The upshot is that although autonomy can be useful to drive MNE success in foreign locations, potential

misalignment in goals and objectives make the allocation of autonomy risky (Nohria & Ghoshal, 1994; Ghoshal & Moran, 1996).

In the context of disperse MNEs, it is particularly difficult for headquarters to monitor subsidiary behavior and differentially manage their network of subsidiaries. When monitoring mechanisms becomes too costly, headquarters may utilize performance-based contracts that are designed to reward (curtail) subsidiaries contingent upon their local performance. By implementing performance-based controls, headquarters can objectively implement varying global strategies while making the subsidiary a bearer of risk (e.g., Roth & O'Donnell, 1996; Gong, 2003). That is, subsidiaries that perform well will be rewarded with more autonomy as a subsidiary's outcome is tied to its exposure to risk (Chatzopoulou, Spanos & Lioukas, 2020); however, underperforming subsidiaries should exhibit less autonomy because they have not proven themselves as deserving more decision-making latitude (Jensen & Meckling, 1976). Hence, headquarters may use performance to make subsidiary behavior more verifiable and visible (Kim, Prescott & Kim, 2005). In sum, headquarters-subsidiary agency seems to be theoretically relevant, but there are various ways in which the theory has been applied to understand subsidiary autonomy (e.g., Björkman et al., 2004; Filatotchev & Wright, 2011), making it ripe for additional empirical evidence.

Institutional theory

In recent years, a proliferation of research has adopted institutional theory to examine the importance of local environmental settings and organizations' contextual

embeddedness (Kostova & Zaheer, 1999; Hall & Soskice, 2001; Witt & Jackson, 2016).[3] Such research argues that differences among host-country environments affect subsidiary strategy, structure, and performance and thus MNE success in foreign locations (e.g., Gaur & Lu, 2007; Lazarova, Peretz & Fried, 2018). In particular, with the rapid expansion of MNEs to disperse markets, firms are increasingly finding themselves in unfamiliar territories, which requires differential management of subsidiaries to cope with complex multinational operations. With a primary purpose of foreign subsidiaries being to tap into host-country resources to absorb, generate, and disseminate knowledge across the MNE network (Foss & Pedersen, 2002; Andersson et al., 2002), subsidiary autonomy might be indispensable and hence a critical part of contemporary MNE strategy.

When applied to headquarters-subsidiary domain, institutional theory primarily focuses on cross-country differences, often elucidating the role of institutional distance (Kostova et al., 2019). Institutional distance demarcates the "extent of similarity or dissimilarity between the regulatory, cognitive, and normative institutions of two countries" (Xu & Shenkar, 2002: 608). A broad overview of institutional distance encompasses cultural, regulatory, and cognitive elements (Kostova, 1999), and distance is a measure to capture the relative familiarity of the parent MNE with subsidiary host-country conditions.

[3] Prior research suggests that there are three branches of institutional theory: institutional economics, organizational institutionalism, and comparative institutionalism (see Hotho & Pedersen, 2012). To facilitate narrative cohesion, I adopt a broad conceptualization of institutional theory as "companies doing business across national borders are embedded and exposed to multiple and different institutional environments in their home and host countries, and, as a result, face unique difficulties and risks" (Kostova et al., 2019: 469).

Prior research suggests with increasing distance between home and host-country institutions, headquarters managers are likely to have larger knowledge gaps of host-country conditions, making the allocation of resources and capabilities more difficult (Dellestrand & Kappen, 2012). In such environments, decision-making autonomy becomes an important structural mechanism as subsidiary managers can more easily become locally embedded and strategize around local institutions' norms and regulations (Geleilate et al., 2019). Alternatively, not all institutional environments present obstacles for local embeddedness and integration processes for the MNE. In lower distance contexts between the home and host country, the headquarters may more easily retain decision-making control while still achieving similar local responsiveness benefits (Cui et al., 2006). Here, autonomy should be differentiated according to the distance between the home and host environments (Luo, 2001).

However, although autonomy may yield embeddedness enhancing benefits in distant environments, it may simultaneously inhibit global integration (Hartmann, Feisdel & Schober, 2010). While integration and local responsiveness are not inversely related, local pressures, such as low regulatory quality and economic instability, may significantly impact global integration (Luo, 2001; Holtbrügge, 2005). Thus, with increasing uncertainty in the host country environment, autonomous subsidiaries may focus too much on navigating the local environment and losing out on global integration benefits (Cuervo-Cazurra & Genc, 2008; Beulgelsdijk et al., 2017). As a result, the MNE may wish to retain some decision-making control to prevent a subsidiary from focusing too much on local adaptation and becoming a silo within the MNE network.

Institutional scholars also posit that host country conditions might influence the salience of subsidiary autonomy, irrespective of their similarity to the home country context. For instance, MNEs will alter their local strategies when entering a host country that is unstable and presents numerous constraints, such political uncertainty and lack of governance mechanisms (e.g., Rodriguez, Uhlenbruck, & Eden, 2005; Sartor & Beamish, 2018). Rabbiosi and Santangelo (2018) argue that in such cases, autonomy will help to reduce the costs of uncertainty and information processing as autonomy equips local managers to navigate local issues and make adaptive decisions. While autonomy might come with inconsistencies in internal strategy, structure, and processes, it helps to legitimize the subsidiary in the local market. Moreover, in countries with high tolerance for uncertainty and corruption, MNEs may face pressures to engage in corrupt behavior to maintain salience in the local environment. Here, subsidiary autonomy might be deployed as a means for the MNE to distance itself from the subsidiary in case of corrupt, misaligned behavior (e.g., Spencer & Gomez, 2011; Cuervo-Cazurra, 2016). As these brief examples illustrate, while various aspects of institutional theory are relevant to understanding why a subsidiary will be more or less autonomous, they warrant additional theoretical and empirical work to understand their underlying effect.

Global strategy

Finally, research in the global strategy tradition originally argued that "ownership-specific advantages were developed at the corporate headquarters and leveraged overseas" (Birkinshaw & Hood, 1998: 773). In this sense, the subsidiary was dependent on the MNE, and its role was mostly competence-exploiting (Cantwell &

Mudambi, 2005). As globalization progressed, subsidiaries began to assume new mandates (Lee, Chung & Beamish, 2019), develop unique and sustainable resources (Birkinshaw, 1997), and contribute to MNE success abroad. Indeed, Menz et al. (2015) argue that as the MNE evolved, so did the foreign subsidiary – taking on new value-adding roles within the organization by identifying, absorbing, and generating unique and sustainable resources and capabilities.

The transformation of subsidiary roles and mandates is closely related to resource-based traditions (Rugman & Verbeke, 2001). As subsidiaries evolve over-time, they accumulate more resources and capabilities to develop their own competitive advantages (Birkinshaw & Hood, 1998; Lim, Hemmert & Kim, 2017). The control of resources increases the bargaining power of a subsidiary, enhancing its visibility and reshaping the headquarters-subsidiary relationship. Resources are a reflection of intra-organizational power dynamics (Cuervo-Cazurra et al., 2019): Subsidiaries with more strategically important resources can assume power, influence strategy, and, perhaps, operate with more autonomy.

In addition, and as previously mentioned, it is difficult for the contemporary MNE to retain decision-making control across all subsidiaries, primarily due to the diversity in market structures, processes, and consumer demands. Because of the limited capacity of headquarters managers, they may attempt to move subsidiaries from a local-market orientation into competence-creating (Cuervo-Cazurra et al., 2019), tapping into knowledge pools to become a key source of competitive advantage. Such subsidiaries move beyond being subservient executors of MNE commands towards more strategically important to the MNE (Ryan et al., 2020). Here, subsidiaries slowly take on more

responsibilities within the organization, assuming responsibility for new value-chain functions as well as becoming more locally embedded (Riviere, Bass and Andersson, 2020). The general notion is that subsidiaries will not always be dependent on their parent MNE and thus will differ in their local strategy, which might reflect varying levels of decision-making autonomy (Mudambi & Navarra, 2004).

In sum, the preceding discussions and extant literature suggest that the allocation of subsidiary autonomy is not a straightforward decision. I presented several arguments for each research tradition that illustrate cases for an increase and limiting of decision-making autonomy. For instance, agency theory posits that headquarters might maintain decision rights to prevent goal misalignment, while it might also argue for more autonomy for other agency variables, such as past performance. Similarly, institutional theory emphasizes the importance of autonomy to cope with complex contextual settings, although too much autonomy may result in deleterious effects for global integration. Then, global strategy suggests that autonomy allocation will be most salient for those subsidiaries with more functional responsibilities and that have a locally focused strategy, but not all subsidiaries have the need for autonomous decision making. Each of these views has helped advance our understanding of why a subsidiary might be autonomous in the first place, but arguments have been piecemeal, and theory of subsidiary autonomy has been disaggregated. Hence, to better understand the drivers of autonomy, in the next section, I meta-analyze dispersed empirical findings to empirically explore the underlying effects of key variables stemming from each research tradition.

METHODOLOGY

Sampling procedures

The sample selection procedure comprised of a five-step structured approach consistent with established guidelines of recent management studies (e.g., Kirca et al., 2011; Fainshmidt et al., 2016; Beugelsdijk et al., 2017). First, I read and analyzed existing conceptual reviews (Paterson & Brock, 2002; Young & Tavares, 2004; Kostova, Marano & Tallman, 2016; Meyer et al., 2020) and related meta-analyses (Zeng, Grøgaard & Steel, 2018; Geleilate et al., 2019) to both identify a base of studies and to help formulate a set of autonomy-related keywords. Second, I developed a series of paired search terms, one set targeting subsidiaries, and another decision-making rights. Specifically, I had six prefix terms (subsidiary, subunit, affiliate, division, foreign, local) and seven suffix terms (autonomy, decision-making, centralization, decentralization, control, independence, responsiveness), resulting in 42 paired search terms. I complemented these with a set of methodological keywords (e.g., findings, results, empirical, data) to identify only quantitative, empirical articles (Fainshmidt et al., 2016). I used these search parameters to survey major electronic databases, including ABI Inform, EBSCO, and Google Scholar, targeting all peer-reviewed scholarly journals.

Third, I engaged in a manual search of 15 relevant IB, strategy, and general management journals for additional studies. During this process, I focused on those journals with an Academic Journal Guide (ABS) rating of "3" or higher (Cuervo-Cazurra & Li, 2020), which includes outlets such as the *Journal of International Business Studies, Journal of World Business, Journal of International Management, Global Strategy Journal, Strategic Management Journal, Organization Science, Journal of Management*,

and *Journal of Management Studies*. This step allowed me to identify articles that I may have missed in my initial search and identify other keywords and topics relevant to my analysis (Aguilera, Marano & Haxhi, 2019).

Fourth, I surveyed previously identified studies' reference lists and examined their citations in Google Scholar. Using a snowballing technique (Beugelsdijk et al., 2017), I searched for frequently used references in prior studies on or related to autonomy. This process yielded new articles published in previously missed journals, including the *Journal of Organizational Design* and *International Entrepreneurship and Management Journal*. Finally, I sent an e-mail to the Academy of Management (AOM) and the Academy of International Business (AIB) listserv to identify any missing articles, thereby addressing the file-drawer problem (Rosenthal, 1979). Although studies that explicitly focus on autonomy better contribute to the nomological network, for a study to be considered for final review during any of the five steps it only needed to have a correlation matrix or empirical information with which a correlation for autonomy can be computed (Hunter & Schmidt, 1990). Hence, this allowed me to bring together studies that did not focus exclusively on autonomy and test ideas that might have been missed in any single study (Combs et al., 2019).

Next, I downloaded all correlations in my sample to capture the entire nomological network of subsidiary autonomy research. Because this study does not meta-analyze any particular relationship (e.g., autonomy and performance), it was imperative to cast a wide net before reducing correlations through a coding process. Once all correlations were downloaded, I followed a rigorous coding protocol to identify which constructs should be included in the final sample. My coding process included an

iterative assessment of definitions and measurements (Lipsey & Wilson, 2001). Specifically, I first identified granular themes and, later, grouped smaller, less-frequent constructs into broader themes to establish a theoretically relevant and empirically feasible framework (Zeng et al., 2018; Geleilate et al., 2019). In practice, meta-analytic evidence can be deduced from as few as two empirical studies (see Rosenthal, 1979). However, such an approach does not allow for reliable causal inference and is not well-suited for this study. Finally, I ensured that there were not multiple effects of the same construct within each study. If the effects were from distinct samples within one study (e.g., Raziq, Borini & Perry, 2012) or operationalized in different ways (e.g., Newburry, Zeira & Yeheskel, 2003), I retained them for further analysis; otherwise, I collapsed these effects into an average effect size (Geyskens, Steenkamp & Kumar, 2006).[4]

The culmination of these processes yielded 131 relevant empirical studies spanning 1986 to 2020 (see Appendix A) and encompassing a global sample of 31,017 foreign subsidiaries. My sample consists of 547 bivariate observations between subsidiary autonomy and its antecedents and 1,585 observations across all constructs. Notably, my sample is not restricted to any particular timeframe; however, the early contributions of Gates and Egelhoff (1986) and Hedlund (1986) cemented the importance of subsidiary autonomy to IB research. The studies in my sample come from a wide range of academic domains, such as strategy, entrepreneurship, human resources, and

[4] While several studies might use the same dataset, Kirca et al. (2011) argue such studies can be included as long as the correlations arise between different constructs or alternative operationalizations of the same construct. These differences yield meaningful inferential information and thus are retained for analysis (Van Wijk, Jansen & Lyles, 2008). Prior meta-analytic studies suggest that the collapsing of correlations does not significantly alter the results (e.g., Geleilate et al., 2019).

technology and innovation, but, expectedly, the majority (54%) were published in international business outlets.

Construct measurement

As previously mentioned, meta-analyses require a rigorous coding process to organize disperse constructs around conceptual themes. Following prior studies, I engage in a four-step process (Greyskens et al., 2006; Kirca et al., 2011): First, I surveyed all constructs and their operationalizations to identify the underlying conceptual foci. Second, I grouped constructs according to broad schematic themes, such as environmental context, headquarters-subsidiary relationship, and subsidiary strategy. Third, I re-examined the themes, becoming stricter with each iteration in terms of nomenclature and operationalizations of constructs, ultimately settling on constructs that closely align with the three previously discussed research traditions. Finally, I probed differences between more granular groupings, confirming that my final measurements did not substantively impact my meta-analytic results (Hunter & Schmidt, 2004). In Table 2, I provide a summary of the main constructs in my final sample.

---Insert Table 2 here---

My outcome variable, *subsidiary autonomy*, captures the extent to which foreign subsidiaries make independent strategic decisions across various functional areas, such as product development (Roth & O'Donnell, 1996), marketing (Tran, Mahnke & Ambos, 2010), and human resources (Fenton-O'Creevy et al., 2008). While the majority of prior

studies explicitly measure autonomy (61%), several studies focus on its inverse, centralization (Ambos & Schlegelmilch, 2008), or varying nomenclatures, such as control (Puck et al., 2016) and technocratic coordination (Holtbrügge, 2005) (see Appendix B, Table 1B). I acknowledge the heterogeneity of various operationalizations and, to ensure commensurability, I test the implications of these differences in a series of additional analyses below.

To capture variables that reflect agency-related arguments, I first measure *goal alignment* by examining the extent to which a subsidiary has shared goals (shared vision) with its MNE headquarters (e.g., Fey & Furu, 2008; Ahlvik, Smale & Sumelius, 2016). This measure of alignment combines several labels, such as goal incongruence (e.g., Chen, Paik & Park, 2010), organizational climate (Foley, Ngo & Loi, 2012), and role conflict (Gupta & Govindarajan, 1999) as well as contains responses from the subsidiary (e.g., Bouquet & Birkinshaw, 2008), headquarters (e.g., Birkinshaw et al., 2000), or both (Ambos et al., 2019). Next, I measure *past performance* as a subsidiary's prior (e.g., t-1) financial and operational performance (e.g., Nell, Ambos & Schlegelmilch, 2011; Nguyen & Rugman, 2015). Prior research suggests that both goal alignment and strong prior performance help to mitigate headquarters' uncertainty that a subsidiary will act opportunistically (Gong, 2003), thereby signaling trust in the subsidiary and reducing the need to centralize decision-making rights.

Second, I include two variables that relate to institutional theory: *Institutional distance* captures the extent of formal and informal institutional similarity between the MNE home and subsidiary host country environments (Nell & Ambos, 2013; Kawai & Strange, 2014). Although the effects of institutional distance are well documented

(Geleilate et al., 2019; Kostova et al., 2019), prior research suggests that institutional distance is a broad construct and that there might be differences in informal (e.g., culture, language, religion) and formal (e.g., governance, intellectual property rights, labor laws) distance measures (cf., Slangen, 2013; Schomaker & Zaheer, 2014; Rabbiosi & Santangelo, 2018). I explore these differences in series of additional analyses below. Next, I include *host country constraints*, which reflect differences in host country volatility (O'Donell, 2000), political and economic instability (Chiao & Ying, 2013), and government restrictions (Chen et al., 2010). Together, these institutional measures capture complexities that the MNE might experience in the host country environment, increasing the salience of subsidiary autonomy to cope with complex multinational operations (de Jong et al., 2015; Santangelo, Meyer & Jindra, 2016).

Third, to capture constructs relevant to the global strategy tradition, I include *value chain breadth* as the number of functional activities the subsidiary undertakes (e.g., marketing, sales, R&D, human resources) (Chang & Taylor, 1999; Ambos, Andersson & Birkinshaw, 2010). I also include *localization* to measure the degree of subsidiary local responsiveness (e.g., Luo, 2006) versus global integration (e.g., Sarabi et al., 2020). Prior research suggests that subsidiaries who are active in more value-chain functions are oftentimes strategically independent from its MNE headquarters (Ambos & Birkinshaw, 2010; Nell & Ambos, 2013). Similarly, the importance of decision-making autonomy is heightened for locally responsive subsidiaries, whereby autonomy is a mechanism to facilitate adaptive decisions that fit host country conditions (Beugelsdijk & Jindra, 2018). With these measures I capture differences in local subsidiary strategy and, by extension, global MNE strategy.

I also include several additional variables consistently found in prior studies. First, I account for differences in contextual settings by measuring *industry pressures* as the rate of change, volatility, and uncertainty in the subsidiary's primary industry context (Kawai & Strange, 2014), and *geographic distance* as the physical distance between the headquarters and subsidiary (Tran et al., 2010). Second, I introduce several subsidiary characteristics: *Greenfield entry* assumes a value of "1" if the subsidiary is a greenfield, otherwise "0" (Drogendijk & Slangen, 2006), and *wholly owned* subsidiaries are coded as "1", otherwise "0" (Luo, 2006). I also include *global focus* as whether the subsidiary's products and services are intended for a global or local market use (Bouquet & Birkinshaw, 2008), *subsidiary age* (Rabbiosi, 2011), and *subsidiary size* (Slangen, 2013). Third, autonomy may vary by MNE thus I include MNE characteristics, such as *MNE size* (Sengul & Obloj, 2017) and *MNE experience* measured as the number of years with foreign subsidiaries or the number of subsidiaries in a given host country (Puck et al., 2016). Finally, I introduce several variables at the headquarters-subsidiary interface: *socialization* measures the degree of social interaction and cooperation among subsidiaries and the MNE headquarters (Ambos et al., 2019), *formalization* captures the explicit rules, procedures, and coordination of activities (Nell & Ambos, 2013), and *communication frequency* is how often the headquarters and subsidiary communicate with each other (Birkinshaw, Hood & Jonsson, 1998).

Meta-analytic procedures

Meta-analyses have become central to management research, and Combs et al. (2019) argue that there are several dominant approaches. In this study, I use two of such

approaches: Hedges and Olkin meta-analysis (HOMA) (Hedges & Olkin, 1985) and meta-analytic structural equation modeling (MASEM) (Bergh et al., 2016).[5]

First, HOMA is a method to determine the mean effect size of a predictor on an outcome, such as goal alignment on subsidiary autonomy. This method provides a confidence interval and a heterogeneity test for the given effect size (Lipsey & Wilson, 2001). To perform the computations, I collected bivariate correlations and computed a Fischer-Z score to account for distribution skewness. I used random-effects HOMA and the transformed correlation (i.e., the inverse of its variance weight) to calculate the mean effect size (Raudenbush & Bryk, 2002).

Second, MASEM uses a path model to provide robust and rigorous estimations of effects. It helps assess the size of an effect, thereby determining the most salient predictors across a set of predictors. Moreover, MASEM helps alleviate concerns of endogeneity bias as it conducts a series of simultaneous equations, including control variables and their effects on the dependent variable (Bergh et al., 2016). Indeed, MASEM is well suited for this study as it "allows for powerful simultaneous tests of multiple theoretical relationships" (Combs et al., 2019: 5).

To conduct a MASEM path model, I calculated the adjusted mean effect size for each relationship and then organized these relationships into a meta-analytic correlation matrix (Viswesvaran & Ones, 1995). Next, I use the resulting matrix as an input for my path model, whereby each cell in the matrix is derived from a different set of "K" studies

[5] An alternative approach would be to use meta-analytic regression analysis (MARA) (e.g., Beugelsdijk et al., 2017). This approach uses the raw effect sizes as inputs to the regression analysis and is particularly useful when testing boundary conditions. However, compared to the alternatives, MARA is sensitive to the number of included studies and thus lacks power if an adequate N is not achieved, increasing the risk of Type I and Type II errors (Combs et al., 2019).

with an "N" number of observations. I use the harmonic mean as a conservative approach to determining the sample size for my model and check model fit using commonly used indices (Hunter & Schmidt, 2004).

RESULTS

First, I explore the direct effects of each construct independently through a set of HOMA procedures. In Table 3, I display the "K" number of studies exhibiting the relationship for "N" subsidiaries, corrected mean effect size, 95% confidence interval, and Cochran's Q-test for sample heterogeneity. The results suggest that only four predictors are statistically significant and not due to chance ($p < 0.05$): *Industry pressures* ($r = -0.076$), *socialization* ($r = -0.177$), *formalization* ($r = -0.181$), and *communication frequency* ($r = -0.137$).[6] The Cochran's Q-test for all relationships indeed reveals statistically significant heterogeneity, thereby indicating considerable variation in each of the samples and the need for more robust estimation models (Hunter & Schmidt, 2004).

---Insert Table 3 here---

Second, to provide robust estimations of each effect I formulated a structural equation model of simultaneous equations. In Appendix B (Table 2B), I present the meta-analytic correlation matrix, which is the source input for my structural model.

[6] In practice, HOMA procedures are most useful when examining the mean effect size of a well-documented relationship, such as the effects of institutional distance on establishment mode choice (e.g., Kostova et al., 2019). However, the empirical efforts of this study are quasi-exploratory in nature and thus HOMA provides only preliminary evidence for autonomy's antecedents. The HOMA results as used as an input to the MASEM analysis.

Importantly, I include only those additional variables that are most commonly used as controls in prior studies and that are theoretically and empirically feasible. Using the SEM function in Stata 15 and a maximum likelihood estimation (Kirca et al., 2011), my first path model includes all variables as predictors of autonomy as well as paths from *institutional distance* and *host country constraints* to the four agency and global strategy variables. Prior research suggests that institutional conditions might be best understood as determinants on headquarters-subsidiary relations and strategy decisions (e.g., Slangen & Hennart, 2008; Dellestrand & Kappen, 2012). However, I noticed that the model fit could be improved by removing the additional linkages, suggesting that agency relations and strategy decisions appear to not be endogenous to institutional variables. With their removal, I attain satisfactory fit indices (Chi-square = 46.74, RMSEA = 0.00, CFI = 0.99, TLI = 0.99) and I present my results in Table 4.

Results from my path model suggest that *goal alignment* (r = -0.0.69), *past performance* (r = 0.077), *value chain breadth* (r = 0.115), and *localization* (r = 0.079) are relevant predictors of subsidiary autonomy and are not due to chance ($p < 0.05$). Additionally, *industry pressures*, *greenfield entry*, and *MNE size* are partially significant control variables ($p < 0.10$). Looking at the specific relationships, goal alignment and past performance operate in conflicting directions, such that subsidiaries that share common goals with their MNE are less likely to exhibit higher levels decision-making autonomy, while well performing subsidiaries have more autonomy. Next, subsidiaries that undertake more functional activities and are locally responsive often operate with increasing decision-making latitude. The predictors for institutional theory – *institutional*

distance and *host country constraints* – are not statistically relevant predictors of subsidiary autonomy.

To then compare the mean effect sizes of the significant relationships, I employ the confidence interval construction method (Olkin & Finn, 1995). This method computes a 95% confidence interval between two separate effects, and if the interval does not include zero then the difference is not due to statistical chance ($p < 0.05$).[7] The results suggest that the new confidence intervals for all effect comparisons do not include zero; hence, the differences are not due to chance. Therefore, holding the remaining variables constant, *value chain breadth* is the most salient predictor, followed by *localization*, *past performance*, and *goal alignment*.

Additional analyses

To assess the stability of my meta-analytic results and provide corroborating evidence, I ran several additional analyses. First, I probed for differences in the operationalization of key constructs (see Appendix B, Table 3B). For instance, prior research suggests that goal alignment may differ depending on who is being survey, i.e., the subsidiary or headquarters (Kostova et al., 2018). Thus, I tested whether autonomy is sensitive to the survey respondent, and results for all three subsamples indicate that there are no statistical differences between responses from the subsidiary, headquarters, or both. Furthermore, the direction of the mean effect size remains negative across all three samples.

[7] The confidence interval is computed using the following formula: $R^2_{VarA} - R^2_{VarA} \pm (1.96)*var\hat{}(R^2_{VarA} - R^2_{VarB})$. The term R^2_{VarA} is the coefficient of Variable A (e.g., goal alignment) and R^2_{VarB} is the coefficient for Variable B (e.g., past performance).

Second, there might be differences in the effect of financial and strategic (operational) performance on subsidiary autonomy. For instance, subsidiaries may be performing well financially (e.g., ROA), but the importance of such performance metrics may differ across for each subsidiary (Birkinshaw & Hood, 1998). Results indicate no statistical differences in types of past performance measures.

Third, I tested for differences between formal and informal institutional distance measures. While the two constructs are often highly correlated (Beugelsdijk, Ambos & Nell, 2018), several studies argue that they should not be consolidated as both capture complementary or even contradictory aspects of distance theorizing (Tung & Verbeke, 2010). Therefore, I split distance into formal and informal institutional distance, and I find no statistical difference between the two and that the direction of the effect is consistent with the main model. Additionally, cultural distance is not sensitive to those studies that use Kogut and Singh (1988) and those that do not. I further probed into the informal and formal measures by splitting each into high and low values (e.g., low informal distance), which helps assess whether the effects of distance are more pronounced at extreme levels. Again, the results reveal no statistically significant relationship ($p > 0.05$).

Fourth, to explore whether there are differences in autonomy measurements, I split my outcome into holistic and functional autonomy. Prior research suggests that there might be instances when the MNE allocates autonomy in select functional areas to facilitate subsidiary activities (e.g., Beugelsdijk & Jindra, 2018), while retaining control in other functions. The results for holistic autonomy indicate that only *localization* ($r = 0.185$) is related to autonomy and not due to chance ($p < 0.05$). I also find that

localization (r = -0.263) is related to functional autonomy. Interestingly, the direction of the coefficient for localization is different between holistic and functional autonomy. This finding aligns with recent research suggesting that MNE's might centralize control of core functions, such as R&D and product (e.g., Colombo et al., 2020). I also find that *value chain breadth* (r = 0.203) has a positive, significant effect on functional autonomy; however, due to its small sample size I interpret this result with caution. Next, I discuss the implications of these findings below.

FUTURE RESEARCH DIRECTIONS

In this study, I took an important first step to identify the conceptual ambiguity underpinning subsidiary autonomy research. Specifically, I developed a comprehensive, cumulative account of past research to develop a nomological network around three main research traditions. I then empirically demonstrated how the key variables within each perspective might operate in various ways as well as are certain traditions are perhaps potentially important in face of others. However, as with many conceptual and empirical reviews, these processes might have opened up more questions than they answered (Shaw & Ertug, 2017). Aguinis et al. (2020) argues that the identification of such inconsistencies helps to reinvigorate conversations and drive future scholarly work. Hence, in this section, I complement my findings with a theory-driven roadmap for future research into the drivers of autonomy, explicating how such research can propel a more lucid theory of MNE strategy, structure, and evolution. Building on recent work in the area, I propose an agenda of novel research questions that can break new ground in IB theory.

Contemporary MNE structure

First, a better understanding of the antecedents of subsidiary autonomy ought to focus on the evolving nature of MNE governance (e.g., Mudambi, 2011). For instance, with the emergence of the federative MNE, subsidiaries may utilize their lateral relationships with peer subsidiaries to access resources, strengthen their power, and take on new roles in the MNE network (Schotter & Beamish, 2011). From a global strategy perspective, such collaboration may enhance the bargaining power of a focal subsidiary, particularly as it leverages its lateral relationships to develop resources and capabilities central to MNE success (see Geppert & Dörrenbächer, 2014). At the same time, agency theory may try to mitigate these relationships to control subsidiary behavior and maintain control over MNE operations. These sorts of interactions may increase in new forms of MNEs, such as digital firms and emerging market MNEs (Schmitt, Decreton & Nell, 2019).

Moreover, MNEs are increasingly adopting regional management centers (intermediary units, regional headquarters) to optimize value adding activities in foreign locations (e.g., Verbeke, Kano & Yuan, 2016). The use of regional centers again shifts the power dynamics within the MNE and can thus influence local subsidiary autonomy. For instance, Dörrenbächer and Gammelgaard (2011) examined how a regional center abandoned its MNE directive and developed a new IT system, highlighting differences in strategy implementation within one MNE. The upshot is that with new MNE forms, the ways in which autonomy and thus strategy are implemented will be differentially observed. Hence, tracing the evolving nature of autonomy differentials, especially in

different types of MNEs, can illuminate MNE structure and thus inform theory of the MNE.

Microfoundations of autonomy

Barring notable exceptions (e.g., Nuruzzaman, Gaur & Sambharya, 2019), there is a scarcity of research on how subsidiary and MNE managers – notably, their cognition and social relationships – influence the allocation of autonomy. For instance, subsidiary managers may utilize their social relationships to bargain for more autonomy, on the one hand, (Dörrenbächer & Geppert, 2006) and headquarters managers may act opportunistically when allocating autonomy (Hendry, 2002), on the other hand. Moreover, prior research suggests differences in assigned versus assumed autonomy, such that subsidiary managers may act autonomously without formally being given decision-making latitude by their parent MNEs (Cavangh et al., 2017). Studying the cognitive and behavioral underpinnings of autonomy over time can shed light on why a subsidiary may be more autonomous than others as well as on MNE governance more broadly.

Another relevant area concerning the individual focuses on conceptual differences when theorizing on expatriates, top management, and boundary spanners (Meyer et al., 2020). For instance, expatriates play an essential role in the governance of foreign subsidiaries, implementing MNE strategy and maintaining alignment with headquarters (Bird & Mendenhall, 2016). However, they are also contextually embedded and might realize a need for more autonomy to absorb local knowledge (Gaur, Delios & Singh, 2007), regardless of intended MNE control. At the same time, subsidiary managers might

be considered boundary spanners (e.g., Klueter & Monteiro, 2017; Tippmann, Scott, & Parker, 2017) and thus find themselves extending their roles beyond their local mandate. Mäkelä et al. (2019) detail why certain boundary spanners may be more effective in their roles, but future research can expand upon these differences to better understand how individuals make decisions and their implications for within-MNE differences in global strategy.

Contextual importance

In recent years, we have experienced a series of global shifts that are impacting firms and governments alike (Witt, 2019). For instance, recent calls for de-globalization are shaping modes of value creation and how organizations operate abroad (e.g., Cuervo-Cazurra, Doz & Gaur, 2020). While prior research considers the importance of institutional and industrial environments, there is little research on how dynamic environmental changes influence subsidiary autonomy and global MNE strategy. Future research may probe these dynamics and how they affect the location of global value chains, intra-MNE power dynamics, resource dependencies and, thus, the allocation of (distinct aspects of) autonomy. At this point, the effects of these external pressures are unclear, including whether they operate similarly across institutional contexts, such as emerging and developed markets.

An exploration on contextual dynamics is inherently tied to temporal dynamics as well. Ambos et al. (2011) took an important first step to understand how autonomy changes over time, and future research can build on these insights. For instance, subsidiary autonomy may change in relation to environmental dynamics (e.g., Karna,

Richter & Riesenkampff, 2016); however, it is unclear whether that autonomy will persist once the subsidiary and MNE headquarters learns of the changing environment. Similarly, while the MNE may wish to retain control when entering a new foreign location (Slangen & Hennart, 2008), such control may subdue as the subsidiary becomes more embedded and lessens its dependence on the MNE headquarters (Birkinshaw & Hood, 1998). I am motivated by recent longitudinal cases designs in IB research (e.g., Birkinshaw, Ambos & Bouquet, 2017; Parente et al., 2020), which I believe can be a fruitful opportunity for future research to explore the changes in MNE strategy and structure over time, particularly during periods of environmental dynamism.

Gestalt-like approach

Finally, like much of IB phenomena (Fainshmidt et al., 2020), subsidiary autonomy is inherently gestalt-like, such that any single theory is unable to capture the entire complexity of its allocation. In fact, I demonstrate that many of my main variables are statistically insignificant in relation to autonomy, indicating the complex nature of understanding autonomy differentials. Initially, Nohria and Ghoshal (1994) argued that autonomy assignments should fit the subsidiary's (1) local environment and (2) internal resource-based advantages, but there may also be conditions beyond the headquarters-subsidiary relationship that may influence autonomy (Cantwell & Mudambi, 2005). Accordingly, I believe future research could emulate prior works, such as Cuervo-Cazurra et al. (2019) to understand how various theoretical prescriptions interact, complement, or substitute for each other to explain subsidiary autonomy and, thus, MNE governance. There are promising opportunities to integrate theoretical perspectives

toward studying the interplay of within-MNE and between-MNE differences in autonomy.

While the purpose of this study was not to explore boundary conditions (e.g., Geleilate et al., 2019), I believe that doing so can directly inform research on subsidiary management and theory of MNE structure, strategy, and evolution. For instance, goal alignment was shown to have a negative relationship with subsidiary autonomy; however, it might be that such alignment is particularly salient in distant institutional settings where the MNE cannot fully observe subsidiary operations and is thus associated with greater bounded rationality (Hendry, 2002). Similarly, the effects of distance might become more pronounced when subsidiaries take on more value chain activities, reflecting differing strategies within a sample of foreign subsidiaries (Bartlett & Ghoshal, 1989). Thus, an important next step in this research area is to explore not only *what* drives autonomy differences but also *when* such drivers are most salient.

DISCUSSION

Over the past forty years, research on subsidiary autonomy has continued to appear at the forefront of many core IB phenomena and grand challenges (Kostova et al., 2016; Meyer et al., 2020). Initially, the introduction of the autonomy construct was used in a limited manner, focusing on its sparse allocation to optimize non-essential business activities in foreign locations. As globalization later progressed and multinational operations became increasingly complex, so did research on subsidiary autonomy (Mudami, 2011). A recent meta-analytic review found that subsidiary autonomy generally leads to performance outcomes (Geleilate et al., 2019), thereby demonstrating why a discussion of autonomy is

important in the first place. However, the commensurate research on its antecedents has absent of a concentrated scholarly conversation, limiting the advancement of a more lucid theory of autonomy. In this review, I take an important step to resolve this ambiguity by synthesizing prior studies to develop a nomological network of autonomy research. Furthermore, I provided exploratory, meta-analytic evidence of 131 sample studies, which allowed me to rigorously test prior theoretical prescriptions in a comprehensive study.

What is true from this body of research is that the promising diversity has been both a benefit and hindrance to theory development (cf., Björkman et al., 2004; Cantwell & Mudambi, 2005; Rabbiosi & Santangelo, 2018). For instance, subsidiary managers might need autonomy to take local action and cope with host country demands (Kim et al., 2005), but more autonomy creates opportunities for agency problems, such as subsidiary opportunism (Ambos et al., 2019). Meanwhile, the need for autonomy might be particularly relevant in high institutional distance contexts due to the resulting challenges for headquarters managers to make locally adaptive decisions (Luo, 2003). My study suggests that latter explanation may be more appropriate, as internal, headquarters-subsidiary relationships may be more salient to understanding autonomy differentials than environmental conditions. As these brief examples illustrate, the plurality of explanations has contributed to the development of a nomological network, while until now have also rendered an unclear theory of autonomy's drivers. Hence, a key benefit of this study is that it takes a first step to provide cumulative evidence for key variables underpinning various research traditions and thus guide future scholarly work.

Indeed, the diverse findings of this study contribute to the guiding notion that autonomy is not a straightforward, performance-driven phenomenon, and that there are multiple explanations for its allocation. For instance, although IB scholars has extensively examined the effects of institutional distance (e.g., Dellestrand & Kappen, 2012) and host country conditions (e.g., Santangelo et al, 2018), headquarters managers' decision to allocate autonomy appears to not be directly determined by such environmental differences. This insight adds nuance to recent work in which suggests institutional mechanisms are not always in sync with their theoretical prescriptions, highlighting potential inconsistencies in arguments and applications (Kostova et al., 2019). Similarly, the two agency mechanisms provide alternative effects on autonomy: Goal alignment drives headquarters centralization while strong past performance increases autonomy. Thus, subsidiary performance is a stronger indicator of autonomy than maintaining alignment with MNE goals and strategies, raising the questions of how much headquarters-subsidiary relations (e.g., micro-politics) matter vis-à-vis measurable outcomes (e.g., performance) (Hoenen & Kostova, 2015).

Finally, my study implicitly speaks to the importance of configurational logic, particularly when capturing how global MNE strategy and structure is determined (Nohria & Ghoshal, 1994). A better understanding of autonomy's antecedents requires that research considers multiple explanations in concert rather than individually (e.g., Cuervo-Cazurra et al., 2019). In other words, while each research tradition on its own makes theoretical predictions for the allocation of autonomy, they are inherently interrelated and need to be considered simultaneously to account for potential perils of autonomy. For instance, a locally responsive subsidiary requires more autonomy

(Andersson et al., 2002), although that is only true when accounting for other relational, environmental, and strategy conditions. The broader implication is that there is a need to further unpack not only *what* conditions drive autonomy but also *when* those conditions matter most.

In sum, my review takes an important step to provide conceptual clarity and sufficient grounds to progress the state of autonomy research. I developed a comprehensive review of prior theoretical and empirical, bringing together disjointed studies to construct a nomological network of autonomy. I then utilized the cumulative body of research to conduct explorative meta-analytic testing of key variables and research traditions. These efforts allowed me to answer longstanding questions pertaining to structural differentiation within the MNE, while also identify gaps and facilitate a discussion for future research opportunities and scholarly work. Many of the discussions had in this study help to answer recent calls to develop a more lucid theory of subsidiary autonomy and, by extension, global MNE strategy, structure, and evolution. I hope that my study reinvigorates research on subsidiary autonomy in the contemporary MNE.

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Table 1. Overarching research traditions on the drivers of subsidiary autonomy

Research tradition	Common variables	Mechanisms	Exemplars of rationale	Select literature
Agency theory	HQ-SUB conflict Goal alignment Strategic relatedness Shared values	Opportunism Goal Alignment	1.) Headquarters will allocate autonomy when mechanisms to monitor subsidiaries and mitigate goal conflict are implemented. 2.) Headquarters will retain control to protect own interests and prevent subsidiary opportunistic behavior.	O'Donnell (2000) Scott et al. (2010) Ambos et al. (2011) Lazarova et al. (2017) Ambos et al. (2019)
Institutional theory	Institutional distance Cultural distance Institutional constraints	Legitimacy Responsiveness Embeddedness	1.) Headquarters will allocate autonomy in institutionally distal environments due to knowledge gaps between home and host-country markets. 2.) Headquarters will retain control in institutionally proximal environments to monitor subsidiary behavior.	Gomez & Werner (2004) Gaur et al. (2007) Fenton-O'Creevy et al. (2008) Slangen & Hennart (2008) Kawai & Strange (2014)
Global strategy [A]	Subsidiary power Vertical dependence Subsidiary resources Local responsiveness Value chain breadth	Efficiency Value creation Bargaining Power	1.) Headquarters will allocate autonomy to enable innovation and the development of resource-based advantages, reflective of the MNE's strategy. 2.) Headquarters will retain control when subsidiaries are vertically integrated and focused on global integration.	Rugman & Verbeke (2001) Mudambi & Navarra (2004) Birkinshaw et al. (2005) Venaik et al. (2005) Zhan & Chen (2013)

Notes: The table is illustrative and in no way exhaustive of all possible theories, variables, explanations and literature; A = This category encompasses several distinct research traditions, but in this study, it refers mostly to resource-based theorizing; for the sake of brevity, some of the citations in this table are not included in the reference list but are available upon request.

Table 2. Summary of main constructs included in final sample

Construct	General Definition	Exemplars of label(s)	Select literature
Autonomy	Degree of subsidiary decision-making latitude (*centralization)*	Autonomy Decentralization Tightness of control	Jarillo & Martinez (1990) Taggart (1997) Nobel & Birkinshaw (1998)
Goal alignment	Extent to which a subsidiary and its headquarters have the same goals/vision	Shared vision Goal conflict Organizational identification	Birkinshaw et al. (2000) Williams & van Triest (2009 Hombrug & Prigge (2014)
Past performance	Past subsidiary financial and operational performance	Return on assets (ROA) Sales growths Innovation performance	Newburry et al. (2003) Nell et al. (2011) Nguyen & Rugman (2015)
Institutional distance	Degree of similarity between the MNE home and subsidiary host country	Institutional distance Cultural distance Regulative distance	Luo (2001) Verbeke et al. (2013) Meyer & Estrin (2014)
Host country constraints	Extent to which the host country environment is presents challenges	Host country volatility Environmental complexity Domestic political risk	Slangen (2013) Wang et al. (2014) Santangelo et al. (2018)
Value chain breadth	Number of value chain activities a subsidiary undertakes	Subsidiary functions Value chain scope Miniature replica	Bouquet & Birkinshaw (2008) Ambos & Birkinshaw (2010) Nell & Ambos (2013)
Localization	Degree of subsidiary local responsiveness (*global integration*)	International strategy type Local responsiveness Local differentiation	Gomez & Werner (2004) Ambos & Schlegelmilch (2008) Rabbiosi & Santangelo (2018)

Table 3. HOMA results

Predictor	K	N	Corrected R-mean	95% confidence interval	Q-test
Agency Theory					
Goal alignment	33	5754	-0.047	-0.116 to 0.022	213.20*
Past Performance	20	3679	0.058	-0.035 to 0.151	139.56*
Institutional Theory					
Institutional distance	54	12160	0.018	-0.050 to 0.086	732.59*
Host country constraints	29	8821	0.018	-0.062 to 0.099	378.33*
Global Strategy					
Full operations	15	2689	0.123	-0.018 to 0.265	185.85*
Localization	24	3320	0.080	-0.028 to 0.188	217.47*
Additional – Context					
Industry pressures	37	10527	-0.076	-0.147 to -0.006*	433.44*
Geographic Distance	11	1835	-0.019	-0.088 to 0.050	20.81*
Additional – Subsidiary					
Greenfield entry	32	9900	-0.050	-0.112 to 0.013	263.03*
Wholly owned	12	3230	-0.035	-0.158 to 0.088	107.75*
Global product focus	12	2428	0.039	-0.111 to 0.189	175.29*
Subsidiary age	77	18721	0.019	-0.009 to 0.047	240.16*
Subsidiary size	94	20018	0.009	-0.018 to 0.036	308.66*
Additional – MNE					
MNE size	25	6011	-0.032	-0.088 to 0.024	92.21*
MNE experience	19	2812	0.006	-0.060 to 0.071	53.38*
Additional – HQ-SUB					
Socialization	23	4206	-0.177	-0.298 to -0.057*	328.03*
Formalization	24	4251	-0.181	-0.352 to -0.010*	698.10*
Communication Frequency	15	3189	-0.137	-0.208 to -0.066*	59.98*

Notes: K = number of study relationships; N = total sample size for K studies; Q-test = Cochran's sample heterogeneity test.

Table 4. MASEM path model results

			95% Confidence interval	
Variable	Coef.	P > |Z|	Lower	Upper
Agency Theory				
Goal alignment	-0.069	0.021	-0.127	-0.011
Past performance	0.077	0.010	0.018	0.136
Institutional Theory				
Institutional distance	0.030	0.298	-0.026	0.086
Host country constraints	0.029	0.315	-0.028	0.086
Global Strategy				
Value chain breadth	0.115	0.000	0.057	0.174
Localization	0.079	0.006	0.023	0.135
Controls				
Industry pressures	-0.053	0.068	-0.110	0.004
Greenfield entry	-0.052	0.073	-0.109	0.005
Subsidiary age	0.017	0.562	-0.040	0.074
Subsidiary size	-0.007	0.815	-0.065	0.051
MNE size	-0.051	0.084	-0.108	0.007
MNE experience	0.028	0.345	-0.030	0.087
Log likelihood	-22062.16			
Observations	1218			

Notes: Chi-square = 46.74 (0.00) p-value in paratheses; RMSEA = 0.00; CFI = 0.99; TLI = 0.99; Observations based on harmonic mean.

III. CONFIGURING FOR PRODUCT INNOVATION: A DIFFERENTIATED FIT PERSPECTIVE ON FOREIGN SUBSIDIARY AUTONOMY

INTRODUCTION

Because innovation by foreign subsidiaries is a key source of competitive advantages for the multinational enterprise (MNE), understanding how MNEs can manage their foreign subsidiaries to foster innovation is a fundamental undertaking of global strategy research (Rugman & Verbeke, 2001; Almeida & Phene, 2004; Phene & Almeida, 2008; Beugelsdijk & Jindra, 2018). The success of an MNE is often linked to its ability to "assimilate, generate, and integrate knowledge" in its geographically dispersed subsidiaries (Phene & Almeida, 2008: 901). To a large extent, foreign subsidiaries are the drivers of innovation within contemporary MNEs, especially when it comes to the generation of local product innovations that may be subsequently leveraged across the MNE network (Monteiro & Birkinshaw, 2017).

Prior research highlights decision-making autonomy as a key driver of product innovation by foreign subsidiaries (Venaik, Midgley & Devinney, 2005; Harzing & Noorderhaven, 2006; Beugelsdijk & Jindra, 2018). Autonomy—the extent to which a subsidiary makes strategic decisions in its operating environment, without interference by MNE headquarters—gives subsidiary managers the latitude to become locally embedded, develop network ties, and compile valuable inputs for novel product offerings (Kawai & Strange, 2014). With increased autonomy, subsidiary managers can make strategic decisions in areas such as marketing (Hewett, Roth & Roth, 2003; Gammelgaard et al.,

2012; Homburg & Prigge, 2014) and research and development (Feinberg & Gupta, 2004). Indeed, Beugelsdijk and Jindra (2018: 529) posit that MNE subsidiaries "are not able to develop product innovations when they lack the required decision-making autonomy".

In this study, I employ a differentiated fit perspective to argue that the role of subsidiary autonomy in fostering foreign subsidiary product innovation warrants more nuance. The differentiated fit perspective has its origins in contingency theories (Venkatraman, 1989) and hinges on the notion that subsidiaries can be structurally differentiated to achieve an optimal trade-off "between the cost of each structural element and its efficacy in the context of the subsidiary" (Nohria & Ghoshal, 1994: 493). Whether subsidiary autonomy leads to product innovation is therefore shaped by interactions between autonomy and complementary organizational and environmental conditions (Ambos, Asakawa & Ambos, 2011). As such, a differentiated fit prism suggests two key points of departure from existing theory and research.

First, prior literature implicitly assumes that increased autonomy will result in the generation of novel knowledge that often yields subsidiary innovation. Yet, although autonomy may provide the latitude to leverage knowledge locally, it does not necessarily generate the requisite knowledge that underpins product development. Accordingly, drawing from prior work on global innovation and knowledge sourcing, I suggest that subsidiary autonomy more likely results in product innovation when it is complemented by the internal generation of knowledge through research and development (R&D) (Asakawa et al., 2018; Beugelsdijk & Jindra, 2018) or externally by sourcing knowledge

from management consultants in the host country (Creplet et al., 2001; Back, Parboteeah & Nam, 2014).

Second, while decision-making autonomy may enable the pursuit of novel products for many subsidiaries, autonomy is not always needed (Palmíe et al., 2016). As Venaik et al. (2005) note, subsidiary roles and their associated levels of autonomy should be differentiated depending on the context in which the subsidiary operates. Here, I proffer that autonomy will be conducive to product innovation for foreign subsidiaries operating in host environments institutionally distal from the home country because institutional distance tends to create host-country-related knowledge gaps among parent MNE managers and to limit the ability of the subsidiary to leverage parent MNE products in the local context (Tallman & Chacar, 2011). Conversely, in institutionally proximal environments, parent MNE knowledge is more directly deployable in local conditions. In such contexts, parent MNEs can structure their subsidiaries to innovate by adapting existing competencies for the local context, even when decision-making is controlled by the parent MNE (Cantwell & Mudambi, 2005; Asakawa et al., 2018).

Taken together, my leveraging of a differentiated fit perspective suggests autonomy may be neither necessary nor sufficient for product innovation (Venkatraman, 1989; Nohria & Ghoshal, 1994). Rather, subsidiary product innovation is the result of the way in which MNE managers configure structural arrangements and knowledge-related roles of subsidiaries in different institutional contexts. I utilize fuzzy-set qualitative comparative analysis (fsQCA) (Fiss, 2007; Ragin, 2009) and data on foreign manufacturing subsidiaries operating in Europe and Asia to examine my arguments. I find three combinations of subsidiary autonomy, institutional distance, R&D, and usage

of management consultants that are associated with subsidiary innovation. The patterns I identify are largely consistent with my theory but also yield unexpected insights.

My study makes two theoretical contributions. First, I address recent calls for a contextualized theory of the outcomes of subsidiary autonomy, particularly subsidiary innovation (Andersson et al., 2016; Cano-Kollmann et al., 2016). I explicate that subsidiary autonomy and knowledge-related roles are complementary in facilitating subsidiary product innovation. I further highlight that knowledge can be generated from two distinct sources that are context dependent, and that subsidiaries can innovate without autonomy in certain institutional contexts. Second, my study contributes to the subsidiary management literature (Meyer, Li & Schotter, 2020) whereby prior studies have "assumed a simple, direct relationship" with respect to the outcomes of autonomy (Kawai & Strange, 2014: 504). I show that the extent to which autonomy is beneficial to important outcomes, such as product innovation, may be contingent upon institutional context and knowledge-related roles of the subsidiary (Geleilate, Andrews & Fainshmidt, 2019).

THEORETICAL FRAMEWORK

Foreign subsidiary product innovation

Innovation by foreign subsidiaries has received considerable attention in recent decades (Meyer et al., 2020). Foreign subsidiary innovation is an important capability of MNEs and often serves as a cornerstone for sustained competitive advantages. To be clear, innovation is conceptually distinct from R&D. R&D often serves as a key input into the process of new product development, while innovation constitutes both developing new

products and ensuring that the products are commercially viable (Phene & Almeida, 2008). Here, I conceptualize innovation as the output, namely new product introduction, of a broader product development process that may include R&D.

Because innovation is a complex undertaking, both the parent MNE and the subsidiary can play important roles in this process. Parent MNEs can add value by coordinating and integrating knowledge flows into foreign subsidiaries (Gupta & Govindarajan, 2000; Cantwell & Mudambi, 2005; Nell & Ambos, 2013). Subsidiaries, in comparison, can explore their local environment for new knowledge. By becoming locally embedded, subsidiaries may tap into knowledge spillovers and establish local network ties that may facilitate knowledge internalization (Andersson, Forsgren & Holm, 2002). Subsidiaries use local knowledge as an input for product development, sourcing, and combining new and existing knowledge for novelty (Almeida & Phene, 2008). The ability of a subsidiary to innovate can thus be shaped by the combination of its local embeddedness and resources and capabilities possessed by the MNE (Nohria & Ghoshal, 1994).

The literature points to several potential drivers of subsidiary innovation, but one central means by which subsidiaries may do so is autonomy. Autonomy allows subsidiaries to adapt to and achieve alignment with the local environment (Young & Tavares, 2004). Beugelsdijk and Jindra (2018: 530) argue that "the extent to which a subsidiary is embedded in the local context is fundamentally related to the extent to which strategic decision-making resides with the subsidiary". The role of autonomy in facilitating local embeddedness and innovation is underpinned by two implicit assumptions. First, autonomy gives subsidiary managers the decision-making latitude to

act independently, pursue local initiatives, and become locally embedded (Gammelgaard et al., 2012). Ambos et al. (2011: 304) suggest that strong local linkages are "indispensable if actors are to acquire core knowledge from local institutions." Lower levels of autonomy may limit local exploratory activities and adaptive capabilities (Monteiro, Arvidsson & Birkinshaw, 2008).

Second, autonomy may create motivation for subsidiary managers to pursue innovation. Because autonomy signals more trust in the subsidiary, managers of autonomous units may be more motivated to engage in creative roles within the MNE (Nuruzzaman, Gaur & Sambharya, 2019). The exchange of trust for autonomy may reflect confidence by the parent MNE in the subsidiary, which creates space for creative behaviors that may result in innovation. In contrast, parent MNE control may undermine the creativity of a subsidiary and its motivation to identify and leverage useful local knowledge. Because locally specific knowledge is essential to local innovation (Phene & Almeida, 2008), autonomy may be needed to incentivize knowledge acquisition and its utilization toward innovation. Indeed, Cantwell and Mudambi (2005) suggest that autonomy is central to a competence-creating subsidiary.

Autonomy: Complementary mechanisms and boundary conditions

Although past research suggests that autonomy drives subsidiary innovation, I contend that this notion warrants additional nuance for several reasons. First, granting decision-making autonomy to a foreign subsidiary is not always conducive to innovation. Subsidiaries may use autonomy for self-serving behaviors, such as 'empire building', which may not contribute to innovation efforts (Mudambi & Navarra, 2004; Cuervo-

Cazurra, Mudambi & Pedersen, 2019). While autonomy may "encourage the subsidiary to promote initiatives and engage in the accumulation of knowledge", it may not always entail new knowledge creation (Young & Tavares, 2004: 229).

Product innovation requires that subsidiaries create knowledge as well as leverage that knowledge locally toward new products. Prior research points to two salient means by which foreign subsidiaries generate such knowledge. On one hand, subsidiaries can develop knowledge internally through R&D. When a subsidiary engages in R&D there is "interplay between the subsidiary's internal creative efforts and the absorption of external knowledge that might spill over from other firms" (Feinberg & Gupta, 2004: 825). By being engaged in R&D, subsidiaries may produce the requisite knowledge that fuels novel products (Andersson et al., 2002; Cano-Kollmann et al., 2016). Importantly, R&D is not randomly assigned to subsidiaries. It is a strategic mandate that typically comes from the parent MNE and tends to remain unchanged after assignment (Birkinshaw & Hood, 1998; Cantwell & Mudambi, 2005).

On the other hand, subsidiaries can externally source knowledge through management consultant firms (Furusten & Werr, 2005; Hoecht & Trott, 2006). As argued by Phene and Almeida (2008: 905), subsidiaries "develop linkages to outside sources of knowledge that act as conduits for knowledge transfer". Linkages with consultants may provide a comparative advantage in local knowledge creation (Thrift, 2005). Subsidiaries may therefore be able to substitute internal knowledge generation with the external use of consultants (Back et al., 2014). While research suggests that R&D is important for introducing novel products, consultants may also contribute to such efforts (Song, 2014).

In some cases, consultants may even increase the pace of innovation (Contractor et al., 2010; Santangelo, Meyer & Jindra, 2016).

Subsidiaries may also engage in external R&D processes through contracted research; however, such engagements are typically done in combination with internal R&D efforts (Ferraris, Santoro & Dezi, 2017). Similarly, while prior research points to various ways to source external knowledge (e.g., strategic alliances, universities, other research organizations) these, again, are often enacted to complement a firm's existing internal R&D activity. In fact, R&D assignments tend to be given to subsidiaries that are in a position to share and co-develop knowledge with various external actors (Cantwell & Mudambi, 2005). Accordingly, management consultants are unique in that they are more likely to substitute for R&D in the sense that they may operate when internal R&D is absent.

Another issue with the notion that subsidiary autonomy will yield product innovation stems from Nohria and Ghoshal's (1994) argument that a subsidiary's level of autonomy should depend on the parent MNE's ability to make product-related decisions that fit the host country's conditions. Xu, Cavusgil, and White (2006: 3) argue that fit is attained when "the organization's resources and capabilities are aligned with the opportunities and threats the environment presents". Contextual differences between two environments are shaped by extent of similarity or dissimilarity between their institutions (Xu & Shenkar, 2002). Increasing institutional distance is associated with knowledge gaps among parent MNE managers, which may erect barriers to integrate subsidiaries and make fit enhancing decisions (Ambos et al., 2011). Thus, autonomy becomes increasingly valuable in institutionally dissimilar settings whereby it provides a means to

become locally embedded and responsive to product demands (Luo, 2003). If, however, the home and host country institutions are similar, the knowledge held by the parent MNE might be more readily applied to the local environment, making the benefits stemming from subsidiary autonomy less salient to product innovation. MNE resources and capabilities may only require limited adaptations to fit within the host country context, suggesting autonomy may not always be necessary to facilitate subsidiary innovation. While the local embeddedness benefits of autonomy may realize in both similar and dissimilar host country institutional environments, prior literature suggests that such benefits will be more pronounced in contexts more distant or dissimilar from, and thus unfamiliar to, the parent MNE (Geleilate et al., 2019).

HYPOTHESES DEVELOPMENT

Nohria and Ghoshal (1994: 492) suggest that autonomy should be "differentiated to *fit* the distinctive environmental and resource conditions of the subsidiary." Fit is a "core concept in normative models of strategy formulation, and the pursuit of strategic fit has traditionally been viewed as having desirable performance implications" (Zajac, Kraatz, & Bresser, 2000: 429). From this perspective, whether increased autonomy translates to product innovation is not straightforward but rather conditional, and there might be alternative structural arrangements that yield product innovation.

Prior research maintains that in host environments institutionally distal to the MNE's home country, matching resource bundles to the host environment is more difficult for the parent MNE because of the dissimilarities between the home and host country (Luo, 2003). With increasing distance, the parent MNE is less likely to develop

products that will fit the local context of the subsidiary due to knowledge gaps stemming from contextual dissimilarities. MNE control in distal environments may thus inhibit product innovation (Baaij & Slangen, 2013). In contexts where the distance between the home and host country is high, I proffer that decision-making autonomy is key because it enables subsidiaries to become locally embedded, undertake creative initiatives, and potentially pursue product innovation (Geleilate et al., 2019). Indeed, higher autonomy improves the likelihood that the subsidiary develops new competencies (Cantwell & Mudambi, 2005).

Yet, autonomy in institutionally distal host countries may not necessarily result in product innovation unless it is complemented with a specific knowledge source, as oftentimes exploiting the competencies of the parent MNE may not be sufficient for innovation in a distal host country. When autonomy is complemented by the subsidiary's internal generation of product-related knowledge, namely R&D, the subsidiary is more likely to introduce new products. Phene and Almeida (2008: 905) argue that R&D provides a subsidiary with "the capability to recognize important knowledge and identify potential sources of this knowledge", while autonomy allows the subsidiary to leverage such knowledge into locally viable products (Beugeusldijk & Jindra, 2018).

Alternatively, because R&D requires a set of capabilities and non-trivial resources, not all subsidiaries will be given an R&D mandate from their parent MNE (Birkinshaw & Hood, 1998). For instance, there may be minimal technological knowledge in the local environment for the subsidiary to extrapolate through R&D (Santangelo et al., 2016). As Cantwell and Mudambi (2005: 1110) argue, "R&D is becoming concentrated in sites where local conditions are most conducive to technology

creation". Moreover, even if the subsidiary appears capable to engage in R&D, there may be agency-related reasons for why a subsidiary does not receive an R&D assignment (Kostova, Nell & Hoenen, 2018). As a result, management consultants may act as a functional substitute to R&D, providing product-market knowledge that a subsidiary may lack. "Through the breadth of their experience, knowledge, and resources, external consultants can provide firms with access to advantages that allow them to ensure value creation" (Back et al., 2014: 394). Using consultants can also help to reveal gaps in what consumers want and what the firm is offering, whereby addressing such gaps contribute to innovation efforts (Sandberg & Werr, 2003). In fact, management consultants may even accelerate innovation by providing legitimacy to new products through their local knowledge, experience, and analytical skills (Sturdy, 2011). Hence, while the lack of R&D activities might hinder product innovation, I argue that a subsidiary can still introduce new products by sourcing important knowledge from consultants. Taken together, I suggest the following hypothesis:

> Hypothesis 1: For foreign subsidiaries operating in host country environments institutionally distal from the parent MNE home country, product innovation will be associated with higher subsidiary autonomy when autonomy is complemented by either internal R&D or the use of local management consultants by the subsidiary.

In host country environments institutionally proximal to the MNE's home country, the technological knowledge and capabilities of the parent MNE can be

leveraged toward product innovation without extensive adaptation (Ambos & Ambos, 2009; Kawai & Strange, 2014). As I have alluded to earlier, in some cases subsidiaries may be able to exploit the competencies of the parent MNE to configure and introduce innovative products in the host country (Cantwell & Mudambi, 2005). This suggests a structural arrangement possibly entailing low levels of subsidiary autonomy, as parent MNE control is a means to ensure that the subsidiary remains integrated and well-connected to intra-MNE knowledge pools (Keupp, Palmíe & Gassmann, 2011). Accordingly, autonomy may in some cases drive subsidiary innovation, but it is not necessary for all contexts.

Yet, some MNEs may still grant autonomy to subsidiaries in institutionally proximal host countries, as such host countries might require some degree of customization but not to the extent that warrants an R&D assignment. Even when a subsidiary exploits the competencies of the MNE, decision-making autonomy may allow subsidiaries to make nuanced adaptations that fit the host country context. While R&D may yield similar insights in terms of identifying limited product adaptations, it may not be necessary, and rather costly (Sanna-Randaccio & Veugelers, 2007). Moreover, in other situations, parent MNEs might not want to engage in product-related decisions, even for subsidiaries in institutionally proximal host countries, because the allocation of parent MNE managerial resources to such decisions might entail high opportunity costs (Mudambi & Pedersen, 2007). In sum, subsidiary autonomy might not be strictly needed for product innovation in institutionally proximal host countries, but it is nonetheless one means by which subsidiaries in such contexts can adapt MNE competencies into product innovations that fit the host market.

In comparison, when decision making for subsidiaries in institutionally proximal environments is controlled more by the parent MNE, the implicit assumption is that parent MNE managers are relatively more familiar with the host country. Yet, although the parent MNE has a smaller knowledge gap vis-à-vis the local environment, subsidiaries still need some local, product-specific information to innovate (Lee & Beamish, 1995). Accordingly, I proffer that MNEs may use consultants to provide such knowledge for product innovation (Back et al., 2014). A subsidiary may, therefore, exploit the competencies of the MNE, while the external consultants will provide local knowledge to alter the products around consumer demands as well as make appropriate product-related decisions (e.g., marketing strategy). Hence, I argue that in institutional environments proximal to the MNE home country, product innovation can be achieved either by granting decision-making autonomy to the subsidiary or by leveraging external knowledge from local consultants. Formally stated:

> Hypothesis 2: For foreign subsidiaries operating in host country environments institutionally proximal to the parent MNE home country, product innovation will be associated with either subsidiary autonomy or parent MNE control combined with the use of local management consultants.

In sum, I argue that for subsidiaries operating in host countries institutionally distal from the home country, autonomy will be conducive to product innovation but only in conjunction with either R&D or the use of local management consultants. Alternatively, for subsidiaries operating in host countries institutionally proximal to the

home country, product innovation may be associated with subsidiary autonomy and R&D, but it can also be achieved through the use of local management consultants when decision making is controlled more by the parent MNE. Overall, these arguments imply that institutional and organizational settings configure in particular ways to foster foreign subsidiary product innovation. Figure 1 depicts my conceptual model.

---Insert Figure 1 here---

METHODOLOGY

Data and sample

Obtaining data on intra-MNE structural arrangements is often challenging for international business researchers because they are not easily observable. Accordingly, I follow prior studies with a similar research objective (Back et al., 2014; Maksimov, Wang & Luo, 2017; Nuruzzaman et al., 2019) and utilize data from the Management, Organization, and Innovation (MOI) survey implemented by the World Bank (WB) and European Bank for Reconstruction and Development (EBRD) (Bloom & Van Reenen, 2010). The MOI survey aims to compare management practices in European and Asian economies and to assess the efficacy of said practices. WB and EBRD compiled a uniform stratified sample of approximately 1,800 manufacturing companies, with production as well as downstream roles, from 12 countries in a way that is representative of firm size, industry, and foreign ownership in each country. The sampling is based on Bureau van Dijk's Orbis database as the population (Bloom & Van Reenen, 2010) and was then compared to the Business Environment and Enterprise Performance Survey

(BEEPS) by the WB and EBRD to demonstrate the resemblance between the survey and the population.

The MOI survey data encompasses all subnational regions within the participating countries, but, expectedly, the sample reflects mostly the major cities within each subnational region. A standardized instrument and sampling methodology were used in all countries to yield comparable results. Each firm was contacted at least 4 times but as many as 15 times to increase participation rates. A total of 1,925 firms were targeted in the sampling strategy and 1,777 completed the survey. The MOI research team conducted face-to-face interviews primarily with managers who have an in-depth understanding of firm operations. The managers were informed that they would not be evaluated based on their responses in order to prevent potential desirability biases in answers (Bloom & Van Reenen, 2007). The interviews were conducted at the physical location of each respondent firm and in the native language of the respondent. The interviewers were unaware of the actual performance details of the firm, and there was not an identifiable interviewer fixed effect or systematic bias (Bloom & Van Reenen, 2010).

Using the entire MOI dataset as my starting point, I undertook two data cleaning steps consistent with prior studies (Nuruzzman et al., 2019). First, I included only those observations relating to foreign subsidiaries of MNEs. This criterion reduces the original sample of 1,777 responding firms to 228 foreign subsidiaries. Second, I removed all observations where my constructs (e.g., autonomy) related data are incomplete. The final sample consists of 71 foreign subsidiaries operating in 11 host countries and 13 industry sectors. I tested for differences between the groups of 228 and 71 subsidiaries in terms of average product innovation. Results indicate there is no statistically significant difference

between the two groups ($p = 0.62$), suggesting the removal of observations with missing data does not cause us to select on the dependent variable. In total, the final sample of 71 subsidiaries represents MNEs from 30 different home countries. I present the characteristic of these subsidiaries in Table 1.

---Insert Table 1 here---

Of the represented host countries in the sample, Germany is the most common (37%) followed by Serbia (13%), Poland, and India (10%), while the United States (20%), Germany (10%), and Sweden (8%) are the most common home countries. All of the 71 subsidiaries operate in the manufacturing sector. The most common industry is fabricated metal products (16%) followed by consumer foods (13%) and plastics and rubber (10%). The average subsidiary size is 686 employees. Although the majority (66%) of subsidiaries are considered large (> 200 employees), approximately 33% are small and medium-sized (< 200 employees) (Golovko & Valentini, 2014), thus providing reasonable variety in that regard. The age of the subsidiaries in the sample ranges from 10 years to 176 years, with the average age being 47 years. Hence, the subsidiaries are mostly established units, allowing us to ameliorate potential biases stemming from dynamics related to very young subsidiaries (Birkinshaw & Hood, 1998). In sum, the most common subsidiary in my sample can be generalized as a relatively large, established manufacturing subsidiary.

Construct measurement

I follow prior works and measure the outcome of interest, *product innovation,* as a dichotomous variable (Bertrand & Mol, 2013; Santangelo et al., 2016; Monteiro, Mol & Birkinshaw, 2017; Nuruzzaman et al., 2019). If a subsidiary has introduced a new product in the marketplace and/or significantly modified a product within the last 3 years, then the outcome is coded as "1", otherwise it is coded as "0". This measure typically encompasses significant improvements to products, such as technical specifications and components and, therefore, purely aesthetic modifications are not considered product innovation (Garud et al., 2016). Looking at the entire sample, firms who introduced new products within the last 3 years saw an average of 28.04% of their sales accounted for by the new product. For my subsample of subsidiaries, new products accounted for approximately 24.16% of sales thereby demonstrating that innovative firms are significantly reliant on their new products. Prior research suggests that new product introductions are a valid indicator of innovation output (e.g., Piening, Salge & Schäfer, 2016; Beugelsdijk & Jindra, 2018).

In a similar vein to Tran, Mahnke, and Ambos (2010) and Hombrug and Prigge (2014), I measure *subsidiary autonomy* in the business functions most relevant to my outcome. My measure is based on three questions: "Where are decisions taken on new product introductions for this establishment?"; "Where are pricing decisions for this establishment taken?"; and "Where are advertising decisions for products made at this establishment taken?" If the decisions were not solely made by the MNE headquarters, then each of these items assumes the value "1", otherwise, it is coded as "0". This construct captures the extent to which the MNE headquarters are involved in a

subsidiary's local decisions, which is in line with existing measures of subsidiary decision-making autonomy (Young & Tavares, 2004). The three items loaded onto a single latent factor and exhibited adequate reliability ($\alpha = 0.86$) (Jarvis, MacKenzie & Podsakoff, 2003).

R&D is a dichotomous variable where "1" represents a foreign subsidiary that conducted R&D as of the most recent fiscal year, or "0" otherwise (Keupp et al., 2011). Prior research suggests that R&D is a key mechanism by which subsidiaries generate knowledge internally to fuel product innovation (Frost, 2001; Nuruzzaman et al., 2019). The MOI survey defines R&D to participants as "creative work undertaken on a systematic basis in order to increase the stock of knowledge. Research and development is distinguished from market research and product testing by the presence in research and development of an appreciable element of novelty" (MOI, 2010: 20). Where data is available, I observe that the average R&D investment per year exceeded $8 million (USD), which suggests the non-triviality of R&D operations among subsidiaries in my sample. Moreover, because conducting R&D often entails costly investments, it is highly uncommon for subsidiaries to frequently start and stop such processes (Gilmore, Andersson & Memar, 2018). Indeed, Mudambi and Swift (2014: 127) argue that "firms that minimize or resist opportunities to disrupt the R&D process are thought to add the most value for shareholders of the firm". Although the survey asks about the most recent fiscal year, my measure likely reflects subsidiaries that exhibit an R&D mandate that is stable over time.

The use of local *Management Consultants* is a dichotomous variable where "1" represents that the foreign subsidiary has contracted consultants as of the most recent

fiscal year, or "0" otherwise (Back et al., 2014). As Maksimov and colleagues argue, "seeking external assistance through management consulting is a reliable indicator of management knowledge upgrading" (Makismov et al., 2017: 864). With these measures of R&D and consultant use, I am able to create a crisp distinction between subsidiaries that utilize the underlying mechanisms versus those that do not, thus offering a conservative test of their effect on product innovation.

To measure *institutional distance*, I follow prior studies (e.g., Contractor et al., 2014; Marano, Tashman & Kostova, 2017) and match each home and host country to the world governance indicators (WGI) database (Kaufmann, Kraay & Mastruzzi, 2006; Cuervo-Cazurra & Genc, 2008; Rabbiosi & Santangelo, 2018). I include all six dimensions of the WGI because the dimensions are highly correlated such that one factor explains 97% of the variance (Beugelsdijk, Nell & Ambos, 2017; Rabbiosi & Santangelo, 2018). I aggregate the six dimensions into one overall score for each country and then take the absolute difference between the aggregate scores of the home and host country, i.e., each country pair. A higher value indicates a higher institutional distance between the home and host country and, thus, a larger knowledge gap for the parent MNE managers. My measure of institutional distance is more strongly predicated on differences in formal institutions between the home and host country environments, but as expected, it is highly correlated with a measure of cultural distance ($r = 0.51$, $p < 0.01$) calculated using the Kogut and Singh (1988) index. This pattern is consistent with prior IB studies highlighting the co-evolutionary nature of formal and informal institutions (Tung & Verbeke, 2010; Zaheer, Schomaker & Nachum, 2012), but there are clearly

cases where the two measures may not align (Beugelsdijk, Ambos & Nell, 2018). I explore the potential implications of this issue in a series of additional analyses below.

Analytical technique

To effectively test my hypotheses, I use fsQCA (Ragin & Fiss, 2016) whereby I assess the extent to which the membership of cases (i.e., subsidiaries) in causal conditions (i.e., autonomy, R&D and consultants, and institutional distance) relates to their membership in the outcome (i.e., product innovation). Based on Boolean algebra, this set-theoretic technique allows for both conjunctural causation, in which I examine the causal conditions in concert rather than individually, and equifinality, whereby more than one configuration of causal conditions can lead to the same outcome. These features accommodate the complementarity and substitution effects implied by my theorizing and allow for configurations of autonomy, R&D and consultants, and institutional distance to emerge from the data. FsQCA assumes complex causality and nonlinear relationships (Fiss, 2007), and is thus better suited for my study than regression modelling, which assumes singular causality and generally does not handle well interaction terms involving more than three variables (Fiss, 2011). My hypotheses would require four-way interactions in a logit model, but such interactions are very difficult to interpret even when statistical power is adequate. As a set-theoretic technique, fsQCA is able to effectively analyze medium-N samples sizes (Misangyi et al., 2017), further making it a viable technique for this study.

Before conducting fsQCA, it is necessary to calibrate the raw data into conditions by assigning membership scores over the interval [0, 1]. A score of 0.00 indicates full

exclusion from a set (i.e., complete non-membership), while a score of 1.00 indicates full inclusion (i.e., complete membership), and a score of 0.50 indicates the crossover point at which it is not clear whether a condition is present or absent. *Product innovation*, *R&D*, and the use of *consultants* are dichotomous variables, so I calibrated the subsidiaries as either full members or full non-members of each condition. *Subsidiary autonomy* is a multi-item construct, but all items are made dichotomous and represent aspects of product-related decisions. I therefore consider that the degree of autonomy might be reflected in the number of aspects under the perusal of the subsidiary. Because I have three items, such an approach suggests a natural grouping (Pajunen, 2008): subsidiaries that have autonomy in all three aspects (calibrated as 1.00), subsidiaries that have autonomy in two aspects (calibrated as 0.66), subsidiaries that have autonomy in one aspect (calibrated as 0.33), and subsidiaries that have no autonomy in any aspect (calibrated as 0.00). Such an approach allows for gradation in the autonomy condition and provides a theoretically viable solution to capturing differences between highly and mostly autonomous subsidiaries versus controlled and mostly controlled subsidiaries.

Finally, *institutional distance* is based on a continuous variable that does not lend itself to natural calibration anchors, so I followed prior studies utilizing the direct approach in such instances (e.g., Ragin, 2008; Fiss, 2011; Lewellyn & Fainshmidt, 2017). The "direct method" of calibration suggested by Ragin (2008) allows for the three qualitative anchors that structure fuzzy sets: the threshold for full membership, the threshold for full non-membership, and the crossover point. Namely, I used the 75th percentile to denote full membership, the average as the crossover point, and the 25th percentile to denote non-membership. Examining the calibrated data, I observe that the

distinction between membership and non-membership in this condition is consistent with theoretical expectations and prior research. For instance, Germany-India is calibrated as 1.00 (dissimilar), Poland-Germany as 0.46, and Russia-Belarus as 0.02 (similar).

Note, I do not include control variables in my model, as the notion of controls that compete to explain variance in an outcome variable is not salient in techniques based on Boolean Algebra. Here, "conditions are included if and only if they are considered to be among the chief causes of the outcome" (Schneider & Eggert, 2014: 324). If I were to include "controls" as done so in traditional regression analyses, this may actually be problematic by increasing the complexity of the model and thus obfuscating the results. Keeping the number of causal conditions low does not hurt the explanatory validity of the model and is often desirable (Fiss, Sharapov & Cronqvist, 2013).

In the next step, fsQCA requires the determination of a minimum level of membership in the outcome needed for a configuration to be said to exhibit that outcome (consistency threshold). I use 0.80 as the consistency threshold, in line with prior literature (Bell, Filatotchev, & Aguilera, 2014). I observe a sharp drop of ten points in consistency between 0.83 and 0.73, providing additional support for using 0.80 to distinguish between cases consistent versus not consistent with the outcome (Crilly, 2011). I also specify that configurations exhibit a PRI consistency higher than 0.80 to be coded as exhibiting the outcome (Schneider & Wagemann, 2012). Next, I determine a minimum number of cases per configuration (frequency cutoff) for a configuration of causal conditions to be considered in the analysis. I set the frequency threshold to three in order to ensure the configurations I identify are not spurious. This frequency is appropriate for my medium sample size and allows us to capture 94% of the cases, which

is in line with recommendations to capture at least 75% of the truth table (Ragin, 2009). In other words, each possible configuration must have at least three representative cases (i.e., three subsidiaries) in order to qualify for further analysis. In Table 2, I present a nested truth table that shows all possible configurations, their frequency, and consistency with the outcome.

---Insert Table 2 here---

ANALYSES AND RESULTS

I first conducted a Necessity Analysis to examine whether any of the causal conditions are *necessary* for the outcome. Necessity is determined by the extent to which the outcome is a subset of the causal condition; that is, a given causal condition must be in place to produce the outcome (Ragin, 2006). A causal condition is said to be "almost always necessary" for a given outcome if the consistency value exceeds 0.90 (Schneider & Wagemann, 2012). Results indicate that neither the presence nor the absence of any causal condition is necessary for achieving *product innovation*, highlighting the appropriateness of a configurational approach and providing evidence for my assertion that autonomy may not be necessary for product innovation.

I then conducted the Sufficiency Analysis to identify the combinations of conditions that are sufficient for the outcome to occur. Sufficiency is determined by the extent to which a given combination of causal conditions is a subset of the outcome (Ragin, 2006). I display the intermediate solution, which is appropriate when theory or substantive knowledge suggests relationships (i.e., directionality) between the causal

conditions and outcome. By specifying the expected relationships prior to the analysis, the solution may be simplified using the assumption that adding a redundant causal condition to a configuration already linked to the outcome would still produce that outcome (Ragin & Sonnett, 2005). In this study, the presence of no single condition "should be" associated with the outcome based on prior theory. Hence, the intermediate solution is equal to the complex solution.

I also utilize the parsimonious solution to distinguish core from peripheral conditions. The parsimonious solution is a further simplified solution relying on 'difficult counterfactuals.' Whereas 'easy counterfactuals' reduce the complex solution to the intermediate solution by including remainders consistent with theory, 'difficult counterfactuals,' on the other hand, make no such distinction and reduce the data regardless of researchers' assumptions, producing the most concise and simplified way to express the solution (Grandori & Furnari, 2013). For core conditions, there is a strong set relationship between these conditions and the outcome that would be highly unlikely to be reduced in the face of additional information. However, as Dwivedi, Joshi, and Misangyi (2018: 390) note, "an interpretation of core conditions as being theoretically more important than contributing conditions is only relevant when one a priori theorizes about such a distinction… Therefore, I denote this distinction for transparency, but do not distinguish between the conditions in my theoretical interpretations."

Main results

In Table 3 I present my main findings. My results yield three configurations that are sufficient for the presence of *product innovation*. In Configuration 1 (C1), *subsidiary*

autonomy and *R&D* are associated with *product innovation*, while *institutional distance* and the use of *consultants* may be present or absent. Configuration 2 (C2) contains the absence of *subsidiary autonomy* and *institutional distance*, the presence of *consultants* and either the presence or absence of *R&D*. Configuration 3 (C3) contains the absence of *subsidiary autonomy, R&D*, and *consultants*, while *institutional distance* is present.

---Insert Table 3 here---

The solution has an overall 0.72 level of coverage and 0.90 level of consistency. These fit statistics indicate that the configurations account for, or 'cover,' 72% of subsidiaries who are members in the outcome and lead to the outcome 90% of the time they are in place. In other words, the three identified configurations in Table 2 account for a substantial majority of innovative subsidiaries in my sample. Individually, C1 has a raw coverage of 0.35 and C2 a raw coverage of 0.29 with a consistency level of 0.95 and 0.87, respectively. Furthermore, their unique coverages are 0.34 and 0.27, suggesting that they are common pathways to the outcome and explain 63% of the membership in the outcome condition, *product innovation*. In comparison, C3 has a much lower raw and unique coverage of 0.09, with a 0.83 consistency level. These fit indicators suggest C3 is a less common and less consistent pathway to the outcome, compared to C1 and C2.

Turning to my hypotheses, C1 and C2 speak to hypotheses 1 and 2. Considering C1 and C2 together, when *subsidiary autonomy* is present, *institutional distance* can be either present or absent (C1), however, when *institutional distance* is absent, *subsidiary autonomy* is also absent (C2). Furthermore, both configurations contain a knowledge source, namely *R&D* in C1 and *consultants* in C2. This pattern suggests that R&D can work alongside autonomy to drive innovation in both institutionally distal and proximal

host countries, but in proximal environments parent MNE control can lead to innovation as well when accompanied by the use of consultants. Consequently, autonomy is particularly valuable in distal environments and is associated with product innovation when complemented by subsidiary R&D. However, because I hypothesize that consultants can be a functional substitute for R&D in distal settings, I find only partial support for hypothesis 1. Next, in C2 I see the presence of *consultants* and the absence of *subsidiary autonomy* and *institutional distance*, which supports hypothesis 2.

Finally, the pattern suggested by C3 is unexpected, as it suggests that decision making by the parent MNE among subsidiaries in an institutionally distal environment is associated with *product innovation*, and both knowledge sources are absent. Nonetheless, it is a possible pathway for a subsidiary to exhibit *product innovation* in the absence of autonomy.

Additional analyses

I ran several additional tests to assess the stability (robustness) of my results and provide corroborating evidence.[91] First, I ran an additional sufficiency analysis using a frequency threshold of two cases, as opposed to three, to potentially cover more of the outcome and to assess the implications of my frequency threshold of three (Ragin, 2009). In doing so, I gain a slight improvement in solution coverage (3%). Importantly, however, the findings are analog to my main results with the exception of one additional configuration wherein *subsidiary autonomy, consultants,* and *institutional distance* are present. This configuration is consistent with hypothesis 1, indicating that when

[1] Not all tables resulting from the additional analyses are presented. They are available upon request.

subsidiaries operate in institutional environments distal from the parent MNE, product innovation is associated with subsidiary autonomy alongside a knowledge source. It is also consistent with my theorizing that consultants may act as a functional substitute for R&D.

Next, in my main analysis, I specified no easy counterfactuals, namely that no condition "should be" associated with the outcome (Ragin, 2006). Because some prior research suggests that R&D (Phene & Almeida, 2008) and autonomy (Beugelsdijk & Jindra, 2018) can play a significant role in product innovation, I ran an additional test where I specify that these two conditions should contribute to the outcome when present. The results are nearly identical to the main solution. I do find a configuration where *institutional distance* is absent and the usage of consultants is present, although in C2 (Table 2), *subsidiary autonomy* is absent. The absence of autonomy does not significantly alter the results and aligns with my theory which suggests that in institutional environments proximal to the parent MNE, the subsidiary needs to leverage knowledge from consultants or have local autonomy. Furthermore, I find that the presence of *subsidiary autonomy* and *consultants* leads to product innovation, which aligns with hypothesis 1 where autonomy needs to be complemented by either R&D or consultants for product innovation.

I then ran a logit model predicting *product innovation* using the four variables in my study. Results suggest that *R&D* is the relatively strongest predictor ($\beta = 1.01$, $p = 0.15$), however, none of the predictors are statistically significant ($p > 0.10$). I then ran an additional logit regression while controlling for *subsidiary size* (number of employees) and *subsidiary age* (years from establishment), as prior studies suggest that they might

play a role in innovation (e.g., Golovko & Valentini, 2014). Again, no predictor is statistically significant at conventional levels of 0.05. While these results may be related to the medium sample size, they suggest that the relationship between autonomy and product innovation is not straightforward and lends itself to a configurational approach, at least in my data.

Next, Beugelsdijk et al. (2018: 1113) argue that "the distance construct as well as its operationalization are continuously being debated in practice". There are at times 'polarizing' opinions as to whether a cultural distance or an institutional distance measure is more appropriate (Tung & Verbeke, 2010; Beugelsdijk et al., 2018). Because institutional distance is a fairly broad construct, and the correlation between cultural and institutional distance suggests the two are not identical, I ran an additional sufficiency analysis with both *cultural distance* and *institutional distance*. I find six configurations, as presented in Table 3.

---Insert Table 3 here---

C5 and C6 (Table 3) are analog to C1 in the main results (Table 2). In both cases, the results are consistent with my theorizing. C5 and C6 suggest that autonomy and R&D are associated with product innovation when both distances are either high or low, consistent with C1. Next, C4, C7, and C8 (Table 3) are analog to C2 in the main results (Table 2). C4 is identical to C2, however, when adding *cultural distance*, C7 is similar to C2 with the exception that *R&D* becomes absent. Furthermore, if *cultural distance* is

present as shown in C7, then *institutional distance* can be either present or absent, the usage of *consultants* is present, and *R&D* is absent.

Relatedly, I find that in C8 (Table 3) the absence of *subsidiary autonomy*, *institutional distance,* and *R&D*, alongside the presence of *cultural distance* and either the presence or absence of *consultants* are associated with *product innovation*. When considered in relation to C4, the addition of *cultural distance* makes *R&D* absent and *consultants* present or absent. These results suggest that adding *cultural distance* seems to create an interplay between the types of knowledge sources needed for product innovation to occur. In the absence of autonomy, cultural distance poses difficult challenges for MNEs and their subsidiaries (Xu & Shenkar, 2002) and it is thus likely that they use consultants as conduits for product innovation because R&D may entail high opportunity costs (Mudambi & Pedersen, 2007). Lastly, C9 (Table 3) suggests that the absence of all conditions leads to *product innovation.* This pattern is in line with the main analyses and with some prior research suggesting that in institutional environments proximal to the home country, some parent MNEs may retain control of both knowledge generation and making strategic decisions for the subsidiary (Ambos & Ambos, 2009). If parent MNE managers have a relatively better knowledge of the host country, the subsidiary can mostly leverage product-specific knowledge from the MNE and then, due to institutional similarities and the close integration with the headquarters, the subsidiary can more easily communicate its adaptive suggestions for local product offerings. However, the coverage of this configuration is minimal, suggesting it is an uncommon path to product innovation. Overall, I find that the addition of cultural distance as a potential proxy for informal institutional distance adds some nuance but does not

substantively alter the main findings. Furthermore, by adding cultural distance to my model, I lose 0.07 in solution coverage. Hence, the main results better capture membership in the outcome condition while simultaneously improving model parsimony.

Finally, I examined the configurations of causal conditions associated with the absence of product innovation, as fsQCA is able to accommodate asymmetry in the conditions that associate with the outcome versus those that associate with the negation of the outcome. This analysis is not necessary because of the set-theoretic nature of fsQCA, but it can be a useful exercise in some cases to further flesh out insights pertaining to the outcome. In other cases, it may not reveal much (e.g., Fiss, 2011). Indeed, this analysis yielded no configurations that are consistently associated with the absence of product innovation. Similar to Fiss (2011), this finding suggests that there are many ways to *not* innovate, but there are no consistent patterns to do so with the causal conditions in my model.

DISCUSSION

I set out to advance a more nuanced, contextualized theory of the outcomes of foreign subsidiary autonomy, namely subsidiary innovation. I leveraged a differentiated fit perspective to argue that institutional distance, knowledge-related roles, and autonomy interact in complex ways to bring about innovation. In doing so, I implied that subsidiary autonomy may not be necessary for innovation, rather it is conducive to innovation in particular configurations. Utilizing fsQCA and data on foreign subsidiaries in European and Central Asian host countries, I found three distinct configurations associated with subsidiary product innovation that provide support for my theoretical predictions.

However, I also uncover some unexpected patterns. Next, I discuss the theoretical implications of these findings.

Implications for research

My study highlights that the value of subsidiary autonomy, in my case in facilitating product innovation, is contingent upon the subsidiary's internal and external context (Geleilate et al., 2019). Prior studies have attempted to examine whether subsidiary autonomy is beneficial for product innovation (e.g., Kawai & Strange, 2014; Beugelsdijk & Jindra, 2018, Nuruzzaman et al., 2019). In identifying some boundary conditions for the effects of autonomy, my study advances a more accurate theory and suggests that research on subsidiary autonomy can make further progress by theorizing when it may be most fruitful. For instance, in the context of higher institutional distance between home and host countries, decision making autonomy is conducive to local embeddedness and adaptation that often stimulate product innovation, especially when the subsidiary engages in R&D. Hence, another key insight of this study is the importance of knowledge-related roles in complementing autonomy.

If autonomy is a partial reflection of strategy whereby higher autonomy tends to reflect a multidomestic organization (Birkinshaw & Morrison, 1995), my study suggests that under some conditions, MNEs may be able to combine the efficiencies often associated with centralized control with local adaptation. For instance, centralized control in institutionally proximal host countries can result in product innovation when locally relevant knowledge is sourced from consultants. Similarly, prior research suggests that MNEs may be more reluctant to establish competence-exploiting subsidiaries in host

countries institutionally distal from the home country (Ambos, 2005). My study shows how MNEs may make such subsidiaries innovative, thereby suggesting that even if such inclination exists, it does not mean that distal subsidiaries will not be innovative. In fact, my findings suggest that MNEs that pursue locally responsive strategies can make their subsidiaries innovate, both in proximal and distal environments, as long as they allocate autonomy and assign R&D mandates.

I also theorized that management consultants may act as a functional substitute for R&D in distal settings; however, my main analysis does not provide evidence of such an effect. This suggests that while consultants may provide product-related knowledge useful to innovation efforts (Back et al., 2014), it might not be entirely substitutable with R&D in distal settings, suggesting that the value of consultants may be limited by a distance boundary condition. Yet, in my additional analyses I demonstrate that in culturally unfamiliar environments, autonomy works in combination with consultants towards innovation output. The knowledge with which management consultants provided may, therefore, be more useful to offset cultural and opposed to institutional dissimilarities. Thus, a key insight of my study is the contextually dependent nature of consultants across formal and informal settings.

Moreover, my study suggests that autonomy may also be beneficial in institutional settings proximal to the parent MNE's home country, though it is not needed in such contexts. Autonomy may not necessarily be detrimental to innovation in such settings, but it can be foregone for MNEs that prefer centralized decision-making control. For subsidiaries operating in institutionally proximal host countries, decision making control by the parent MNE may not necessarily inhibit the local introduction of new

products. In such settings, subsidiaries can complement MNE competencies with the use of consultants, as management consultants can act as a conduit for local knowledge regarding changes in demand, consumer preferences, and regulations. In fact, much of prior IB research has overlooked the role of consultants in MNE strategy and success, but my findings suggest that consultants may help MNEs offset knowledge gaps in some foreign markets and support innovation even in the absence of more prominent activities such as R&D (Back et al., 2014).

Finally, my results yield an unexpected configuration whereby the presence of institutional distance and the absence of both knowledge-related sources as well as autonomy are associated with product innovation. The coverage of this configuration is rather small, meaning that it is a narrow (i.e., uncommon) path to product innovation. Considering prior theory and research, this configuration might reflect a narrow set of MNEs with a highly hierarchical organizational structure and an international strategy. While this type of MNE organization is increasingly uncommon in many industries, in select industries such a configuration can still yield subsidiary innovation. The cases constituting this configuration are subsidiaries offering mostly standardized products such as building materials. In these kinds of product spaces, I suspect, the foreign subsidiary will have a competence-exploiting mandate. Yet, the presence of high institutional distance together with the absence of subsidiary autonomy creates a tension: the parent MNE may have knowledge gaps related to the local market, and simultaneously the subsidiary's lack of local embeddedness makes it difficult to deploy products that fit local conditions through small, albeit important, local adaptations. Possibly, given the distance between the two markets, the parent MNE may be more

amenable to product adaptation recommendations from subsidiary managers, which results in product innovation. For a similar subsidiary in a proximal environment, however, the parent MNE can more easily analyze the fit of its products to the local context, which inhibits innovation by the subsidiary. Along the same lines, a similar subsidiary with autonomy would likely suffer from the lack of knowledge sources needed for product innovation, while autonomy might prevent tighter integration with core MNE competencies (Bouquet & Birkinshaw, 2008; Ambos et al., 2010). Hence, it is the combination of institutional distance and decision-making control by the parent that, perhaps surprisingly, creates the conditions for product innovation in these subsidiaries (Dellestrand & Kappen, 2012). Nevertheless, because the coverage of this configuration is rather small, it reflects the limited number of such industries and hence a relatively less common pathway to subsidiary production innovation.

Implications for practice

My study provides insights for IB practitioners who have an interest in managing foreign subsidiaries toward innovation outcomes. I provide three ways in which MNE managers can structure a foreign subsidiary to foster innovation in its local markets. Particularly, when foreign subsidiaries are given decision-making autonomy and conduct R&D, they will likely be innovative regardless of the institutional proximity to the parent MNE home country. Alternatively, managers who are interested in subsidiary innovation but at the same time wish to centralize control can do so in both distal and proximal institutional environments, although if the subsidiary is distal, such arrangements may only be effective in relatively standardized product markets. In a proximal contextual

setting, the parent or subsidiary may need to leverage external knowledge sources, such as management consultants, to substitute for autonomy. To the extent that autonomy reflects an international strategy, managers can glean insights as to which knowledge sources and institutional contexts may work best with high or low autonomy. My study may, therefore, help MNE managers to align the structure and strategy of their subsidiaries to facilitate local innovation. Overall, managers should take into consideration both the internal and external context of the subsidiary when product innovation is the desired outcome.

Limitations and future research

My study is not without its limitations. First, my sample is limited to subsidiaries located in Europe and Central Asia at a specific point in time and, therefore, I am hesitant to make broad generalizations to other contexts. Although I demonstrate considerable variation in my measure of institutional distance, future research may wish to expand upon my sample with respect to both countries and time windows to further examine the theoretical framework I develop.

Second, due to data limitations, I use dichotomous (crisp) measures of product innovation, R&D, and the use of consultants. This approach provides a more conservative test of the relevance of these conditions, but at the same time, it does not allow us to assess the potential role of gradation along these dimensions. Future research could refine my findings by examining the degrees of knowledge sources that shape levels of product innovation.

Third, although my focus on consultants is novel to research on autonomy, I was unable to identify whether the parent MNE or the subsidiary contracted the consultants. Future research into the role of consultants can shed light on who drives this form of external knowledge acquisition in foreign subsidiaries, especially those for which the parent MNE makes more of the strategic decisions.

Finally, the cross-sectional design underpinning my data prevents us from making strong claims of causality. It could be that some innovative subsidiaries receive more autonomy as a reward (Ambos & Schlegelmilch, 2007; Ambos, Andersson & Birkinshaw, 2010). However, a longitudinal design might not help resolve this issue, as I do not know what the appropriate time lag might be—time lags might be MNE-specific, and I do not know when the current level of autonomy was achieved. I have taken a first step toward identifying configurational patterns within the autonomy-innovation relationship, but qualitative research may be best suited to further unpack the processes translating autonomy to innovation over time.

Conclusion

Despite the limitations, my study contributes to theory of subsidiary autonomy and innovation. I argue that autonomy may foster product innovation only in certain contexts and when deployed with complementary knowledge sources that can come from either within or outside the MNE. I utilize fsQCA and data on foreign subsidiaries operating in Europe and Central Asia and find three configurations of conditions associated with product innovation: two consistent with my theorizing and one stimulating further theoretical elaboration. I highlight the contingent role of autonomy in

fostering foreign subsidiary innovation and demonstrate that subsidiaries can innovate without autonomy in certain institutional and organizational setting. I hope that my study stimulates further discussion on the outcomes of subsidiary autonomy and encourages novel inquiry into the role of subsidiary autonomy in MNE success.

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Figure 1. Conceptual model of configurations for subsidiary product innovation

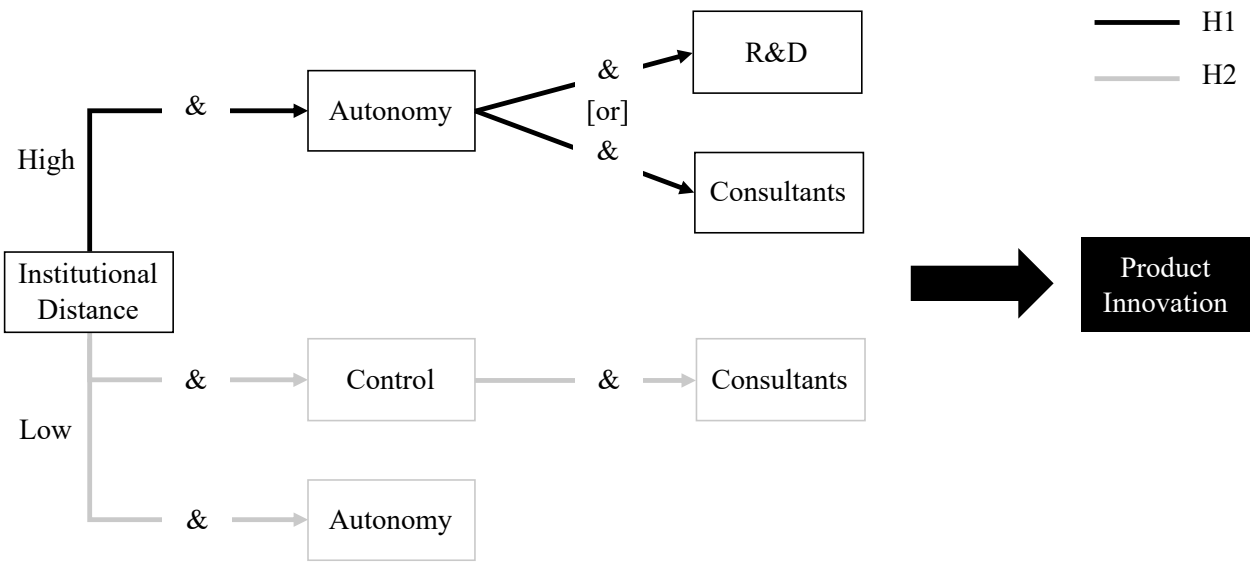

Table 1. Descriptive information of cases in data

Case		Subsidiary Characteristics					
Host Country	Home Country	Industry (main product)	Subsidiary Employees	Subsidiary Age	Decision Making	Management Consultants	R&D
Belarus	Russia	Automotive Parts	800	20	Autonomous	No	Yes
Belarus	Russia	Electronics	2878	67	Controlled	Yes	Yes
Bulgaria	Greece	Basic Metals	54	19	Controlled	No	Yes
Bulgaria	Greece	Paper Products	77	18	Controlled	No	No
Bulgaria	Iceland	Textiles	280	26	Controlled	Yes	Yes
Germany	Austria	Plastics & Rubber	200	86	Controlled	Yes	No
Germany	Austria	Consumer Food	444	176	Controlled	Yes	Yes
Germany	Austria	Automotive Parts	770	22	Mostly Autonomous	Yes	No
Germany	Belgium	Chemicals	4359	10	Controlled	Yes	Yes
Germany	UK	Plastics & Rubber	1343	144	Mostly Controlled	Yes	No
Germany	USA	Paper Products	2875	142	Controlled	Yes	Yes
Germany	USA	Machinery & Equipment	280	56	Controlled	Yes	Yes
Germany	USA	Fabricated Metal Products	296	38	Controlled	Yes	Yes
Germany	USA	Fabricated Metal Products	453	115	Mostly Controlled	Yes	Yes
Germany	USA	Fabricated Metal Products	432	47	Mostly Autonomous	No	Yes
Germany	USA	Paper Products	224	55	Mostly Controlled	Yes	Yes
Germany	USA	Electrical Equipment	250	39	Controlled	Yes	Yes
Germany	USA	Chemicals	1060	38	Autonomous	Yes	Yes
Germany	USA	Plastics & Rubber	3978	58	Autonomous	Yes	Yes
Germany	France	Chemicals	564	126	Controlled	Yes	Yes
Germany	France	Machinery & Equipment	100	60	Controlled	No	No
Germany	Luxemburg	Fabricated Metal Products	598	128	Controlled	Yes	Yes
Germany	Sweden	Electronics	998	46	Controlled	Yes	Yes
Germany	Sweden	Consumer Food	6492	110	Controlled	Yes	Yes
Germany	Sweden	Consumer Food	220	37	Controlled	No	No
Germany	Sweden	Electrical Equipment	1850	99	Autonomous	Yes	Yes
Germany	Sweden	Plastics & Rubber	107	59	Controlled	Yes	Yes
Germany	Denmark	Plastics & Rubber	82	65	Controlled	Yes	No
Germany	Finland	Electrical Equipment	1160	128	Autonomous	Yes	Yes
Germany	Portugal	Fabricated Metal Products	987	57	Autonomous	Yes	No
Germany	Italy	Paper Products	379	49	Autonomous	No	No
India	China	Fabricated Metal Products	160	29	Controlled	Yes	Yes
India	Korea	Machinery & Equipment	400	19	Controlled	No	Yes
India	Japan	Machinery & Equipment	120	32	Mostly Controlled	Yes	Yes
India	USA	Automotive Parts	100	19	Controlled	Yes	No

India	USA	Non-mineral Products	125	25	Controlled	Yes	Yes
India	USA	Textiles	43	30	Controlled	Yes	No
India	Germany	Automotive Parts	78	28	Controlled	No	Yes
Kazakhstan	Japan	Consumer Food	1000	22	Controlled	No	No
Kazakhstan	Moldova	Consumer Food	201	17	Autonomous	Yes	Yes
Lithuania	France	Textiles	245	111	Mostly Controlled	No	No
Lithuania	Finland	Fabricated Metal Products	200	25	Autonomous	No	No
Lithuania	Denmark	Machinery & Equipment	100	26	Controlled	Yes	No
Lithuania	Germany	Non-mineral Products	58	26	Controlled	No	No
Lithuania	Sweden	Consumer Food	50	13	Mostly Autonomous	No	No
Lithuania	Finland	Consumer Food	200	21	Controlled	Yes	Yes
Poland	Japan	Electrical Equipment	850	21	Controlled	Yes	No
Poland	France	Non-mineral Products	130	60	Autonomous	No	Yes
Poland	USA	Fabricated Metal Products	2500	27	Controlled	No	No
Poland	USA	Basic Metals	300	25	Controlled	Yes	Yes
Poland	UK	Electronics	400	24	Controlled	No	No
Poland	Germany	Electronics	1630	90	Controlled	Yes	Yes
Poland	Denmark	Plastics & Rubber	300	23	Controlled	Yes	No
Romania	Hungary	Other Manufacturing	76	21	Controlled	No	Yes
Romania	Netherlands	Textiles	67	20	Controlled	Yes	Yes
Romania	Germany	Fabricated Metal Products	200	12	Mostly Controlled	No	No
Romania	Netherlands	Consumer Food	50	15	Controlled	No	No
Romania	Hungary	Plastics & Rubber	248	12	Mostly Autonomous	Yes	No
Russia	Germany	Fabricated Metal Products	262	19	Controlled	No	Yes
Russia	Germany	Fabricated Metal Products	358	18	Controlled	Yes	Yes
Russia	Finland	Chemicals	237	20	Controlled	No	Yes
Serbia	France	Paper Products	350	47	Autonomous	No	No
Serbia	Romania	Non-mineral Products	62	18	Controlled	No	No
Serbia	UK	Textiles	80	29	Mostly Controlled	No	Yes
Serbia	Germany	Electronics	120	37	Mostly Autonomous	Yes	No
Serbia	Austria	Automotive Parts	77	41	Controlled	Yes	Yes
Serbia	Switzerland	Paper Products	120	22	Controlled	No	No
Serbia	Montenegro	Automotive Parts	85	14	Mostly Autonomous	No	No
Serbia	Croatia	Chemicals	220	98	Controlled	Yes	Yes
Serbia	Romania	Consumer Food	390	48	Controlled	Yes	No
Uzbekistan	India	Textiles	1925	22	Controlled	No	No

Table 2. Nested truth table

Causal Conditions				Cases		Outcome	
Institutional Distance	Subsidiary Autonomy	R&D	Management Consultants	# of Subsidiaries	% of Total	Product Innovation [A]	Configuration [B]
1	1	1	1	4	5.6%	1.00	C1
			0	5	7.0%	0.85	C1
		0	1	2	2.8%	1.00	-
			0	4	5.6%	0.55	-
	0	1	1	3	4.2%	0.67	-
			0	0	0.0%	-	-
		0	1	3	4.2%	0.73	-
			0	6	8.5%	0.83	C3
0	1	1	1	9	12.7%	1.00	C1
			0	4	5.6%	0.93	C1
		0	1	1	1.4%	1.00	-
			0	4	5.6%	0.42	-
	0	1	1	14	19.7%	0.88	C2
			0	1	1.4%	1.00	-
		0	1	7	9.9%	0.85	C2
			0	4	5.6%	0.51	-

Notes: Cases with less than three subsidiaries are not retained for the sufficiency analysis (Ragin, 2009); A = Values presented are raw consistency scores; B = Items presented are the configuration each row reflects in the solution.

Table 3. Sufficiency analysis results

	Product Innovation		
Condition/Configuration	C1	C2	C3
Subsidiary Autonomy	•	⊗	⊗
Institutional Distance		⊗	●
Research & Development	●		⊗
Management Consultants		●	⊗
Raw Coverage	0.35	0.29	0.09
Unique Coverage	0.34	0.27	0.09
Consistency	0.95	0.87	0.83
Solution Coverage		0.72	
Solution Consistency		0.90	

Notes: The use of a filled circle ("•") denotes the presence of a condition. A larger circle ("●") represents a core condition, while a smaller circle ("•") a peripheral condition; a larger ("⊗") represents the absence of a core condition, while a smaller ("⊗") the absence of a peripheral condition.

Table 4. Sufficiency analysis results including cultural distance

	Product Innovation					
Condition/Configuration	C4	C5	C6	C7	C8	C9
Subsidiary Autonomy	⊗	●	•	⊗	⊗	⊗
Institutional Distance	⊗	⊗	•		⊗	⊗
Cultural Distance		⊗	•	•	●	⊗
Research & Development		●	•	⊗	⊗	⊗
Management Consultants	•			●		⊗
Analog in Main Results	C2	C1	C1	C2	C2	-
Raw Coverage	0.27	0.18	0.12	0.07	0.07	0.04
Unique Coverage	0.22	0.16	0.11	0.03	0.02	0.03
Consistency	0.86	1.00	0.90	0.87	0.90	0.95
Solution Coverage			0.65			
Solution Consistency			0.90			

Notes: The use of a filled circle ("•") denotes the presence of a condition. A larger circle ("●") represents a core condition, while a smaller circle ("•") a peripheral condition; a larger ("⊗") represents the absence of a core condition, while a smaller ("⊗") the absence of a peripheral condition.

IV. HOW MUCH DOES THE MULTINATIONAL ENTERPRISE MATTER TO FOREIGN SUBSIDIARY PERFORMANCE?

INTRODUCTION

Because the success of foreign subsidiaries directly affects the success of the multinational enterprise (MNE), understanding the drivers of subsidiary performance is a defining issue of international business (IB) research (Peng, 2004; Kostova, Marano & Tallman, 2016; Meyer, Li & Schotter, 2020). Early IB theory considered the MNE as a hierarchical organization whereby the headquarters, seeking to exploit non-location-bound firm-specific advantages, was the key determinant of subsidiary performance and thus MNE success in internationalization (Dunning, 1980; Rugman & Verbeke, 2001). With increasing dynamism, local adaptation pressures, and complexity of multinational operations, however, MNEs began to shift towards decentralized networks of semiautonomous subsidiaries (Bartlett & Ghoshal, 1989; Andersson, Forsgren & Holm, 2002; Awate, Larsen & Mudambi, 2015). The commensurate proliferation of subsidiary-focused research over the last two decades highlights these changes (Meyer et al., 2020), with much of the emphasis put on subsidiary-level factors in explaining subsidiary success (e.g., Birkinshaw, 1997; Andersson, Björkman & Forsgren, 2005; Najafi-Tavani, Giroud & Andersson, 2014; Beugelsdijk & Jindra, 2018; Rabbiosi & Santangelo, 2019).

Although there are good theoretical and empirical reasons to expect that both the MNE and the subsidiary play a role in subsidiary performance, there is a non-trivial tension between the two streams of literature because each often implies lesser salience of the other (Menz, Kunisch & Collis, 2015; Birkinshaw & Hood, 2016). IB research

provides ample theory and evidence for the importance of the MNE and the subsidiary itself in explaining subsidiary performance. Still, these are often done in separate investigations and, at times, in entirely different research streams. Few studies, notably in the variance decomposition literature, have probed home-country, host-country, subnational region, and industry effects on subsidiary performance (Christmann, Day & Yip, 1999; Makino, Isobe & Chan, 2004; Chan, Makino & Isobe, 2010; Ma, Tong & Fitza, 2013), giving only cursory attention to MNE and subsidiary effects. Consequently, the *relative* importance of the MNE vis-à-vis the subsidiary to subsidiary performance remains unclear, but it is such understanding that can propel a more lucid theory of the drivers of subsidiary performance and, thus, the success of the MNE more broadly.

Accordingly, in this study, I examine the following research question: *what is the relative importance of the* MNE vis-à-vis the subsidiary *in explaining performance differences between foreign subsidiaries*? To do so, I first draw on extant IB and corporate strategy research to explicate the mechanisms that may shape the extent to which variability in foreign subsidiary performance is explained by the parent MNE or the subsidiary itself. Such studies have traditionally relied on conventional econometric methods such as linear regression to investigate the impact of MNE-specific or subsidiary-specific features, which have helped to gain insights into the mechanisms by which both the MNE and the subsidiary can affect subsidiary performance. For example, on the one hand, the locus of decision-making control increasingly resides with subsidiaries, enabling local embeddedness, entrepreneurial behaviors, and the development of competitive advantages by the subsidiary (Rugman & Verbeke, 2001; Cantwell & Mudambi, 2005). On the other hand, the MNE may affect subsidiary

performance through MNE firm- and home country-specific advantages as well as by coordinating a network of subsidiaries (Rugman, 2010; Nguyen & Rugman, 2015). The MNE may also indirectly affect subsidiary performance through channels such as lateral collaboration (Noorderhaven & Harzing, 2009; Schotter et al., 2017) and reputational signals (Fombrun & Shanley, 1990; Newburry, Gardberg & Sanchez, 2014).

However, while such studies are instrumental in understanding the underlying mechanisms, they do not allow for a direct comparison of the importance of the MNE vis-à-vis the subsidiary. Thus, to gain a better understanding of their relative effect sizes, I conduct a variance decomposition analysis on a global dataset containing 51,763 foreign subsidiaries of 6,122 MNEs. A growing number of scholars have used variance decomposition techniques in IB studies (e.g., McGahan & Victer, 2010, Chan et al., 2010; Ma et al., 2013) and, more frequently, in strategic management research where it has been used to analyze the relative importance of classes of effects on firm performance (e.g., Fitza, 2014; Bamiatzi et al., 2016; Fitza & Tihanyi, 2017; Krause et al., 2019). The method allows for an estimation of the percentage of variability in subsidiary performance that can be attributed to specific categories to which a subsidiary belongs (henceforth *effect classes*) such as its primary industry of operation or, in my case, the MNE by which the subsidiary is owned. Unlike traditional methods such as linear regression, which investigate the impact of individual characteristics of effect classes (e.g., host country institutional environments), variance decomposition is used to measure the *overall impact* of all features of an effect class without specifying each feature separately. Variance decomposition is thereby well-suited to obtain a better understanding of the *relative* importance of the MNE and subsidiary effects.

At the aggregate, I find that the MNE effect in explaining foreign subsidiary performance is relatively less salient than the subsidiary effect. However, in a second step, I account for subsidiary heterogeneity (e.g., Boyd et al., 2012) and investigate theory-driven distinctions among types of subsidiaries that influence the relative sizes of the MNE effect and the subsidiary effect. I uncover more nuanced patterns whereby, for some types of subsidiaries, the relative importance of the subsidiary over the MNE is reversed: in these cases, the variance in subsidiary performance explained by the MNE effect is substantially more salient than that explained by the subsidiary effect.

This study makes two contributions to the literature. First, I provide insights on classes of effects, rather than specific variables, on foreign subsidiary performance. While most prior research focuses on one level of analysis (i.e., the MNE or the subsidiary), my study complements these efforts by combining insights from two broad perspectives on foreign subsidiary performance. Thus, I am able to probe the relative importance of distinct classes of drivers of the success of foreign subsidiaries. Second, I differentiate among types of subsidiaries, which enables us to explicate that the relative effects on subsidiary performance are contingent upon subsidiary characteristics. Foreign subsidiaries have been treated as a relatively homogenous entity in prior studies of subsidiary performance, which has obfuscated the differential influence the MNE may have on the performance of its foreign subsidiaries (Nell, Kappen & Laamanen, 2017). My study thus suggests possible boundary conditions to existing MNE- or subsidiary-focused theoretical frameworks that seek to explain foreign subsidiary performance.

LITERATURE REVIEW

In this study, I examine effect classes that explain performance differences of foreign subsidiaries, namely the MNE effect and the subsidiary effect.[101] I do not directly test the underlying mechanisms behind these effects; however, I believe it is useful to discuss the underlying theory and some of the potential mechanisms that underpin my effects of interest. Accordingly, I first review existing literature describing why and how both the MNE as well as the subsidiary itself are important in explaining performance differences between subsidiaries.

Foreign subsidiary performance: The dominance of subsidiary-focused research

Ghoshal and Bartlett (1990: 604) argued that the MNE is increasingly "dispersed in environmental settings that represent very different economic, social, and cultural milieus." Because of such complex operating contexts, a central aspect of IB theory has focused on subsidiaries and how they take on more independent roles within the MNE to align with local conditions, build network linkages, and generate competitive advantages (Cuervo-Cazurra, Mudambi & Pedersen, 2019; Geleilate, Andrews & Fainshmidt, 2019). The internal differentiation of subsidiaries is a challenge to traditional, hierarchical MNE structures (Nohria & Ghoshal, 1994) as it emphasizes the importance of subsidiaries

[1] The relationship between MNE headquarters and their foreign subsidiaries is an example of the effect higher-order organizational entities can have on lower-order entities. To my knowledge, in the variance decomposition literature three such effect relationships have been studied: corporate and business unit effects (e.g., McGahan & Porter, 1997; Bamiatzi et al., 2016), the effect of venture capital owners on their portfolio companies (Fitza et al., 2009), and the effect of business groups on their members (Chang & Hong, 2002). The relationship between MNE headquarters and their foreign subsidiaries represent a special form of such effect classes. They are related to the corporate effect/business unit effect but, in past variance decomposition studies, business units were defined by the industry sectors in which they operate, thus they are vehicles of diversification and horizontal integration. By this definition, business units are entities that conduct the business of more or less diversified corporations. Foreign subsidiaries, on the other hand, are vehicles of internationalization operating in foreign countries. Thus, past research focusing on foreign subsidiaries examines them within the context of IB literature.

developing, deploying, and revising their own resources and capabilities (Rugman & Verbeke, 2001). Indeed, Kostova et al. (2016: 179) argue that "as the broader field moved toward a view of the MNE as a complex coordinated federation […] research attention shifted to foreign subsidiaries' unique characteristics and their impact on […] the overall success of the organization."

Accordingly, prior work has sought to specify the subsidiary-level determinants of subsidiary performance, often adopting institutional and resource-based arguments (e.g., Luo, 2003; Ambos, Asakawa & Ambos, 2011; Kawai & Strange, 2014) and focusing on mechanisms such as local embeddedness and resource development. Table 1 summarizes select studies that inform this view. For instance, because of the global dispersion of MNE activities, it is often difficult for the parent MNE to effectively manage each subsidiary due to knowledge gaps related to host country environments (Kostova, 1999). MNEs may allocate decision-making autonomy as a means to cope with complex multinational operations, which helps subsidiaries to become more independent of their MNEs and attain legitimacy among their own stakeholders (Geleilate et al., 2019). Consequently, subsidiaries may have increased access to local knowledge to assume new R&D functions and develop innovation-related competencies, thereby improving performance outcomes (Cantwell & Mudambi, 2005; Ambos et al., 2011).

---Insert Table 1 here---

Subsidiaries may also engage in entrepreneurial behaviors, proactively undertaking their own initiatives to pursue emerging opportunities, and develop resource-

based advantages (Birkinshaw, 1997). Such subsidiary behaviors may "lead to innovations in the internal and/or external market, which potentially transform the competitive environment as well as the organization" and "are a way to increase the subsidiary's as well as the MNC's overall value" (Strutzenberger & Ambos, 2014: 316). While such subsidiary driven initiatives may not be viewed with ambivalence by the headquarters (Birkinshaw & Ridderstråle, 1999), subsidiaries may benefit from such initiatives in that they develop their own competitive advantages and markets (Birkinshaw, Hood & Jonsson, 1998; Mudambi & Navarra, 2004).

As this summary suggests, literature that focuses on the subsidiary as an explanation for performance difference examines how subsidiary characteristics affect the building of subsidiary-specific capabilities and advantages. Meanwhile, another research stream focuses on the MNE itself and how MNE characteristics will influence subsidiary performance.

The role of the MNE

Insights from the IB and global strategy literature highlight that, in addition to the subsidiary itself, the MNE as a whole can also affect subsidiary performance (e.g., Ciabuschi, Dellestrand & Holm, 2012; Foss, Foss & Nell, 2012; Nell & Ambos, 2013; Ciabuschi, Dellestrand & Martin, 2015; Decreton, Nell & Stea, 2019). Here, I suggest that the MNE affects performance in at least two ways—through the actions of its headquarters as well as through means that are distributed across the MNE (Chandler, 1991; Menz et al., 2015; Kunisch, Menz & Birkinshaw, 2019).

Historically, the headquarters' value was derived from its capability to minimize transaction costs by internalizing markets and hierarchically coordinating its subsidiaries. Subsidiary performance was dependent on the MNE's ability to build firm-specific advantages that are non-location bound (Rugman & Verbeke, 2001). Patterns of headquarters-subsidiary relationships later evolved, focusing on the coordination of subsidiaries across multiple host locations and the leveraging of local resources and capabilities (Kostova et al., 2016). As this literature accumulated, there was an increasing understanding that headquarters involvement may "lead to a level of performance in the subsidiary that is better than the subsidiary could have achieved as an independent, stand-alone entity" (Nell & Ambos, 2013: 1087).

There are two overarching mechanisms through which the MNE headquarters can affect subsidiary performance outcomes. First, headquarters create value when they prevent loss (Foss, 1997). While there is an implicit assumption that subsidiary managers are more knowledgeable than their headquarters about how to navigate their local market (Sengul & Gimeno, 2013), oftentimes, subsidiary managers engage in activities that may result in significant economic costs (Keupp, Palmié & Gassmann, 2011). Further, subsidiaries may not always operate as stewards of the MNE and its objectives (Kostova, Nell & Hoenen, 2018). Mudambi and Navarra (2004: 386) note that "rent-seeking and rent-appropriating behavior are manifestations of opportunism that destroys value." A headquarters can prevent losses by using its accumulated knowledge to mitigate both inefficient resource allocation and opportunistic behavior (Ciabuschi et al., 2015).

Second, headquarters can affect subsidiary performance when it deploys and coordinates non-trivial resources across the MNE (Foss, 1997). Awate et al. (2015: 64)

describe the contemporary headquarters as a "network orchestrator" and "integrator of organizational knowledge." Headquarters are responsible for organizing resources and activities in a way that is conducive to strengthening subsidiary competitiveness (Decreton et al., 2019). Because the MNE headquarters is often a larger, more resource-rich entity, its ability to leverage valuable, diverse resources is usually more significant than that of a subsidiary.

Although MNE headquarters play a significant role in directly shaping subsidiary performance, the MNE effect is broader. The MNE may also indirectly affect subsidiary performance. For instance, while the headquarters retains formal power, subsidiaries may hold informal power and operate independently of their headquarters (Mudambi & Navarra, 2004; Cuervo-Cazurra et al. 2019). Birkinshaw et al. (2017: 426) argue that "[T]his tension is typically resolved through corporate HQ […] focusing on orchestrating resources and on enabling subsidiary units to develop their unique capabilities and to work effectively together." By creating and nurturing linkages between subsidiaries, the MNE can enable lateral collaboration, which may enhance the agility of subsidiaries and their development of novel competitive advantages (Yamin & Andersson, 2011; Schotter et al., 2017). While the headquarters may not be involved in the collaboration processes, it plays a role in establishing the connections and thus indirectly contributes to subsidiary performance outcomes.

The indirect effects of the MNE may not even be intentional. The parent MNE has ownership rights over a subsidiary, and thus the subsidiary cannot "separate itself" from its MNE (Cuervo-Cazurra et al., 2019). Even if the headquarters has no direct effect on subsidiary operations, the MNE can still indirectly affect subsidiary performance

through, for instance, its reputation (Fombrun & Shanley, 1990; Newburry et al., 2014). A subsidiary's performance might benefit or suffer simply due to the reputation of its MNE. Therefore, being part of one MNE versus another could be consequential, even if I assume the headquarters or other actors in the MNE are not involved in subsidiary operations, other than legally owning the subsidiary. In sum, there are good theoretical and empirical reasons to expect a non-trivial subsidiary and MNE effects on foreign subsidiary performance.

The relative importance of MNE and subsidiary effects

The preceding discussion and extant literature suggest that both the subsidiary and the MNE exert non-trivial effects on subsidiary performance, but their relative importance remains unclear. Partly, this lack of clarity stems from such effects often being analyzed in isolation of each other. As summarized above, research streams within the IB literature tend to focus on subsidiary-level explanations (e.g., Andersson et al., 2002; Ambos et al., 2011) or MNE-level explanations (e.g., Dellestrand & Kappen, 2012; Nell & Ambos, 2013). The former suggests that differentials in foreign subsidiary performance should be primarily explained by differences among the subsidiaries themselves. While the latter view, from the perspective of the MNE, suggests that differentials in foreign subsidiary performance should be primarily explained by differences among the MNEs that own subsidiaries, implying subsidiary-focused factors might be non-trivial but are less consequential. These prior studies have thus far helped to advance my understanding of what specific features and constructs may explain variance *within* each of these effect classes (i.e., which MNE and subsidiary features affect

performance). However, at a more fundamental level, determining the *relative* importance of each *effect class* can be valuable in driving the overall research agenda of a well-defined research area.

Unfortunately, the usage of traditional empirical approaches, such as the inclusion of control variables or even fixed effects, does not provide a comprehensive, simultaneous estimation of the relative importance of classes of effects. Hence, in order to determine these relative influences, I conduct a variance decomposition analysis. Such an approach does not explain how exactly the MNE or the subsidiary affect performance; instead, it determines the *relative* importance of the MNE and the subsidiary to foreign subsidiary performance. In a recent paper, Meyer-Doyle, Lee, and Helfat (2019: 1737) explained why such analyses are important parts of an overall research agenda. Specifically, they suggest that "such examinations enable scholars to build a better understanding" of the factors that shape a particular outcome of interest, in my case, subsidiary performance, which in turn "can guide future research and have practical implications." If I want to understand differences in subsidiary performance, a variance decomposition analysis—measuring the relative sizes of the effect classes that influence this performance—can help us to determine where to focus my scholarly attention. A probe into the relative importance of the MNE and subsidiary effects can also uncover possible boundary conditions to existing MNE- or subsidiary-focused explanations of foreign subsidiary performance.

Prior variance decomposition research provides initial empirical evidence for subsidiary and MNE effects on foreign subsidiary performance. However, these studies were limited to very specific samples and study contexts and did not focus explicitly on

either MNE or subsidiary effects on subsidiary performance. For example, Makino et al. (2004) examined host-country effects using a sample of Japanese subsidiaries, controlling for MNE and subsidiary effects. They found the subsidiary (28.2%) effect to be larger than the MNE effect (8.2%). Chan et al. (2010) examined subnational region effects in the US and China while controlling for MNE and subsidiary effects and found both to be of equal size, around 17%. In a similar study, Ma et al. (2013) examined foreign subsidiaries in subnational regions of China, controlling for the MNE and the subsidiary effect; they found a small effect for both the MNE (5.3%) and the subsidiary (8.9%). A related research stream focused on home country contexts decomposed overall MNE performance and found that a firm effect can explain a large portion of performance variance (e.g., Tong et al., 2008; McGahan & Victer, 2010), but these studies did not capture the subsidiary effect. Table 2 summarizes these past studies and the samples they used.

---Insert Table 2 here---

In sum, prior variance decomposition studies found mixed results, did not focus explicitly on the MNE/subsidiary effect comparison, and often used limited datasets. Hence, there is value in examining the MNE and the subsidiary effects in a more comprehensive study. In addition, these studies have assumed subsidiary homogeneity and, thus, any interpretation of the subsidiary or MNE effects may lead to erroneous conclusions (Fitza & Tihanyi, 2017). These notions guide my empirical efforts in the next section, where I probe into different types of subsidiaries and apply variance

decomposition analysis to examine how different subsidiary types influence the relative size of the MNE and the subsidiary effect.

METHODOLOGY

Data and sample

Although it is often difficult to obtain large-scale data on ownership structures and the performance of subsidiaries in foreign locations, I follow prior studies (Chacar, Newburry & Vissa, 2010; Belenzon, Hashai & Patacconi, 2019; Pisani, Garcia-Bernardo & Heemskerk, 2019) and use Orbis by Bureau van Dijk (BvD), a comprehensive database that provides the requisite financial and ownership data needed for my analyses. Specifically, Orbis is a commercial dataset with global reach. It relies on official country registrars and their chambers of commerce as well as BvDs network of over 160 different providers to source the data (Kalemli-Ozcan et al., 2015). While Orbis provides data for firms operating in all regions of the world, there are varying requirements for business registration and method of reporting and financial data collection in each country. For countries and regions such as the European Union, which require reporting by law, the coverage of firms will expectedly be higher. However, despite these shortcomings, Orbis is, to the best of my knowledge, the only global dataset which accounts for rich firm heterogeneity (e.g., size, location, sector), and thus it is wildly used in IB and management research (e.g., Chacar et al., 2010; Belenzon et al., 2019; Pisani et al., 2019).

Following past literature, I implement an initial sampling screen that focuses on two excluding conditions: I exclude subsidiaries with less than 98% ownership by a single entity and subsidiaries that have the same country of domicile as its parent

(Kalemli-Ozcan et al., 2015). This process restricts the sample to only foreign subsidiaries, which are wholly owned by one MNE.[2] This initial screening was satisfied by approximately 1.5 million foreign subsidiaries.

I then implement several additional screening criteria consistent with prior studies. First, I exclude subsidiaries with NAICS (4-digit) industry codes that pertain to administrative and waste services, public administration, and other unclassified industries (McGahan & Victer, 2010). I also exclude those industries and host- and home-countries that only have one associated subsidiary, since, in these instances, classes of effects are not distinguishable from a subsidiary effect (Ma et al., 2013). Next, I exclude subsidiaries without financial performance information in the most recent fiscal year as well as those with less than three years of usable data across the sample timeframe (Fitza, 2014). "[T]his screen ensures that the results are not biased by short-lived entities that were created to shield resources or to account for unusual activities" (McGahan & Victer, 2010: 150). In addition, I remove MNEs without at least three subsidiaries for which there are performance data, and similarly, industries and counties for which there are not at least three MNEs (Ma et al., 2013). I then remove small subsidiaries (≤ 30 employees) as well as those that are inactive or with no identifiable operating status for the entire period. While prior studies have used various criteria to classify subsidiaries based on their size (e.g., Beamish & Inkpen, 1998; Chakravarty et al., 2017), my cutoff helps to ensure that the analyses are not distorted towards very small firms that otherwise do not

[2] Some prior studies conducting subsidiary performance decomposition analyses include both partially and wholly owned subsidiaries (e.g., Makino et al., 2004; Chan et al., 2010; Ma et al., 2013), which may obfuscate the relative importance of the MNE effect.

represent normal economic activity.[3] Finally, I remove all home and host countries that are known tax havens (e.g., Cayman Islands) because such subsidiaries may result in bias in estimating some classes of effects such as the home country effect (Erkan, Fainshmidt & Judge, 2016).

---Insert Table 3 here---

The final sample consists of 403,567 subsidiary-year observations for the period 2010-2018, which includes 51,763 wholly owned foreign subsidiaries of 6,122 MNEs. Table 3 provides the characteristics of my full sample. The United Kingdom is the most common host country (8.16%), followed by France (6.52%) and Italy (5.58%). Of the 250 different industries, management services are the most common (7.81%), followed by industrial services (5.17%) and computer services (4.10%) (see Appendix C). The average number of subsidiaries per MNE is 8.46 (s.d. = 10.31), and the average subsidiary return on assets (ROA) is 4.12% (s.d. = 12.68). My dataset is not restricted to a specific home- (Makino et al., 2004) or host-country (Chan et al., 2010; Ma et al., 2013) nor to certain industry sectors (Ma et al., 2013), thus allowing us to decompose foreign subsidiary performance more comprehensively and to ameliorate potential idiosyncrasies of decomposing variance within a particular context.

To remain consistent with prior performance-based variance decomposition studies (e.g., McGahan & Porter, 1997; McGahan & Victer, 2010; Ma et al., 2013), I use

[3] Prior variance decomposition studies have engaged in a similar screen and found that results with the exclusion and inclusion of small firms are analog (McGahan & Victer, 2010). Moreover, there is a steep drop off in usable data for subsidiaries smaller than 30 employees.

ROA as my outcome variable (DV) to measure foreign subsidiary performance. To assess the relative importance of the subsidiary and MNE, I include a *subsidiary effect* and *MNE effect* on the right-hand side; I also include an *industry* (4-digit NAICS), *home country, host country*, and *year* effects (2010-2018).

Analytical model

To empirically analyze the relative importance of the MNE and subsidiary effects, I employ variance decomposition techniques consistent with prior studies and use a simultaneous analysis of variance (ANOVA) method (McGahan & Porter, 1997; Fitza et al., 2009; McGahan & Victer, 2010; Vedula & Fitza, 2019). A simultaneous ANOVA uses fixed-effect modeling allowing for effect covariance (McGahan & Victer, 2010), which is appropriate in my case because prior literature suggests that there is covariance between effects (e.g., industry, host country) (e.g., McGahan & Porter, 1997).

An alternative approach would be to use multilevel modeling (MLM) methods (Guo, 2017; Quigley & Graffin, 2017; Krause et al., 2019; Meyer-Doyle et al., 2019), which take into account hierarchical relationships between effects. However, the classes of effects used in this study do not necessarily follow a clear hierarchical structure; there is not a clear hierarchical relationship between industries, host-countries, MNEs, and home-countries. For example, a subsidiary operates in a given industry, but that industry spans across multiple countries, and the industry and other lower-level effects are not nested within the higher-level effects such as the home country and the MNE itself. Sohl et al. (2018: 23) argue that "[I]n practice, both methods often result in similar effect

sizes," and that using a simultaneous ANOVA will control for effect covariance in the absence of a clear hierarchical structure.[4]

I follow prior studies (e.g., Fitza et al., 2009; McGahan & Victer, 2010; Ma et al., 2013; Fitza, 2014; Sohl et al., 2018) and estimate equation (Eq.) 1 as follows:

$$(1) \qquad ROA_{s,y} = \mu + \alpha_y + \beta_h + \gamma_k + \theta_i + \delta_m + \tau_s + \varepsilon_{s,y}$$

In Eq. (1), $ROA_{s,y}$ represents the ROA of subsidiary 's' in year 'y.' Subsidiary 's' is then identified in year 'y' as operating in host country 'h' and industry 'i' with an MNE 'm' from home country 'k.' The term μ (constant) is equal to the estimated mean of ROA for the complete sample of subsidiaries. The residual (error) term $\varepsilon_{s,y}$ is the excess return of subsidiary 's' in year 'y' that is unexplained by the effects in the model. However, because the data are longitudinal, the residual term "may be serially correlated over time because of persistent shocks at any level with influence over successive years" (McGahan & Victer, 2010: 155). If a 'shock' occurs in year one (y), it is likely to persist into year two (y+1), thus making the residual term in Eq. (1) serially correlated. I thus follow past studies and control for serial correlation (e.g., Fitza, Matuski & Mosakowski, 2009; McGahan & Victer, 2010; Ma et al., 2013). Accordingly, I introduce Eq. (2):

$$(2) \qquad \varepsilon_{s,y} = r\varepsilon_{s,y-1} + \omega_{s,y}$$

[4] However, I conduct MLM with cross-nested effects as a sensitivity analysis.

In Eq. (2), '*r*' is the coefficient for the rate of persistence across the included effects, '$\varepsilon_{s,y-1}$' is the previous residual term at year 'y-1', and '$\omega_{s,y}$' is the new residual term that is the stripped of serial correlation. To then determine the portion of the effects that are not influenced by the rate of persistence '*r*,' I use algebraic substitution and introduce Eq. (3):

$$(3) \quad ROA_{s,y} = rROA_{s,y-1} + (1 - r)\mu + (1 - p)\alpha_y + (1 - r)\beta_h + (1 - r)\gamma_k + (1 - r)\theta_i + (1 - r)\delta_m + (1 - r)\tau_s + \varepsilon_{s,y}$$

In Eq. (3) I calculate a null model (McGahan & Porter, 1997) where ROA for subsidiary 's' in year 'y' is explained by '$pROA_{s,y-1}$', which is the rate of persistence '*r*' multiplied by ROA for subsidiary 's' in the previous year (y-1). I then algebraically restrict the rest of Eq. (3), turning all of the remaining effects to zero. This model assumes that the ROA for subsidiary 's' in year 'y' is explained only by persistence '*r*,' the grand mean ROA, and some remaining error. I take the residual term $\varepsilon_{s,y}$ and use it as the dependent variable of my final model. I then calculate the effect sizes based on the adjusted R^2 using this as my final model (Fitza, 2017; Quigley & Graffin, 2017). Finally, I follow Meyer-Doyle et al. (2019) and derive a relative MNE effect by dividing the resultant MNE effect by the subsidiary effect.

Due to computational limitations, I am unable to run the entire model at once. Running a matrix of approximately 400,000 observations is demanding, and most computer software is unable to conduct a variance decomposition analysis on such a large

dataset.[5] I thus follow prior studies (Fitza, 2014; Fitza & Tihanyi, 2017) and employ a random sampling procedure, where I create 20 random subsamples, each containing 5% of my dataset (approximately 25,000 observations each). I run the analysis on each subsample and aggregate the results. However, for some post-hoc subgroup analyses below, I did not use this random sample approach as some of the subgroups were small enough; in these subsamples, I were able to use the majority or all (75-100%) of each subgroup for my analyses.

RESULTS

The main results are presented in Table 4. The table includes two models, namely a base model and a model accounting for serial correlation in the dependent variable (*r,* the coefficient for the rate of persistence is 0.19). I first note that both the MNE and subsidiary effects are statistically different from zero ($p \leq 0.001$) across all models, consistent with expectations. In Model 2, I find that the *subsidiary effect* explains 36.47% of foreign subsidiary performance variance, while the *MNE effect* explains only 6.07%, suggesting a relative MNE effect of 0.17. I also find significant industry (3.42%), host country (0.96%) and home country (0.84%) effects, while the year effect (0.18%) is statistically insignificant at conventional levels. Hence, while both the MNE and subsidiary effects are important, being the most salient drivers, the subsidiary effect is substantially more salient in explaining subsidiary performance variability.

[5] Measuring the effects is based on the inclusion of a large number of classification (i.e., dichotomous) variables. Because estimating a model with a large number of independent variables is computationally demanding, most statistical packages limit the number of independent variables (e.g., Stata limits them to 10,998).

---Insert Table 4 here---

Post-hoc analyses

Following my earlier emphasis on the potential role of subsidiary characteristics in altering the relative importance of effect sizes, I go a step further and examine potential theory-based contingencies. That is, using IB literature as my guide, I conducted a series of additional analyses to examine how the subsidiary and MNE effects may vary across subsamples of subsidiaries.

First, prior literature suggests that the MNE effect may be contingent upon initial founding conditions of the foreign subsidiary (e.g., Martinez & Jarillo, 1989; Birkinshaw & Hood, 1998). In particular, Slangen and Hennart (2008) argue that each subsidiary's entry mode will be associated with distinct sets of activities, firm behaviors, and trajectories. For instance, an MNE may be more involved in greenfield subsidiary operations due to the natural relationship between the two (Harzing, 2002), and it may create more pronounced imprints on such subsidiaries relative to acquired subsidiaries (Marquis & Tilcsik, 2013). On the other hand, the MNE effect may be more considerable in an acquired subsidiary because MNEs may often attempt to "fix-up-and-keep" the subsidiary (Allred, Boal & Holstein, 2005). To examine the potential implications of the establishment mode, I split subsidiaries into two groups: greenfield and acquired subsidiaries. The results are presented in Table 5. In Model 3, I find that for acquired subsidiaries, the subsidiary effect (17.29%) is considerably less salient than the MNE effect (29.34%). Meanwhile, the subsidiary effect for greenfield subsidiaries is

38.12%, while the MNE effect is 7.17%, suggesting a 0.19 relative effect. Thus, the establishment mode of the foreign subsidiary plays a considerable role in determining the relative importance of the two effects, with the MNE effect being substantially more important for acquired subsidiaries.[6] This nuance cannot be seen in the main results because the vast majority of subsidiaries are greenfield subsidiaries, thus masking the different effects for acquired subsidiaries in average MNE effect size.

---Insert Table 5 here---

Second, prior literature suggests that subsidiaries evolve over time; as they develop their own resources, capabilities, and competitive advantages, they may reduce their dependence on the MNE (Ghoshal & Bartlett, 1990; Birkinshaw, Hood & Young, 2005). Intuitively, this suggests that the performance of older subsidiaries may be less affected by the MNE (Nell & Ambos, 2013). Accordingly, I probed the role of subsidiary age. In Model 5, I sample subsidiaries that are younger than five years and find, again, that the subsidiary effect (36.94%) is more salient than the MNE effect (19.87%), but because of the larger MNE effect, the relative MNE effect is 0.54 compared to 0.16 in the main results (model 2). However, it may be that this age threshold of five years is too

[6] I recognize that MNEs deliberately choose which type of foreign subsidiary to establish and in which location. This raises the possibility of an endogeneity bias in the sense that subsidiaries are not randomly assigned to MNEs. Such selection effects are usually not considered in the variance decomposition literature (e.g., Vedula & Fitza, 2019). For example, past variance decomposition studies examined industry or region effects even though firms choose which industry to enter or in which regions to locate. Instead, variance decomposition studies ask to what degree certain firm populations differ conditional on the underlying firm decisions (Adner & Helfat, 2003; McGahan & Porter, 2002; Vedula & Fitza, 2019). In principle, selection considerations can be attributed to the MNE effect in my study since these selection decisions are a feature of the MNE. The subsidiary effect I observe in the face of the MNE effect is independent of subsidiary-level variables that are shared with other subsidiaries across the MNE (e.g., decision processes and capabilities by MNE managers). Subsidiary-specific variables that are related to the MNE but are not shared with sister subsidiaries are included in the subsidiary effect.

low, especially for more traditional, slow-growth industries; therefore, I ran two additional tests. First, for subsidiaries aged between five and ten years (Model 6), the MNE effect (18.58%) is relatively less salient than the subsidiary effect (39.79%), with the relative effect size being 0.47. In Model 7, I sample those subsidiaries ten years and older and find the MNE effect is 8.78%, and the subsidiary effect is 37.64%. Accordingly, there is a clear pattern associated with the subsidiary age groupings, and the MNE appears to be relatively more important during the first five to ten years of a subsidiary. Regarding industry differences, I examined subsamples of manufacturing and service subsidiaries and observed no discernible differences in the MNE and subsidiary effects.

Third, as previously mentioned, there may also be explanations at the MNE-subsidiary interface that could explain foreign subsidiary performance variability. In particular, as the MNE expands its network of foreign subsidiaries across geographic markets, the scope and diversity of the network may affect the allocation of headquarters attention and speed in decision-making processes, suggesting lesser relative importance of the MNE (Rugman & Verbeke, 2001; Bouquet & Birkinshaw, 2008). Conversely, smaller MNEs may have a greater opportunity to be involved in local operations, implying a relatively larger MNE effect on foreign subsidiary performance. Accordingly, I create four subsamples (quartiles) of subsidiaries based on their MNE network size.[7] Going sequentially from Model 8 to Model 11 (Table 4), I see that the MNE effect decreases from 11.82% to 4.19%, while the subsidiary effect increases from 32.17% to

[7] The number of subsidiaries within each MNE network size quartile are 3-15 (1st quartile), 16-39 (2nd quartile), 40-107 (3rd quartile), and 108-437 (4th quartile).

40.15%. This pattern suggests that the MNE effect becomes less important as the MNE network size gets larger.

Sensitivity analyses

In addition to the subsample analyses, I also conducted a variety of sensitivity analyses. In Table 6, I summarize these additional tests. As previously mentioned, several recent variance decomposition analyses have used MLM (e.g., Krause et al., 2019; Meyer-Doyle et al., 2019); however, these studies had a clear, hierarchical structure to their datasets. My data is not well-suited for the use of MLM, but I ran MLM with my full sample, where I introduce the year, industry, host and home country, MNE, and subsidiary effects at the same level (Sohl et al., 2018). I found that the MNE effect and the subsidiary effects using MLM were 5.26% and 35.48%, respectively, which is comparable to my main analysis. Thus, my analyses are not sensitive to my analytical technique.

---Insert Table 6 here---

Next, in order to assess if outliers drive my results, I followed past variance decomposition studies (e.g., Quigley & Graffin, 2017) and deleted observations below the 1st and above the 99th percentiles of my dependent variable (ROA). Doing so yields similar results to my main analysis.[8] Finally, while ROA is the most commonly used measure to assess the performance of a firm or foreign subsidiary (e.g., Ma et al., 2013), I

[8] In a variance decomposition analysis, the concern with outliers is not in how they might affect individual regression coefficients, instead it is in how they might inflate the effect classes.

used the full sample and decomposed foreign subsidiary performance using alternative dependent variables: return on equity (ROE) and return on capital employed (ROCE) (Sohl et al., 2018). ROE captures how effectively a subsidiary is in using its owners' equity to create profits or the extent to which it is unable to offset what it owes, and ROCE captures a subsidiary's profitability and efficiency in the use of capital. As Table 5 indicates, the use of these different dependent variables does not substantively change the results, including when I remove outliers similar to my procedure for ROA described above.

DISCUSSION

In their variance decomposition study, Ma et al. (2013: 68) noted that "The question of what explains the heterogeneity of foreign subsidiary performance is related to one of the big questions for the international business field 'What determines the international success and failure of firms?' In my study, I probed a key aspect of said heterogeneity, namely the relative importance of the MNE and the subsidiary to foreign subsidiary performance. I leveraged a comprehensive dataset of over 51,000 wholly owned foreign subsidiaries of 6,122 MNEs during the period 2010-2018, to decompose foreign subsidiary performance into classes of effects. At the aggregate, and while controlling for a multitude of effects known from past variance decomposition studies to explain variability in subsidiary performance, I find that both the MNE and the subsidiary effects are non-trivial, consistent with theoretical expectations. However, more importantly, the subsidiary effect is substantially more salient than the MNE effect in relative terms. I

further uncover contingencies to this pattern, such that the opposite is the case in certain contexts. My findings have several implications for IB research and theory.

Implications for research

Existing research provides theoretical and empirical insights into the importance of either the MNE or the subsidiary in explaining subsidiary performance. However, these studies probed specific features of the MNE or the subsidiary (see Table 1) and, thus, did not compare the overall effect classes, or they focused on location effects (see Table 2). While some of these studies did include MNE or subsidiary effects, they used very specific samples, limited, for example, to China or the US as the host/home county (e.g., Chan et al., 2010), or focusing on only a handful of MNEs (e.g., Christmann et al., 1999). My study complements these studies by explicitly focusing on the MNE and subsidiary effects in a more globally comprehensive dataset. Theoretically, I combine insights from two central perspectives in IB theory in order to focus on the relative size of the MNE and subsidiary effects. Empirically, I use a large representative sample that crosses multiple host and home countries, thereby providing robust evidence for the salience of the respective research streams.

Menz et al. (2015: 640) argue that "both streams study the same elephant, but rely on different approaches to look at different aspects of the phenomenon". For example, traditional internalization theory suggests that the MNE possesses ownership advantages and can deploy them in foreign locations by internalizing foreign markets (Dunning, 1980). At the same time, the contemporary MNE operates in multiple geographic markets, making it difficult to internalize all activities in foreign locations. Hence, the

semi-autonomous subsidiary may take on an increasingly important role in developing resources, capabilities, and competitive advantages (Geleilate et al., 2019). My study indicates that the latter view is relatively more salient to explaining subsidiary performance variability, such that subsidiary-specific differences account for more variance than MNE-specific differences.

However, I differentiate among types of subsidiaries and show that the MNE may have differential effects in explaining subsidiary performance variability (Martinez & Jarillo, 1989; Birkinshaw & Hood, 1998). Specifically, I introduce several key founding and contextual conditions that may shape subsidiary and MNE effects, namely subsidiary establishment mode, subsidiary age, and its MNE network size. I see the introduction of such contingencies to be an important probe into the salience of various theoretical perspectives, particularly given the level of analysis at which they are applied. For example, I find that the relative MNE effect for acquired subsidiaries is the largest across all my analyses. From an agency theory perspective, which concerns the alignment of subsidiaries to MNE goals, acquired subsidiaries have different founding characteristics (Marquis & Tilcsik, 2013), making the MNE's task to integrate and align subsidiary operations more difficult. In comparison, greenfield subsidiaries are a part of an MNE from inception, and thus key differences in the MNE's acquisition integration capabilities and experience will be less pertinent. Nevertheless, IB research has mostly overlooked such MNE-specific characteristics, instead focusing on country-specific (Yiu & Makino, 2002) and subsidiary features (Slangen & Hennart, 2008). Thus, a broader implication of this study is that examining MNE-level differences, rather than differences in acquired

firms and their contexts, might be more fruitful when examining the long-term success of subsidiaries originating in cross-border acquisitions.

Similarly, I also find patterns associated with subsidiary age whereby the MNE is relatively more salient during the first five to ten years of a subsidiary's lifecycle. Younger subsidiaries often reflect a nascent accumulation of resources and capabilities and thus may suffer from liability of newness in their local markets (Rabbiosi & Santangelo, 2013), which requires them to rely on their parent MNE for initial support. Comparatively, older subsidiaries often have more accumulated resources and can more easily navigate their environments independent of their MNE. Accordingly, my study suggests boundary conditions to existing resource-based theories and internalization arguments (e.g., Rugman & Verbeke, 2001), which may be most salient during the initial start-up years of a subsidiary. In essence, as the subsidiary matures, it increasingly takes "complete control of its own destiny" (Birkinshaw & Hood, 1998: 778), thereby making subsidiary-level explanations such as a subsidiary's engagement with its local institutional environment more salient.

Results pertaining to a subsidiary's MNE network size also provide an important glimpse into the relative importance of the MNE to subsidiary performance, with the MNE effect being less salient for large MNE networks than that of small MNEs. Considering prior research, this finding might reflect the importance of theories such as the attention-based view from the perspective of the MNE, and resource dependence at the subsidiary-level to explaining subsidiary performance. For instance, MNE attention is a scarce and critical resource, especially for large, geographically dispersed MNEs (Bouquet & Birkinshaw, 2008). With increasing MNE size and thus operations in

multiple geographic and product markets, it becomes difficult for MNEs to allocate attention effectively. In contrast, smaller MNEs may be more easily able to allocate attention and thus influence local subsidiary operations, which may be reflected in a subsidiary's strategy. Relatedly, the MNE has a greater opportunity to hold key resources and thus control subsidiary operations, which limits a subsidiary's decision-making latitude and increases dependence on its parent MNE. Hence, my study suggests that the explanatory power of both MNE- and subsidiary-focused theories may depend on the size of the MNE, whereby MNE-focused explanation of subsidiary performance, such as attention and dependence mechanisms, appear relatively more salient.

Using such contingencies helps to shed light on the different levels of influence the MNE may have on foreign subsidiary performance. These contingencies suggest that different theoretical explanations of subsidiary performance may apply to different types of subsidiaries. Hence, and in returning to the non-trivial tension between the MNE and subsidiary perspectives I explicated in the beginning of this paper, a potential resolution to such tension may be in more seriously considering subsidiary heterogeneity in many of the theories I apply to explain subsidiary performance or, more broadly, MNE success in foreign locations. While, at first glance, the two views imply lesser importance of the other, the results of this study suggest this does not have to be the case. Indeed, both views can co-exist, but not for the same type of subsidiary. Delineating which specific theoretical perspectives are suited for distinct types of subsidiaries at the MNE or subsidiary level of analysis is a promising avenue for future research on subsidiary performance and management.

Implications for practice

My study carries several important implications for managers. First, I provide MNE managers with insights into those channels most salient to determining the performance of their subsidiaries in foreign locations—put differently, I show under what conditions can MNEs affect their subsidiaries the most. Notably, I show that the MNE plays a significant role in determining its acquired subsidiary's performance when the subsidiary is in its first five to ten years of its lifecycle. In comparison, while greenfield and older subsidiaries may benefit from its MNE, their performance variability is less affected by the MNE. Hence, decisions at the MNE-level may have more pronounced effects for certain subsidiary types, and thus MNE managers should be cognizant of their differential impacts. Second, I also suggest that the MNE effect for subsidiaries in large MNE networks is trivial in comparison to the subsidiary effect. While the MNE may provide advantages to its subsidiaries in foreign locations, it is subsidiary-specific differences that drive performance variability. To the extent that the MNE depends on the performance of its foreign subsidiaries, MNE managers may wish to focus on subsidiary characteristics and activities as opposed to those of the MNE, more broadly.

Limitations and future research

Finally, this study is not without limitations. First, my analyses enabled us to assess the relative importance of the MNE and subsidiary effects to performance variability; yet, as with all variance decomposition studies, my study does not examine why the effect classes are of particular size—the analysis does not allow for the isolation of specific sources of variance within each effect. For example, I theorize that differences

in MNE attention may yield varying levels of variance explained by an MNE effect (Bouquet & Birkinshaw, 2008), but I do not capture such explanations explicitly. Instead, variance decomposition studies can emphasize relative effect sizes, which, as described above, enhances my general understanding but can also be an important input into directing future research (Meyer-Doyle et al. 2019). Therefore, future research can use more nuanced subsamples to understand the interplay between the MNE and subsidiary effect. The main thrust of such inquiry would extend my findings and contribute to the ongoing subsidiary management discussions.

Second, although I account for serial correlation in my empirical models, subsidiary performance may be subject to environmental shocks that cannot be systematically measured. This concern is evident in the large portion of unexplained variance in the results. Keeping in line with prior variance decomposition analyses (e.g., McGahan & Victer, 2010), I see an opportunity for future research to supplement my findings with more nuanced work on interactions and contextual characteristics both internal and external to the firm. As I demonstrate, subgroup analyses help to probe into the unexplained portion of subsidiary performance variability, and thus subsequent studies may again benefit from such techniques.

Third, there is an emergent stream of research that focuses on the use of MNE regional headquarters (e.g., Ambos & Mahnke, 2010). Regional headquarters act as an arm of the global headquarters and are an additional channel by which the MNE can affect subsidiary performance differences. However, a regional headquarters performs similar tasks to the MNE headquarters, albeit with a specific geographic focus and, thus, the effect of the regional headquarters may be subsumed in the MNE effect.

Nevertheless, I see a fruitful opportunity for future variance decomposition research to assess the relative importance of a regional headquarters effect.

Finally, while the scope of my data offers a considerable improvement over prior studies (e.g., Makino et al., 2004; Chan et al., 2010; Ma et al., 2013), it still has some shortcomings. The BvD data has a global scope but, due to differing reporting requirements, more data is available within Europe and the United States than for some other countries and regions (e.g., Africa). Thus, while it is conceivable that my dataset is quite representative of MNEs and their foreign subsidiaries, some countries are still underrepresented. In addition, my large dataset might be subject to increased possibilities for statistical noise as I do not restrict my sample to specific operating contexts to control for potential heterogeneity. While I engaged in several, detailed cleaning steps, I acknowledge that my data may still have certain characteristics that can affect my findings. For example, a subsidiary may have recently changed its industry classification, and thus focusing on only one industry per subsidiary may result in effect over/underestimation (Guo, 2017). Future research that wishes to probe into the relative importance of an MNE and subsidiary effect may wish to control for such issues by further refining the sampling processes.

Despite these limitations, my study advances understanding of how much and under what conditions the MNE matters vis-à-vis the subsidiary to foreign subsidiary performance. I provide insights into the relative effect of the MNE, demonstrating that it varies across a selected set of subsidiary characteristics. Doing so sheds light on the relevance and limits of MNE-focused and subsidiary-focused explanations of subsidiary performance. In sum, I hope that my study will propel future scholarly work in this area.

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[9] For the sake of brevity, this list of references does not include citations from Table 1. A complete list of references is available upon request.

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Table 1. Subsidiary and headquarters effect on subsidiary performance

Research Stream	Select Theories	Mechanisms	Key Insights	Select Citations
Subsidiary Focused	Institutional theory	Embeddedness Legitimacy	Subsidiary local embeddedness and legitimacy in foreign markets exert a positive effect on performance outcomes.	Luo (2003); Birkinshaw et al. (2005); Slangen & Hennart (2008); Kawai & Strange (2014)
	Contingency theory	Differentiation Alignment	Subsidiary differentiation enables the formulation and implementation of context specific strategies which improves performance.	Delios & Beamish (2001); Hewett et al. (2003); Newburry et al. (2003); Najafi-Tavani et al. (2018)
	Resource dependency	Power Control	Subsidiary power can enhance performance as it provides an ability to autonomously make decisions.	Johnston & Menuc (2007); Ambos et al. (2011); Liu et al. (2016)
	Network theory	Collaboration Power	Subsidiary collaboration and use of organizational networks have a positive influence on performance.	Andersson et al. (2002); Brouthers et al. (2009); Gammelgaard et al. (2012)
Headquarters Focused	OLI paradigm (Internalization theory) [A]	Exploitation Mobility	The mobility and exploitation of firm-specific advantages is an important determinant of performance in internalized foreign markets.	Rugman & Verbeke (2001); Brouthers et al. (2009); Nguyen & Rugman (2015); Gaur et al. (2019)
	Attention-based view	Influence Coordination	Headquarters attention is a valuable resource for subsidiaries and those who receive attention often perform better.	Bouquet & Birkinshaw (2008); Ambos & Birkinshaw (2010); Ambos et al. (2010); Mahnke et al. (2012)
	Resource-based view	Efficiency Effectiveness	Headquarters resource contributions influence the efficiency and effectiveness of subsidiary outcomes.	Chen et al. (2009); Ciabuschi et al. (2010); Dellestrand & Kappen (2012); Nell & Ambos (2013)
	Network theory	Socialization Collaboration	Headquarters can connect subsidiaries to improve collaboration and performance outcomes across geographic and product markets.	Yamin & Holm (2011); Ciabuschi et al. (2015); Scott-Kennel & Giroud (2015); Asakawa et al. (2018)
	Agency theory	Control Integration	Headquarters control positively impacts performance when it prevents (limits) opportunistic behavior and subsidiary isolation.	O'Donnell (2000); Björkman et al. (2004); Brock et al. (2008) Alfoldi et al. (2012)

Notes: A = Relevant to both the subsidiary and headquarters-focused research streams; OLI paradigm and internalization theory are combined for the purposes of concision (see Rugman, 2010 for an extensive discussion).

Table 2. Variance decomposition studies on subsidiary performance

Research Stream	Authors (Year)	Home countries	Host countries	# of observations	Findings
Subnational Region Effect or Country Effect	Christmann et al. (1999) [A]	3	37	99	MNE effect: 14.0%, Subsidiary effect: 18.0%
	Makino et al. (2004) [B]	Japan	79	28,809	MNE effect: 8.2%, Subsidiary effect: 28.2%
	Chan et al. (2010) [C]	USA China	USA China	16,227 – USA 13,051 – China	MNE effect:19.2% Subsidiary effect: 15.6%
	Ma et al. (2013) [D]	19	China	8,043	MNE effect: 5.3% Subsidiary effect: 8.9%

Notes: Variance explained by each effect in percent; A = Results reported in Table 3 (data may include domestic subunits); B = Results reported in Table 2 (Model 3); C = Results reported in Table 1 (Model 3 & Model 4); Results are an average of both models; D = Results reported in Table 3; E = Results reported in Table 7, Model 1 (all firms, ROA as the dependent variable); F = Results reported in Table 2, Model 4.

Table 3. Full sample characteristics

Subsidiaries	51,763
MNEs	6,122
Ownership degree	Wholly owned
Industries	250 (4-digit NAICS)
Host Countries	78
Home Countries	81
Observations	403,567
Time span	2010-2018
Mean number of subsidiaries per MNE	8.46
Standard deviation of the Number of subsidiaries per MNE	10.31
Dependent variable (ROA) Mean	4.15
Dependent variable (ROA) Standard deviation	16.68
Data source	ORBIS database

Table 4. Variance decomposition results and comparison to relevant past studies

	This Study		Makino et al. (2004)	Chan et al. (2010)		Ma et al. (2013)
	Base Model	Autocorrelation correction [B]	Full [C]	USA Sample [D]	China Sample [E]	Full [F]
Model	1	2	-	-	-	-
Year	0.22 [NS]	0.18 [NS]	0.10 [NS]	0.30 [NS]	2.60	0.04 [NS]
Home Country	0.79	0.84	-	-	-	0.90
Host Country	0.83	0.96	4.30	-	-	-
Industry	3.10	3.42	5.00	12.8	5.90	5.65
MNE	5.69	6.07	8.20	18.8	19.5	5.28
Subsidiary	34.60	36.74	28.20	16.8	14.4	8.87
Relative MNE Effect [A]	0.16	0.17	0.29	1.12	1.35	0.60
Persistence r	-	0.19	-	-	-	0.22
Observations	403,567	403,567	5,183	16,227	13,051	8,043

Notes: Variance explained by each effect in percent; NS = Not significant ($p > 0.05$); A = denotes a relative effect size (i.e., MNE effect / subsidiary effect); B = r, the coefficient for the rate of persistence is 0.19; C = Results reported in Table 2, Model 3; D = Results reported in Table 1, Model 3; E = Results reported in Table 1, Model 4; F = Results reported in Table 3, selected effects to compare with the effects captured by my study; Dependent variable for Models 1 and 2 is ROA.

Table 5. Post-hoc variance decomposition results

	Entry Mode		Subsidiary Age			Network Size (percentile)			
	Acquired	Greenfield	0 – 5 yrs	5 – 10 yrs	10+ yrs	0 – 25	25 – 50	50 – 75	75 – 100
Model	3	4	5	6	7	8	9	10	11
Year	0.04 [NS]	0.23 [NS]	0.70 [NS]	0.11 [NS]	0.10 [NS]	0.25 [NS]	0.46 [NS]	0.17 [NS]	0.14 [NS]
Home Country	0.72	0.62	0.94	0.75	0.72	0.89	0.52	0.80	0.85
Host Country	0.72	0.76	0.85	0.68	0.89	0.85	0.71	0.80	1.04
Industry	2.73	2.65	3.16	2.98	3.19	2.98	2.19	3.13	3.13
MNE	29.34	7.00	19.87	18.58	8.78	11.82	9.49	8.20	4.19
Subsidiary	17.29	37.78	36.94	39.79	37.64	32.17	33.49	37.18	40.15
Relative MNE Effect [A]	1.70	0.19	0.54	0.47	0.23	0.37	0.28	0.22	0.10
Persistence r	0.20	0.19	0.05	0.05	0.16	0.19	0.23	0.19	0.18
Observations	30,233	289,932	57,702	74,306	260,079	51,078	49,077	79,652	109,889

Notes: Variance explained by each effect in percent; NS = Not significant ($p > 0.05$); A = denotes a relative effect size (i.e., MNE effect / subsidiary effect); Dependent variable is ROA; Subsample observations may not equal full sample observations due to missing data; Network size percentiles are based on all network sizes with the removal of duplicates sizes (e.g., two MNEs with 10 subsidiaries).

Table 6. Sensitivity variance decomposition results

	MNE Effect	Subsidiary Effect	Relative MNE Effect
Base Model [A]	5.44	34.47	0.16
Multilevel Model	5.26	35.48	0.15
ROA (without outliers) [B]	5.67	36.65	0.15
ROE	4.64	29.35	0.16
ROE (without outliers) [B]	4.86	31.35	0.16
ROCE	6.50	28.56	0.23
ROCE (without outliers) [B]	7.20	31.99	0.23

Notes: Variance explained by each effect in percent; A = Table 4, model 1; B = Observations below the 1st and above the 99th percentiles are deleted.

Appendix A. Final sample

Year	Authors	Study
1986	Singh, J.	Performance, Slack, and Risk Taking in Organizational Decision-Making
1988	Ghoshal & Bartlett	Creation, Adoption, and Diffusion of Innovations by Subsidiaries of Multinational Corporations
1989	Ghoshal & Nohria	Internal Differentiation within Multinational Corporations
1991	Roth et al.	Global Strategy Implementation at the Business Unit Level: Operational Capabilities and Administrative Mechanism
1992	Roth & Nigh	The Effectiveness of Headquarters-subsidiary Relationships: The Role of Coordination, Control, and Conflict
1994	Ghoshal et al.	Interunit Communication in Multinational Corporations
1994	Gupta & Govindarajan	Organizing for Knowledge Flows within MNCs
1996	Andersson & Forsgren	Subsidiary Embeddedness and Control in the Multinational Corporation
1996	Roth & O'Donnell	Foreign Subsidiary Compensation Strategy: An Agency Theory Perspective
1997	Very et al.	Relative Standing and the Performance of Recently Acquired European Firms
1998	Birkinshaw	The Determinants and Consequences of Subsidiary Initiative in Multinational Corporations
1998	Birkinshaw et al.	Building Firm-Specific Advantages in Multinational Corporations: The Role of Subsidiary Initiative
1998	Lubatkin et al.	Managing Mergers Across Borders: A Two-Nation Exploration of a Nationally Bound Administrative Heritage
1999	Chang & Taylor	Control in Multinational Corporations (MNCs): The Case of Korean Manufacturing Subsidiaries
1999	Gupta et al.	Feedback-seeking behavior within multinational corporations
2000	Birkinshaw et al.	Consequences of perception gaps in the headquarters–subsidiary relationship
2000	Birkinshaw & Hood	Characteristics of Foreign Subsidiaries in Industry Clusters
2000	Gupta & Govindarajan	Knowledge Flows within Multinational Corporations
2000	Kim & Park	Integrating Distinctive Manufacturing Competence Globally: Its Effect on Business Performance
2000	O'Donnell	Managing Foreign Subsidiaries: Agents of Headquarters, or an Interdependent Network?
2000	Richards	Control Exercised by U.S. Multinationals over their Overseas Affiliates: Does Location make a Difference?
2001	Luo	Determinants of local responsiveness: perspectives from foreign subsidiaries in an emerging market
2001	Venaik et al.	Autonomy, Networking and Interunit Learning in a Model of MNC Subsidiary Innovation and Performance
2002	Birkinshaw et al.	Knowledge as a Contingency Variable: Do the Characteristics of Knowledge Predict Organization Structure?
2002	Boateng & Glaister	Performance of international joint ventures: evidence for West Africa
2002	Foss & Pedersen	Transferring knowledge in MNCs: The role of sources of subsidiary knowledge and organizational context
2002	Frost et al.	Centers of Excellence in Multinational Corporations
2002	Tsa	Social Structure of "Coopetition" within a Multiunit Organization: Coordination, Competition, and Intraorganizational Knowledge Sharing
2003	Child et al.	The performance of cross-border units in China: a test of natural selection, strategic choice and contingency theories
2003	Hewett et al.	Conditions Influencing Headquarters and Foreign Subsidiary Roles in Marketing Activitiesand Their Effects on Performance

2003	Kim et al.	The Global Integration of Business Functions: A Study of Multinational Businesses in Integrated Global Industries
2003	Luo	Market-seeking MNEs in an emerging market: How parent–subsidiary links shape overseas success
2003	Newburry et al.	Autonomy and effectiveness of equity international joint ventures (IJVs) in China
2004	Gomez & Werner	The effect of institutional and strategic forces on management style in subsidiaries of U.S. MNCs in Mexico
2004	Jaw & Liu	Towards an integrative framework of strategic international human resource control: the case of Taiwanese subsidiaries in the People's Republic of China
2005	Gomez & Sanchez	Human resource control in MNCs: a study of the factors influencing the use of formal and informal control mechanisms
2005	Holtbrügge	Configuration and Co-ordination of Value Activities in German Multinational Corporations
2005	Persaud	Enhancing Synergistic Innovative Capability in Multinational Corporations: An Empirical Investigation
2005	Venaik et al.	Dual Paths to Performance: The Impact of Global Pressures on MNC Subsidiary Conduct and Performance
2006	Drogendijk & Slangen	Hofstede, Schwartz, or managerial perceptions? The effects of different cultural distance measures on establishment mode choices by multinational enterprises
2006	Luo	Autonomy of Foreign R&D Units in an Emerging Market: An Information Processing Perspective
2006	Myloni et al.	The effect of corporate-level organisational factors on the transfer of human resource management practices: European and US MNCs and their Greek subsidiaries
2006	Zellmer-Bruhn & Gibson	Multinational Organization Contact: Implications for Team Learning and Performance
2006	Zhang et al.	The Paradox of Dueling Identities: The Case of Local Senior Executives in MNC Subsidiaries
2007	Ambos & Schlegelmilch	Innovation and Control in the Multinational Firm: A Comparison of Political and Contingency Approaches
2007	Boehe	Product development in MNC subsidiaries: Local linkages and global interdependencies
2007	Johnston & Menguc	Subsidiary size and the level of subsidiary autonomy in multinational corporations: a quadratic model investigation of Australian subsidiaries
2008	Ando et al.	Parent country nationals or local nationals for executive positions in foreign affiliates: An empirical study of Japanese affiliates in Korea
2008	Bouquet & Birkinshaw	Weight versus Voice: How Foreign Subsidiaries Gain Attention from Corporate Headquarters
2008	Dooms & van Oijen	The Balance Between Tailoring and Standardizing Control
2008	Fenton-O'Creevy et al.	Human resource management in US subsidiaries in Europe and Australia: centralisation or autonomy?
2008	Fey & Furu	Top management incentive compensation and knowledge sharing in multinational corporations
2008	Slangen & Hennart	Do multinationals really prefer to enter culturally distant countries through greenfields rather than through acquisitions? The role of parent experience and subsidiary autonomy
2008	Slangen & Hennart	Do Foreign Greenfields Outperform Foreign Acquisitions or Vice Versa? An Institutional Perspective
2008	Takeuchi et al.	When Does Decision Autonomy Increase Expatriate Managers' Adjustment? An Empirical Test
2009	Law et al.	The antecedents and consequences of successful localization
2009	Lovett et al.	Parental control: A study of U.S. subsidiaries in Mexico
2009	Noorderhaven & Harzing	Knowledge-sharing and social interaction within MNEs
2009	Williams & van Triest	The impact of corporate and national cultures on decentralization in multinational corporations
2010	Ambos & Birkinshaw	Headquarters' Attention and Its Effect on Subsidiary Performance
2010	Amobs et al.	What are the consequences of initiative-taking in multinational subsidiaries?

2010	Chen et al.	Host-country policies and MNE management control in IJVs: Evidence from China
2010	Dossi & Patelli	You Learn from What You Measure: Financial and Nonfinancial Performance Measures in Multinational Companies
2010	Scott et al.	Developing subsidiary contribution to the MNC—Subsidiary entrepreneurship and strategy creativity
2010	Tran et al.	The Effect of Quantity, Quality and Timing of Headquarters-initiated Knowledge Flows on Subsidiary Performance
2011	Ambos et al.	A Dynamic Perspective on Subsidiary Autonomy
2011	Ecker et al.	Management Control and the Decentralization of R&D
2011	Keupp et al.	Achieving Subsidiary Integration in International Innovation by Managerial Tools
2011	Nell et al.	The MNC as an externally embedded organization: An investigation of embeddedness overlap in local subsidiary networks
2011	Rabbiosi	Subsidiary roles and reverse knowledge transfer: An investigation of the effects of coordination mechanisms
2011	Schüler-Zhou & Schüller	An Empirical Study of Chinese Subsidiaries' Decision-Making Autonomy in Germany
2011	Tseng	Subsidiaries' local linkage characteristics and R&D assignments in a small developing economy
2012	Cheng & Yu	Adoption of Practices by Subsidiaries and Institutional Interaction within Internationalised Small- and Medium-Sized Enterprises
2012	Foley et al.	The adoption of high performance work systems in foreign subsidiaries
2012	Mahlendorf et al.	Influencing foreign subsidiary decisions through headquarter performance measurement systems
2012	Ngo et al.	Human Resource Flexibility in Foreign Subsidiaries: An Empirical Investigation in Hong Kong
2012	Raziq et al.	Subsidiary initiatives and subsidiary autonomy: Evidence from New Zealand and Brazil
2013	Chiao & Ying	Network effect and subsidiary autonomy in multinational corporations: An investigation of Taiwanese subsidiaries
2013	Li et al.	Can locally-recruited R&D personnel significantly contribute to multinational subsidiary innovation in an emerging economy?
2013	Nell & Ambos	Parenting Advantage in the MNC: An Embeddedness Perspective on the Value Added by Headquarters
2013	Slangen	Greenfield or Acquisition Entry? The Roles of Policy Uncertainty and MNE Legitimacy in Host Countries
2013	Verbeke et al.	Procedural Justice, Not Absorptive Capacity, Matters in Multinational Enterprise ICT Transfers
2013	Zhan & Chen	Dynamic capability and IJV performance: The effect of exploitation and exploration capabilities
2014	Chen et al.	Strategic Orientation, Foreign Parent Control, and Differentiation Capability Building of International Joint Ventures in an Emerging Market
2014	Crespo et al.	The performance effects of vertical and horizontal subsidiary knowledge outflows in multinational corporations
2014	Hombrug & Prigge	Exploring Subsidiary Desire for Autonomy: A Conceptual Framework and Empirical Findings
2014	Kawai & Strange	Subsidiary autonomy and performance in Japanese multinationals in Europe
2014	Manolopoulos	Sources of funding for decentralized R&D activity: effects of MNE subsidiaries' entry choice and laboratory roles
2014	Meyer & Estrin	Local Context and Global Strategy: Extending the Integration Responsiveness Framework to Subsidiary Strategy
2014	Mudambi et al.	How subsidiaries gain power in multinational corporations

2014	Richter	Information Costs in International Business: Analyzing the Effects of Economies of Scale, Cultural Diversity and Decentralization
2014	Sartor & Beamish	Offshoring innovation to emerging markets: Organizational control and informal Institutional distance
2014	Schomaker & Zaheer	The Role of Language in Knowledge Transfer to Geographically Dispersed Manufacturing Operations
2014	Wang et al.	Autonomy delegation to foreign subsidiaries an enabling mechanism for emerging-market multinationals
2015	de Jong et al.	Does country context distance determine subsidiary decision-making autonomy? Theory and evidence from European transition economies
2015	Durand & Jacqueminet	Peer conformity, attention, and heterogeneous implementation of practices in MNEs
2015	Hemmert et al.	What drives the R&D capacity growth of foreign subsidiaries? A study of MNE subsidiaries in Korea
2015	Huang et al.	Reexamining the relationship between control mechanisms and international joint venture performance: The mediating roles of perceived value gap and information asymmetry
2015	Nguyen & Rugman	Internal equity financing and the performance of multinational subsidiaries in emerging economies
2016	Ahlvik et al.	Aligning corporate transfer intentions and subsidiary HRM practice implementation in multinational corporations
2016	Li et al.	Institutional distance and the quality of the headquarters–subsidiary relationship: The moderating role of the institutionalization of headquarters' practices in subsidiaries
2016	Liu et al.	The delicate balance: Managing technology adoption and creation in multinational affiliates in an emerging economy
2016	Oki	Subsidiary Autonomy and Factory Performance in Japanese Manufacturing Subsidiaries in Thailand
2016	Palmíe et al.	Coordination mechanisms for international innovation in SMEs: effects on time-to-market and R&D task complexity as a moderator
2016	Puck et al.	Ownership mode, cultural distance, and the extent of parent firms' strategic control over subsidiaries in the PRC
2016	Santangelo et al.	MNE Subsidiaries Outsourcing and Insourcing of R&D: The Role of Local Institutions
2016	Singh et al.	Control mechanisms of MNEs: an empirical study
2017	Lazarova et al.	Locals know best? Subsidiary HR autonomy and subsidiary performance
2017	Sarabi et al.	Is inpatriate assignment experience a ticket to the top of a foreign subsidiary? The moderating effect of subsidiary context
2017	Sengul & Obloj	Better Safe Than Sorry: Subsidiary Performance Feedback and Internal Governance in Multiunit Firms
2017	Tao et al.	Expatriates, subsidiary autonomy and the overseas subsidiary performance of MNEs from an emerging economy
2018	Ambos et al.	Unravelling agency relations inside the MNC: The roles of socialization, goal conflicts and second principals in headquarters-subsidiary relationships
2018	Asakawa et al.	Internal embeddedness, geographic distance, and global knowledge sourcing by overseas subsidiaries
2018	Beugelsdijk & Jindra	Product innovation and decision-making autonomy in subsidiaries of multinational companies
2018	Kim et al.	Stakeholder influence, institutional duality, and CSR involvement of MNC subsidiaries
2018	Nguyen & Almodóvar	Export intensity of foreign subsidiaries of multinational enterprises: The role of trade finance availability
2018	Nuruzzaman et al.	A microfoundations approach to studying innovation in multinational subsidiaries
2018	Pu & Soh	The role of dual embeddedness and organizational learning in subsidiary development

2018	Rabbiosi & Santangelo	Host country corruption and the organization of HQ–subsidiary relationships
2018	Santangelo et al.	Institutional antecedents of subsidiary external embeddedness: Coping with regulatory competitive constraints
2018	Valentino et al.	Establishment modes and network relationships of foreign subsidiaries
2018	Villar et al.	Subsidiary-specific advantages for inter-regional expansion: The role of intermediate units
2018	Weng & Cheng	The more, the merrier? How a subsidiary's organizational identification with the MNE affects its initiative
2019	Alexiou et al.	Productive organizational energy mediates the impact of organizational structure on absorptive capacity
2019	Chen et al.	Entrepreneurial Orientation in Multinational Corporations: Antecedents and Effects
2019	Hakala et al.	Entrepreneurial Orientation and International New Entry: The Moderating Role of Autonomy and Structures in Subsidiaries
2019	Kingkaew & Dahms	Explaining autonomy variations across value-chain activities in foreign-owned subsidiaries
2019	Lunnan et al.	Dealing with headquarters in the multinational corporation: a subsidiary perspective on organizing costs
2019	Yu et al.	Does attention from headquarters influence subsidiary behavior? A social psychological perspective
2020	Sarabi et al.	Entrepreneurial leadership and MNE subsidiary performance: The moderating role of subsidiary context
2020	Scott-Kennel & Saittakari	Sourcing or sharing in MNE networks? National headquarters and foreign subsidiaries as knowledge conduits in SMOPECs

Appendix B. Additional tables

Table 1B. Common operationalizations of the autonomy construct

Study	Citations [A]	Label	Operationalization	Select literature
Bartlett & Ghoshal (1988)	1,130	Autonomy	(1) Introduction of a new product; (2) product modifications; (3) process modifications; (4) organizational restructuring; (5) recruitment and promotion; (6) career development plans.	Ghoshal et al. (1994) Kostova & Roth (2002) Takeuchi et al. (2008)
Jarillo & Martinez (1990)	563	Autonomy	(1) Purchasing; (2) manufacturing; (3) R&D; (4) marketing.	Harzing (2002) Phene & Almeida (2008) Ahlvik et al. (2016)
Roth & Morrison (1992)	684	Configuration	(1) Manufacturing operations; (2) raw materials procurement; (3) product/process research and development; (4) accounting/legal activities; (5) government and public relations; (6) human resource management; (7) product distribution; (8) customer service; (9) product promotion and advertising; (10) information systems and data processing; (11) sales activities; (12) cash flow management; (13) raising and managing capital.	Birkinshaw et al. (1998) Foss & Pedersen (2002) Ambos et al. (2010)
Taggart (1997)	373	Autonomy	(1) Market area decisions; (2) product range supplied; (3) advertising and promotions; (4) R&D; (5) production; (6) manufacturing technology.	Taggart (1998) Fey & Furu (2008) Li et al. (2013)
Nobel & Birkinshaw (1998)	746	Centralization	(1) Direction of R&D; (2) which new R&D projects to pursue; (3) documentation standards and norms; (4) R&D budget; (5) hiring and firing; (6) cooperation with other units; (7) cooperation with external firms or organizations; (8) training programs; (9) salaries; (10) transfer of personnel.	Luo (2006) Zhang et al. (2006) Keupp et al. (2011)

Notes: A = Citation count taken from Google Scholar as of November 2020; The list is not exhaustive, although more recent operationalizations build on the ones presented here; some of the literature in this table is not included in the reference list but is available upon request.

Table 2B. Meta-analytic correlation matrix

	Variable	1	2	3	4	5	6	7	8
1	Subsidiary autonomy	-	33 (5754)	20 (3679)	54 (12160)	29 (8821)	15 (2689)	24 (3320)	37 (10527)
2	Goal alignment	-0.047	-	4 (700)	11 (1769)	5 (1367)	6 (1335)	4 (433)	7 (1529)
3	Past Performance	0.056	0.272	-	5 (2285)	3 (473)	4 (810)	5 (668)	8 (2557)
4	Institutional distance	0.018	-0.006	-0.003	-	11 (3688)	6 (1003)	13 (2688)	19 (4477)
5	Host country constraints	0.018	0.005	-0.130	0.092	-	3 (452)	3 (474)	7 (2680)
6	Full operations	0.123	0.077	0.051	-0.099	0.047	-	3 (355)	4 (734)
7	Localization	0.080	-0.064	-0.073	0.006	0.013	0.075	-	7 (1217)
8	Industry pressures	-0.076	0.080	-0.065	-0.026	0.012	-0.127	0.046	-
9	Greenfield entry	-0.050	0.010	0.024	0.052	0.123	-0.058	-0.021	-0.056
10	Subsidiary age	0.019	0.017	0.005	-0.051	-0.012	0.090	-0.018	-0.010
11	Subsidiary size	0.009	0.053	0.044	-0.031	0.026	0.185	-0.038	0.043
12	MNE size	-0.032	0.030	0.061	0.042	0.024	0.068	0.069	0.116
13	MNE experience	0.006	0.125	0.092	0.017	-0.044	-0.068	-0.074	0.084

	Variable	9	10	11	12	13
1	Subsidiary autonomy	32 (9900)	77 (18721)	94 (20018)	25 (6011)	19 (2812)
2	Goal alignment	3 (328)	11 (1619)	13 (2338)	4 (465)	5 (500)
3	Past Performance	4 (838)	10 (1783)	13 (2169)	3 (470)	4 (601)
4	Institutional distance	18 (3564)	30 (7064)	41 (8297)	12 (4889)	9 (1359)
5	Host country constraints	10 (3620)	17 (5739)	19 (5063)	12 (3180)	10 (1652)
6	Full operations	3 (476)	9 (1478)	10 (1570)	3 (410)	3 (508)
7	Localization	5 (1131)	14 (2376)	17 (2699)	3 (464)	4 (618)
8	Industry pressures	7 (1162)	16 (3358)	21 (3512)	5 (1818)	4 (532)
9	Greenfield entry	-	24 (8110)	28 (7405)	6 (1074)	9 (1511)
10	Subsidiary age	0.083	-	60 (12855)	16 (3465)	10 (1287)
11	Subsidiary size	-0.089	0.145	-	18 (3772)	16 (2358)
12	MNE size	-0.032	0.089	0.167	-	9 (1442)
13	MNE experience	-0.093	0.178	0.059	0.180	-

Notes: Lower left off-diagonal values are the sample size weighted average correlations and upper right values are N (total study samples) and K (total sample sizes).

Table 3B. Additional meta-analytic subgroup analyses

Predictor	K	Corrected R-mean	95% confidence interval	Q-test	Result
Goal alignment					
---Subsidiary	26	-0.030	-0.109 to 0.049	192.03*	
---Headquarters	5	-0.123	-0.301 to 0.055	17.64*	No differences
---Mixed	2	-0.104	-0.249 to 0.040	0.32	
Past performance					
---Financial	14	0.053	-0.047 to 0.153	67.29*	No differences
---Mixed	6	0.070	-0.141 to 0.282	71.70*	
Institutional distance [A]					
---Formal distance	12	0.065	-0.156 to 0.286	452.83*	
--------High formal	6	0.060	-0.379 to 0.498	384.50*	
--------Low formal	6	0.067	-0.014 to 0.149	13.16*	No differences
---Informal	42	0.001	-0.045 to 0.046	172.88*	
--------High informal	20	0.017	-0.061 to 0.094	98.66*	
--------Low informal	20	-0.011	-0.070 to 0.047	66.42*	
Holistic Autonomy					
---(A1) Goal alignment	27	-0.065	-0.141 to 0.011	168.65*	
---(B1) Past performance	12	0.051	-0.065 to 0.167	87.36*	
---(C1) Institutional distance	40	0.031	-0.055 to 0.118	709.90*	F1 > F2
---(D1) Host country constraints	28	0.026	-0.058 to 0.110	374.30*	
---(E1) Value chain breadth	13	0.111	-0.050 to 0.273	181.94*	
---(F1) Localization	18	0.185	0.078 to 0.292*	131.22*	
Functional Autonomy					
---(A2) Goal alignment	6	0.034	-0.124 to 0.192	33.11*	
---(B2) Past performance	7	0.070	-0.101 to 0.241	52.11*	
---(C2) Institutional distance	14	-0.012	-0.054 to 0.030	13.00*	
---(D2) Host country constraints	2	-0.076	-0.216 to 0.064	0.91	-
---(E2) Value chain breadth	2	0.203	0.091 to 0.315*	0.07	
---(F2) Localization	6	-0.263	-0.350 to -0.176*	4.94*	

Notes: A = To perform high and low splits I standardized the distance variable on a 0 to 10 scale, whereby a value of 5 was used as a cutoff for high and low splits (Kirca et al., 2011; Geleilate et al., 2019); Results are based on overlapping confidence intervals.

Appendix C. Additional tables

Table 1C. Home and host country sample characteristics

Country	MNEs	Subsid.	ROA	Country	MNEs	Subsid.	ROA	Country	MNEs	Subsid.	ROA	Country	MNEs	Subsid.	ROA
AE	11	-	-	FI	83	920	5.70	MH	3	3	1.66	TW	71	11	5.05
AO	3	-	-	FR	303	3376	2.68	MT	12	59	9.65	US	908	45	-5.23
AR	3	7	1.37	GB	345	4223	3.90	MU	14	17	3.51	VC	3	-	-
AT	171	567	7.51	GI	6	3	13.38	MX	13	126	3.13	VE	3	-	-
AU	49	1553	-0.92	GR	13	353	0.91	MY	27	600	6.56	VG	68	-	-
AZ	3	-	-	HK	31	19	4.03	NL	269	1118	4.98	ZA	23	-	-
BB	3	-	-	HR	7	425	3.76	NO	91	887	4.52	AL	-	8	3.84
BE	124	1987	3.72	HU	14	845	5.59	NZ	14	358	6.25	BA	-	76	4.82
BG	3	446	7.17	ID	3	10	9.48	PA	8	-	-	CI	-	7	7.86
BM	78	33	0.72	IE	48	1010	3.68	PH	5	56	1.25	CO	-	528	2.84
BR	17	357	-0.80	IL	29	7	0.36	PL	22	2742	4.77	EC	-	6	7.19
BS	7	-	-	IN	62	1178	0.45	PT	19	1087	2.44	EG	-	3	6.97
BY	4	-	-	IS	3	38	3.58	QA	2	-	-	KV	-	4	3.75
CA	57	19	-2.16	IT	212	2888	1.15	RO	3	1294	4.00	MA	-	272	1.98
CH	268	9	3.87	JP	539	130	3.70	RS	3	382	4.89	MD	-	3	1.72
CL	10	-	-	KR	50	767	7.85	RU	10	1640	4.26	ME	-	26	6.08
CN	106	2762	5.25	KW	3	-	-	SA	5	-	-	MG	-	3	-16.34
CW	18	-	-	KY	108	44	3.99	SC	5	-	-	MK	-	42	5.83
CY	116	45	5.22	KZ	3	14	8.88	SE	220	1769	4.94	NG	-	3	5.88
CZ	15	1744	6.28	LB	3	-	-	SG	48	2812	5.16	PE	-	17	4.36
DE	609	1894	3.18	LI	15	-	-	SI	10	292	5.93	PK	-	3	11.92
DK	140	1170	5.64	LR	4	-	-	SK	4	987	4.63	UA	-	249	2.75
DZ	3	70	4.62	LT	11	237	7.09	TH	15	902	5.35	UY	-	19	2.45
EE	17	325	7.15	LU	345	126	6.03	TN	3	-	-	VN	-	354	5.75
ES	120	2660	2.36	LV	6	399	6.01	TR	20	293	3.94	AVG	76	664	4.15

Notes: Country list includes both home and host countries; MNEs = number of MNEs per each home country (81 home countries); Subsid. = number of subsidiaries per each host country (78 host countries); ROA = average ROA for all subsidiaries within each country across all sample years (2010-2018).

Table 2C. Industry classification characteristics

Industry	Description	# of Subsidiaries	Mean ROA
11	Agriculture, Forestry, Fishing and Hunting	209	2.51
21	Mining	447	0.85
22	Utilities	821	-0.16
23	Construction	1418	1.00
31	Manufacturing	1460	4.08
32	Manufacturing	3887	4.58
33	Manufacturing	7353	4.40
42	Wholesale Trade	14544	4.93
44	Retail Trade	1477	2.57
45	Retail Trade	481	1.94
48	Transportation and Warehousing	1853	3.50
49	Transportation and Warehousing	329	4.57
51	Information	1541	4.24
52	Finance and Insurance	1584	3.70
53	Real Estate Rental and Leasing	2655	0.63
54	Professional, Scientific, and Technical Services	6093	5.46
55	Management of Companies and Enterprises	4044	2.24
61	Educational Services	69	-0.39
62	Health Care and Social Assistance	222	2.73
71	Arts, Entertainment, and Recreation	136	2.11
72	Accommodation and Food Services	553	0.38
81	Other Services (Except Public Administration)	587	4.24

Notes: To conserve space, I describe my sample by the 2-digit NAICS classification. More granular presentations are available upon request.

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