THE ROLE OF CONTEXT IN THE MULTINATIONALITY-PERFORMANCE RELATIONSHIP: A META-ANALYTIC REVIEW

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Using meta-analytic data from 47,849 firms across 152 independent samples reported in 141 studies, this study presents a systematic investigation of the moderating effects of firm-, industry-, and country-level factors on the multinationality-performance relationship. The findings indicate that the effects of multinationality on performance depend on type of multinationality, firm strategic motivations, industry characteristics, and home country factors. Importantly, our assessment also reveals that firm size and stage of internationalization are not significant moderators. Thus, the findings indicate that the search for more complex M-P relationships (i.e., U-shaped, inverse U-shaped, horizontal S-curve) has the potential to expand our understanding, only when the characteristics of different research contexts, measurement issues, and firm characteristics are taken into account in the theoretical development and research design stages of studies. Copyright © 2012 Strategic Management Society.

INTRODUCTION

A fundamental issue in corporate strategy is the examination of factors that determine the success or failure of firms in international settings (Rumelt, Schendel, and Teece, 1994). Research on firm multinationality has made significant contributions to the strategy literature, with its explicit focus on the relationship between multinationality and performance (Lu and Beamish, 2004; Tallman and Li, 1996). Over the last four decades, a considerable body of research has examined the linear (Delios and Beamish, 1999) and nonlinear (Contractor, Kundu, and Hsu, 2003) effects of multinationality on performance (M-P) in manufacturing (Tallman and Li, 1996) and service industries (Capar and Kotabe, 2003), for U.S. (Thomas and Eden, 2004) and non-U.S. companies (Ruigrok, Amann, and Wagner, 2007), as well as for small (Zahra, Ireland, and Hitt, 2000) and large firms (Kim, Hoskisson, and Wan, 2004). However, despite the vast number of studies, the current state of research findings is often characterized as ‘mixed’ (Hitt, Hoskisson, and Kim 1997), ‘inconclusive’ (Tallman and Li, 1996), ‘inconsistent’ (Ruigrok and Wagner, 2003), ‘contradictory’ (Contractor, 2007), ‘conflicting’ (Annavarjula and
Beldona, 2000), and ‘disappointing’ (Hennart, 2007).

Current theoretical perspectives framing multinationality research, such as internalization theory, resource-based theory, and organizational learning theory, as well as financial portfolio diversification theory, offer explanations for why firms multinationality may result in higher returns in international markets (see Hitt, Tihanyi, Miller, and Connelly, 2006; Kirca et al., 2011). In addition to ‘why,’ a careful examination of the situational setting would also incorporate, ‘where,’ ‘when,’ and ‘how’ multinationality dynamics unfold in the international marketplace. Nevertheless, these contextual considerations are rarely captured in individual studies, as the dominant approach to reconcile these divergent results has been through methodological refinements, such as the selection and measurement of constructs, the use of more sophisticated estimation procedures, or incorporating different sets of control variables in studies (Bowen, 2007). We propose that a unified and comprehensive contextual framework can resolve the seemingly contradictory and inconclusive results and can contribute to further theoretical and empirical development in the global strategy literature. We address this gap in the literature using meta-analytic techniques.

The theoretical framework we propose and test in this study makes several contributions to the global strategy literature. First, our study answers a call for a more context-based understanding of the M-P relationship. Several researchers acknowledge that contextual considerations are critical in multinationality research (Bowen, 2007; Contractor, 2007; Verbeke, Li, and Goerzen, 2009). However, a theoretically driven framework to investigate the effects of these contextual factors has not been forthcoming. Our study addresses this important gap. Second, the body of knowledge generated on the M-P relationship is often fragmented and cuts across numerous disciplines and subfields, such as international business, strategic management, finance, and marketing. However, the notable findings and unique insights from these disciplines have not been cumulative. Instead, the extant literature on this topic has emerged as a collection of smaller and disparate streams of research with less development in certain domains (e.g., services, developing economies, small-medium firms) than others (e.g., large manufacturing firms, developed economies). The lack of integration across these domains and disciplines limits the overall impact of the existing global strategy literature on these related fields. Importantly, previous attempts to consolidate research findings in this stream of literature have been qualitative in nature (e.g., Annavarjula and Beldona, 2000; Hitt, Tihanyi, Miller, and Connelly, 2006) or based on small samples narrowly focused on a limited set of substantive issues (see Bausch and Krist, 2007; Ruigrok and Wagner, 2004). Recently, two comprehensive meta-analysis studies have investigated issues related to firm multinationality (Kirca et al., 2011; Kirca et al., forthcoming). However, none of these studies provides a comprehensive and systematic assessment of the effects of contextual factors on the M-P relationship.

Finally, our research takes a significant step forward by examining the simultaneous effects of several previously unknown substantive factors on the M-P relationship. Our findings suggest that the effects of multinationality on performance depend on type of multinationality, firm strategic motivations, industry characteristics, and home country factors. Interestingly, our multivariate assessment also reveals that firm size and stage of firm internationalization are not significant factors that affect the nature of the M-P relationship. As such, we provide useful, theoretical, and practical insights for researchers and managers. In the following section, we discuss in detail how we conceptualize the M-P relationship and outline the various aspects of the context in which multinationality affects performance. We then develop hypotheses that delineate the moderating effects of these factors on the M-P relationship. Finally, we explain the data collection procedures and present the results. We conclude with the theoretical and managerial implications.

KEY CONCEPTS AND THEORETICAL BACKGROUND

We define multinationality as the extent to which a firm is extended beyond the borders of its domestic base into new country markets and geographic regions to undertake value-adding activities (Hitt, Tihanyi, Miller, and Connelly, 2006). From an

1 Degree of internationalization (Sullivan, 1994), international geographic diversification, international expansion (Hitt, Tihanyi, Miller, and Connelly, 2006), geographic scale and scope of foreign operations (Thomas and Eden, 2004), and multinationality (Contractor, et al. 2003) refer to the extent to which firms are multinational. In this study, we use the term multinationality because it has been used extensively in

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internalization theory perspective, inefficient external markets—largely for knowledge-based assets such as technological knowledge, brand names, and organizational skills—encourage firms to exploit these assets through the use of internal markets (i.e., hierarchical coordination) rather than external ones (i.e., price-based coordination) (Verbeke et al., 2009). The exploitation of market imperfections internally is a primary benefit of multinationality because market imperfections provide opportunities for internationally diversified firms to gain competitive advantage in cross-border use of their intangible assets (Kogut, 1985). Thus, multinationality provides an efficient governance structure for transferring firm-specific assets across country borders within a firm and for these transfers to have positive impacts on firm performance (Kirca et al., 2011).

Specifically, rents from internationalization depend on how firms successfully and efficiently transfer their firm-specific advantages and exploit them in foreign markets (Buckley and Casson, 2002; Morck and Yeung, 1991). The extant literature indicates that firm-, industry-, and country-specific factors are undeniably relevant to internationalization decisions, as there are certain market environments in which the incentive to internalize is particularly strong and the benefits of internationalization are much greater (Buckley and Casson, 2002; Kirca et al., 2011). However, M-P relationship researchers have largely ignored the implications of these contextual factors for the M-P relationship. Using these assumptions as a starting point, in the subsequent sections we discuss how various aspects of the context affect the nature of the relationship between multinationality and performance.

We categorize the substantive contextual variables that can potentially affect the strength of the M-P relationship into three levels of analysis: firm, industry, and country, as presented in Figure 1 (cf. Makino, Isobe, and Chan, 2004). We maintain that firm, industry, and country characteristics shape the relationship between multinationality and performance because these contextual factors play a critical role in the transfer and exploitation of firm-specific assets across borders. Drawing on this perspective, we propose that context can set specific constraints and opportunities that either enhance or minimize the effects of multinationality on performance, as detailed subsequently. Importantly, our theoretical approach is consistent with the corporate diversification literature, which suggests that firms’ decisions to diversify and their performance outcomes are affected by their general environment, industry environment, and firm-level factors (Ramanujam and Varadarajan, 1989).

**Firm effects**

Internalization theory predicts that firms choose the most cost effective foreign locations for specific MNE activities and internalize markets up to the point where the benefits of further internalization exceed or are equal to the total costs (Buckley,
The Role of Context in the Multinationality-Performance Relationship

Edward T. L. Lim, Taisuke Kiyama

The Role of Context in the Multinationality-Performance Relationship

111

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1988). Extending internalization theory, Morck and Yeung (1991) indicate that how firms increase their value in international markets may well be a function of the interaction between firm multinationality and its possession of intangible assets. This conceptualization of the role of firm-specific assets as a moderator of the M-P relationship presumes that intangible assets have some characteristics of public goods, in that their value is enhanced in direct proportion to the scale of the firm’s markets. As such, these intangible assets can behave like public goods in that their value increases as a firm becomes more multinational. Accordingly, the firm value should be positively correlated with multinationality in the presence of firm-specific assets (Kirca et al., 2011; Morck and Yeung, 1991).

Firm size (e.g., number of employees) has often been used as a proxy to capture firm-specific advantages in the multinationality literature (Lu and Beamish, 2004). Larger firms are beneficiaries of scale and scope economies as powerful market players, capable of preemptive moves that limit or prevent later entrants from gaining access to suppliers, markets, customers, and other scarce assets (Gaba, Pan, and Ungson, 2002). Larger scale also enables firms to have more resources to invest in innovations, to pursue aggressive expansions, and to be able to incur the costs and bear the risks of internationalization. The benefits of scale are particularly substantial for larger firms since they have access to privileged learning channels; they can reduce risk through wider portfolios and they have stronger bargaining power to gain concessions from host country institutions and governments. Finally, larger firms tend to be more risk seeking when the adventure involves international expansion since they have more resources (Brewer, 1993). Therefore, multinationality should generate more value for larger firms as they possess more substantial intangible assets than small firms. Accordingly:

Hypothesis 1 (H1): Firm size moderates the relationship between multinationality and performance, such that the multinationality-performance relationship is stronger for larger firms.

Type of firm multinationality

The type of multinationality that firms engage may be an important factor that explains the mixed results in M-P studies (Thomas and Eden, 2004). In efforts to provide a better understanding of the M-P relationship in substantive terms, we distinguish between two types of multinationality that may have diverse effects on performance in foreign markets: (1) the scale or depth of multinationality (i.e., the extent to which firms commit tangible and intangible resources to create value from their operations abroad) (e.g., foreign sales to total sales ratios, foreign assets to total assets); and (2) the scope or breadth of multinationality (i.e., the spread of a firm’s international business activity across different countries) (e.g., number of countries) (Thomas and Eden, 2004). We expect the breadth of multinationality to be more strongly associated with performance than depth of multinationality because the larger breadth allows managers to allocate a higher percent of a firm’s total activities to foreign operations and to achieve economies of scale and scope with a broader geographical coverage of international operations (Allen and Pantzalis, 1996; Thomas and Eden, 2004). Moreover, larger breadth may also allow firms to arbitrage operations across countries and leverage location-based advantages more effectively because the breadth of multinationality is more positively associated with organizational learning, flexibility, and the capacity to engage in multi-point competition (Goerzen and Beamish, 2003; Kogut and Zander, 1993). Also, greater breadth helps reduce fluctuations in revenue by spreading investment risks over a larger number of foreign markets (Kim, Hwang, and Burgers, 1989). Therefore, exploration and exploitation benefits of multinationality should be more pronounced for breadth than depth of multinationality. Therefore:

Hypothesis 2 (H2): The M-P relationship is stronger for breadth of multinationality than for depth of multinationality.

Revenue generation versus profit maximization

When focusing on the performance implications of multinationality, researchers need to recognize that a variety of strategic motivations guide international expansion of MNEs (Dunning, 1993). However, it is convenient to make the simplifying assumption that all firms in the sample engage in international business activity to serve the same strategic purpose (Verbeke et al., 2009). In this study, we examine the extent to which multinationality affects revenue generation and profit maximization in international markets to explore how firm multinationality impact different strategic outcomes in international markets.
On the revenue generation side, gains from multinationality arise from exploiting intangible assets, market imperfections, tax-avoidance advantages, and the reduction of revenue fluctuations by spreading investment risks over a larger number of foreign markets (Kim et al., 1989; Morck and Yeung, 1991). Still, profit maximization entails a careful consideration of the major costs of international diversification—such as the transaction and coordination costs that escalate due to increased governance and control limits in multinational companies (Lu and Beamish, 2004; Roth, 1992)—as well as the higher costs of foreign market operations due to liability of foreignness, since foreign firms often cannot conduct business activities as effectively as local firms (Zaheer and Mosakowski, 1997). We propose that the benefits of multinationality for revenue generation purposes are greater than its profit maximization benefits because firm internationalization primarily focuses on the exploitation of intangible assets across geographic markets (Morck and Yeung, 1991). However, when its costs (i.e., the transaction and coordination costs) are taken into account, the performance effects of multinationality should be weaker in international markets. More formally:

Hypothesis 3 (H3): The benefits of firm multinationality for revenue generation purposes are greater than its profit maximization benefits.

Stage of firm internationalization

In recent years, the trade-off between costs and benefits at different stages of firm internationalization has begun to attract substantial attention. Based on the assumption that either the benefits or costs of international expansion dominate the early versus late stages of internationalization, research has identified potential nonlinear quadratic (i.e., J, U, inverted U) (Gomes and Ramaswamy, 1999), cubic (i.e., horizontal S) (Contractor et al., 2003), and sinus-shaped curve types (Ruigrok et al., 2007). Essentially, the logic for the inverted-U relationship is based on the assumption that costs of coordinating numerous diverse operating units can exceed the benefits of increased access to resources beyond a threshold level (Geringer, Beamish, and daCosta, 1989). Still, the arguments for a U-shaped curve indicate that international expansion reduces the performance of firms in the early stage of internationalization due to initial governance costs, learning effects, and liabilities of foreignness (Capar and Kotabe, 2003). This line of reasoning implies that firms suffer from declining performance in the early stages, but that performance improves with continued internationalization as new knowledge and capabilities are developed through learning and having access to more resources (Ruigrok and Wagner, 2003). More complex sigmoid models (e.g., horizontal S shape, sinus shape) were also proposed and tested to gain further insights (e.g., Contractor et al., 2003). For example, Lu and Beamish (2004) suggest the multinationality is detrimental to performance at the early and late stages of internationalization because costs exceed benefits during these two stages. Additionally, they indicate that firms derive both scale and scope economies at intermediate stages of internationalization, which result in enhanced performance as early liabilities and costs are reduced through experiential learning.

Drawing upon seminal internationalization theory (Johanson and Vahlne, 1977), it is theoretically plausible that the net gains from multinationality are positive throughout the early, intermediate, and late stages of firm internationalization. However, the magnitude of these positive gains may vary based on the stage of internationalization. In essence, early stages of international expansion are typically accompanied by high entry costs, liability of foreignness, learning costs, and insufficient economies of scale (Contractor et al., 2003). At late stages of internationalization, firms may face a threshold whereby further expansion triggers value deterioration due to increased complexity of operations, as well as transaction and coordination costs (Lu and Beamish, 2004; Tallman and Li, 1996). At the same time, multinationality provides several benefits, including exploitation of intangible assets due to market imperfections, economies of scope, experiential learning, risk reduction benefits, and greater bargaining power in both early and late stages of internationalization. The positive effects of multinationality on performance should be more pronounced at the intermediate stage of internationalization because net gains from multinationality often reach their highest levels at that stage. Specifically, while the firm continues to enjoy exploration and exploitation advantages of multinationality, the total costs for liability of foreignness and newness decrease or become stable at this stage (Contractor et al. 2003; Lu and Beamish, 2004). Also, governance and control costs have more limited effects on firm performance at intermediate stages because experiential
learning about how to operate in international markets efficiently reduces such managerial costs. Accordingly, we offer the following hypothesis:

**Hypothesis 4 (H4):** The M-P relationship has a stronger positive slope in the intermediate stages of internationalization than at early and late stages of internationalization.

**Industry effects**

The theoretical rationale for the relationship between multinationality and performance in different industries has often taken into account the differences between service and manufacturing firms (Capar and Kotabe, 2003). Key dimensions along which manufacturing and service firms vary include the intangible nature of services, inseparability of production and consumption processes in service industries, heterogeneous nature of service outputs due to customer participation in the production processes, and perishable nature of services (Capar and Kotabe, 2003; Kotabe, Srinivasan, and Aulakh, 2002). The M-P relationship should be weaker in service industries compared to manufacturing industries because of: (1) considerably higher initial costs of investment due to the intangibility of service skills, making them difficult to transfer to third parties without significant transaction costs (Capar and Kotabe, 2003); (2) considerably higher costs of international operations due to the inseparability of production and consumption in services, as well as due to the heterogeneity of services, which make it less likely for service firms to benefit from scale economies; (3) the strict control over the extent of foreign involvement in service industries that prevents service firms from benefiting from economies of scale and scope to the same extent as firms in manufacturing industries; and (4) higher need for adaptation for services because of their intangible nature, further escalating the costs for services more rapidly than for manufacturing firms in international markets (Knight, 1999).

In short, these arguments suggest that the overall costs of transferring and exploiting firm-specific assets are higher for service firms than for manufacturing firms for each incremental unit of internationalization. As firm internationalization and its positive effects on performance assume the efficient transfer and exploitation of intangible assets across geographic markets (Buckley and Casson, 2002; Morck and Yeung, 1991), firm multinationality should provide a more efficient governance structure for transferring firm-specific assets across country borders within manufacturing firms. Therefore, the effects of multinationality should be greater in manufacturing industries, as compared to services. Thus, we posit the following hypothesis:

**Hypothesis 5 (H5):** Multinationality has a stronger positive effect on firm performance in manufacturing industries than in service industries.

**Country effects**

The magnitude of the M-P relationship may also depend on country-specific differences in domestic factor endowments (e.g., physical infrastructure, capital accumulation, financial resources, human resources) and the institutional characteristics of home countries (e.g., political, legal, and societal institutions) (Hitt, Tihanyi, Miller, and Connelly, 2006; Makino et al., 2004). Firms from developed economies (e.g., U.S., EU, and Japan) may reap greater dividends from multinationality than firms from developing economies (e.g., Brazil, Chile, China, India, Mexico) because firms from the more munificent home country environments of advanced economies often have abundant resources and effective institutions to draw upon when they engage in international expansion (Nachum, 2004; Wan and Hoskisson, 2003; Wan, 2005). Firms from advanced economies can also rely more heavily on skills required at home to avail superior competitive advantages in international expansion than those firms from developing economies. In addition, intense rivalry and sophisticated demand in home country markets also serve to sharpen the competitive edge of firms from advanced economies. Finally, well-developed institutional environments of advanced economies enable firms to develop leading-edge knowledge, while adequate intellectual property protection helps them safeguard their unique competitive advantages (Wan, 2005). Collectively, these arguments indicate that the MNEs from developed economies have higher levels of firm-specific assets and they can transfer and exploit these assets more efficiently to generate higher returns in international markets than MNEs from developing economies. Hence:

**Hypothesis 6 (H6):** The M-P relationship is stronger for firms from advanced economies than for firms from developing economies.
METHODS

Data collection

The ABI/INFORM and Science Direct databases were searched for studies published prior to 2010 using the following search terms: multinationality, degree of internationalization, international diversification, and internationalization to collect meta-analytic data for our study. Then, an issue-by-issue search was conducted for 14 major journals in the international business, management, marketing, and finance literatures. We also examined the references of all major reviews of research previously published on the topic of multinationality to identify studies that could have been overlooked in the previous stages (e.g., Annavarjula and Beldona, 2000; Bausch and Krist, 2007; Hitt, Tihanyi, Miller, and Connelly, 2006; Thomas and Eden, 2004). Finally, requests were posted on AIB and AOM listserves to elicit unpublished research (Rosenthal, 1995).

Studies for inclusion in the meta-analysis were selected on the basis of four criteria. First, the meta-analysis included only those empirical studies that reported sample sizes and an outcome statistic (e.g., $r$, univariate $F$, $t$, $\chi^2$). Second, a study had to report on relationships involving one or more operationalizations of multinationality and performance. Third, only those studies that measured constructs at the firm level were included so that results from research that had vastly divergent goals were not aggregated (Hunter and Schmidt, 1990). Fourth, studies were considered independent only when they reported correlation coefficients from different samples. Accordingly, a number of studies could not be included in our final sample because: (1) they reported relationships that could not be integrated with those in other studies (i.e., relationship for which less than 10 study effects were available); (2) the results were based on data used in other studies that were already included; and (3) their results were reported only in multivariate models. Upon completion of the literature retrieval procedures, a total of 416 effects were obtained from 152 independent samples reported in 141 studies. A complete bibliography of the studies included in the meta-analysis is available from the authors.

We followed the procedures recommended in Lipsey and Wilson (2001) to develop the final database. First, a coding protocol specifying the information to be extracted from each study was prepared to reduce coding error. Then a coding form was prepared for coders who recorded the extracted data on the variables of interest, including outcome statistics (i.e., effect size estimates), study sample sizes, statistical artifacts (i.e., measure reliability statistics), and study characteristics. Each study was coded by two coders knowledgeable of the M-P relationship literature. The intercoder reliability estimate ranged from 0.93 to 0.98, suggesting that the reliability of the coding process was high (Perreault and Leigh, 1989). Remaining discrepancies were resolved through discussion before reaching consensus.

Measures

An important issue in meta-analysis is the operationalization of variables. This is essential because the description of the moderator variables explains how the characteristics of different research contexts and measurement issues reported in original studies were categorized in the meta-analysis. In terms of our criterion for firm size, study samples were categorized in small and large firms based on the American Small Business Association definition; firms with fewer than 500 employees were considered small firms (cf., Lu and Beamish 2001). Consistent with Annavarjula and Beldona (2000) and Thomas and Eden (2004), the type of multinationality variable was operationalized using the depth and breadth of multinationality, where depth of multinationality refers to the extent to which firms commit tangible and intangible resources to create value from their operations abroad (e.g., foreign sales to total sales ratios, foreign assets to total assets) and breadth of multinationality captures the spread of a firm’s...
international business activity across different countries (e.g., number of countries, number of foreign subsidiaries). To examine the extent to which multinationality affects revenue generation and profit maximization in international markets, we categorized the performance measures employed in original studies into two categories: revenue-based performance measures that do not account for the costs of operations (e.g., sales, sales growth) and profit maximization measures (e.g., ROA, ROS, ROE, ROI) that incorporate the cost element. For industry effects, study samples were categorized in manufacturing and service firms based on information available in original studies.

For the stage of internationalization variable, the study samples have been categorized into three groups based on the average foreign sales to total sales (FSTS) ratios reported in original studies. This ratio is the most widely used proxy for the degree of internationalization in the studies included in the meta-analysis. Specifically, and consistent with the extant literature, firms with an average FSTS ratio of 10 percent and below were considered to be at early stages of internationalization, firms with an FSTS ratio of 11 to 35 percent were assumed to be at intermediate stages, and firms with an FSTS ratio greater than 35 percent were categorized as being at the late stages of internationalization (Zahra et al., 2000; Zhou, Wu, and Luo, 2007). Finally, for the developing vs. developed economy variable, we categorized the original studies included in the meta-analysis in two categories: studies based on data obtained from advanced economy MNEs and those from developing economy MNEs. The UN classification was followed for this categorization (cf. Nachum, 2004).

Data analysis

Following recent meta-analytic reviews, we conducted our study according to the guidelines provided by Hunter and Schmidt (1990). Zero-order correlation coefficients obtained from each study were corrected for measurement error by dividing the correlation coefficient by the product of the square root of the reliabilities of the two constructs when available. The objective of this step is essentially to correct for unreliability using artifact distributions for subjective multinationality and performance measures (Hunter and Schmidt, 1990). Then, the reliability-corrected correlations were transformed into Fisher’s z-coefficients in efforts to account for the skewness of the distribution of sample correlation coefficients (Rosenthal, 1994). Subsequently, the z-coefficients were averaged and weighted by an estimate of the inverse of the variance (N—3) to give greater weight to more precise estimates with larger sample sizes, and then they were reconverted to correlation coefficients (Hedges and Olkin, 1985).

Using the Fisher z-transformed sample size-weighted correlations, we conducted multivariate moderator analyses to investigate whether the significant variation in the magnitude of the correlations between multinationality and performance is attributable to the contextual variables outlined previously (Hedges and Olkin, 1985; Lipsey and Wilson, 2001). Specifically, we first tested the hypothesis of homogeneity of the population correlations using the Q-statistic that has a chi-square distribution with k—1 degrees of freedom using $Q = \sum (n_i - 3)(z_i - z)^2$ (Hedges and Olkin, 1985). When significant, the chi-square test indicates that moderator variables may explain the heterogeneity in the effect sizes. Then, to examine the nature of heterogeneity in the effect sizes, we conducted a multivariate assessment of the combined ability of these moderator variables to account for the variance in study effects, as recommended by Hedges and Olkin (1985), by regressing dummy-coded variables on the Fisher z-transformed correlations. Specifically, the firm-, industry-, and country-level moderator factors were dummy coded and used as independent variables in the following regression model:

$$Z_{M,P} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_{4b} + \beta_6 X_5 + \beta_7 X_6 + \epsilon_1,$$

where, $Z_{M,P}$ is the z-transformed value of the corrected correlation between multinationality and performance, $\beta$s are parameter estimates, and $X_i$ are categorical variables listed below with the reference level (the level dummy coded ‘0’) shown first for each $X$:

- $X_1$ represents firm size
- $X_2$ represents breadth vs. depth of multinationality
- $X_3$ represents revenue generation vs. profit maximization
- $X_{4a}$ represents early vs. intermediate stages of internationalization
X₄b represents intermediate vs. late stages of internationalization
X₅ represents manufacturing vs. service businesses
X₆ represents developed vs. developing countries

**FINDINGS**

The homogeneity test, which was statistically significant ($\chi^2_{415} = 4208.43, p < 0.01$) for the M-P relationship, reveals variability across effect sizes and further supports the need to examine theoretically relevant factors that explain the variance (Hedges and Olkin, 1985). Accordingly, we examined the hypothesized effects of firm-, industry-, and country-level factors on the M-P relationship using multivariate regression analyses. The regression analysis results summarized in Table 1 demonstrate that the proposed model is significant ($F(7, 411) = 9.56, p < 0.01$) after the elimination of four outliers from the data set. Moreover, the results also indicate that the hypothesized moderators account for 14 percent of the variance in M-P correlations. Importantly, the regression model is free of multicollinearity (max VIF = 1.30), indicating that we can keep all the moderators in our model.

**Moderating effects of firm-level factors**

As detailed in Table 1, the standardized path coefficient for the firm size variable is not significant ($\beta = -0.08, p > 0.05$), suggesting that firm size does not affect the strength of the M-P relationship in the presence of other theoretically relevant moderators. Therefore, H1 was not supported. H2 posits that breadth of multinationality should display a stronger overall positive association with firm performance than depth of multinationality because exploration and exploitation benefits should be more pronounced for breadth than they are for the depth of multinationality. Support was obtained for H2, in that stronger M-P relationships were obtained when measures that capture the breadth of multinationality—rather than depth of multinationality—were employed in original studies ($\beta = -0.20, p < 0.01$). In addition, and consistent with our prediction in H3, we found that firm multinationality is more beneficial for revenue generation purposes than for profit maximization ($\beta = 0.25, p < 0.01$). The standardized regression coefficients for the stage of internationalization variables were not significant, failing to support H4. Therefore, we conclude that the slope of the M-P relationship is not a function of the stage of firm internationalization based on multivariate regression analysis results. The implications of this finding are further detailed in the Discussion section.

As detailed in H5, we hypothesized a stronger M-P relationship for manufacturing firms than for service firms. Our results suggest that industry type impacts the M-P relationship ($\beta = 0.11, p < 0.01$). Specifically, M-P studies for which data were collected from service businesses generated substantially lower correlation coefficients than did those from manufacturing businesses. As such, support was obtained for H5. Finally, H6 predicts that the ability to extract benefits from the same levels of multinationality may be contingent upon the factor endowments and institutional characteristics of the

<table>
<thead>
<tr>
<th>Predictor variables (Reference level stated first)</th>
<th>Hypotheses</th>
<th>$\beta^*$ (t-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (vs. large) firms</td>
<td>H1</td>
<td>-0.08 (1.63)</td>
</tr>
<tr>
<td>Breadth of multinationality (vs. depth of multinationality)</td>
<td>H2</td>
<td>-0.20 (4.28)**</td>
</tr>
<tr>
<td>Profit maximization (vs. revenue generation)</td>
<td>H3</td>
<td>0.25 (5.29)**</td>
</tr>
<tr>
<td>Early stages of internationalization (vs. intermediate stages)</td>
<td>H4</td>
<td>0.02 (0.38)</td>
</tr>
<tr>
<td>Intermediate stages of internationalization (vs. late stages)</td>
<td>H4</td>
<td>-0.01 (0.04)</td>
</tr>
<tr>
<td>Service industry (vs. manufacturing industry)</td>
<td>H5</td>
<td>0.11 (2.33)**</td>
</tr>
<tr>
<td>Developing economies vs. developed economies</td>
<td>H6</td>
<td>0.13 (2.74)**</td>
</tr>
<tr>
<td>F-statistic</td>
<td></td>
<td>9.56**</td>
</tr>
<tr>
<td>Degrees of freedom</td>
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<td>$R^2$</td>
<td></td>
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$^*$ Standardized coefficients.

*p < 0.05; ** $p < 0.01.$
The Role of Context in the Multinationality-Performance Relationship

home countries of MNEs from which data were collected. Consistent with this prediction, our meta-analysis indicates that study results based on data from advanced economy MNEs yield stronger effect sizes than those obtained from developing economy MNEs ($\beta = 0.13, p < 0.01$).

DISCUSSION AND DIRECTIONS FOR FUTURE RESEARCH

Using meta-analytic data from 47,849 firms across 152 independent samples reported in 141 studies over four decades, this study presents a systematic investigation of a theory-driven framework that focuses on the moderating effects of firm-, industry-, and country-level factors on the M-P relationship. In this way, we integrate the unique theoretical insights pertaining to the M-P relationship accumulated over the last four decades across a large number of studies, research contexts, and disciplines. This careful examination of the situational setting, which incorporates ‘where,’ ‘when,’ and ‘how’ multinationality affects firm performance, also provides useful insights pertaining to the mixed findings in the M-P research.

Specifically, through the meta-analysis we contribute to the extant global strategy literature in the following ways: first, by meta-analyzing the results of a large number of studies, we consolidate and systematically integrate the findings from various small and disparate streams of research into a coherent body of knowledge. Second, we demonstrate that firm-, industry-, and country-level factors explain the seemingly contradictory and inconclusive results in the literature. Previous research indicates that the failure to take account of firm-level heterogeneity can produce mixed results pertaining to the M-P relationship (Hitt, Bierman, Uhlenbruck, and Shimizu, 2006). Also, it has been widely recognized that heterogeneity arising from the omission of industry characteristics is a potential source of variation that may bias the study results (Bowen, 2007). Similarly, several researchers indicate that the potential importance of the country dimension represents another layer of the issue of heterogeneity of the M-P relationship since home country characteristics are likely to be important determinants of firms’ international success (Bowen, 2007; Makino et al., 2004; Wan and Hoskisson, 2003). Our study fills these important gaps.

Finally, our findings suggest that the effects of multinationality on performance depend on type of firm multinationality, firm strategic motivations, industry characteristics, and home country factors. Interestingly, our multivariate assessment also reveals that firm size and stage of firm internationalization are not significant factors that affect the nature of the M-P relationship. Specifically, our meta-analysis reveals that the potential of firms creating positive returns from multinationality is more an outcome of ‘country spreading’ than concentration in certain markets or regions. These findings confirm that the larger breadth of the MNE network allows managers to allocate a higher percent of a firm’s total activities to foreign operations and to achieve economies of scale and scope with a broader geographical coverage of international operations (Allen and Pantzalis, 1996; Thomas and Eden, 2004).

In this study, we have also investigated the extent to which multinationality provides revenue generation and/or profit maximization benefits for firms in international markets. Although the need to examine the strategic motivations that guide the international expansion of MNEs has often been emphasized in the literature (Bowen, 2007; Dunning, 1993; Verbeke et al., 2009), researchers usually make the simplifying assumption that firm internationalization serves the same strategic purpose. We demonstrate that the benefits of multinationality for revenue generation purposes are greater than its profit maximization benefits because firm internationalization is inherently a revenue generator with its primary emphasis on the exploitation of intangible assets across geographic markets. Due to data limitations, we could not examine other types of strategic motivations (e.g., resource seeking, efficiency seeking) that may guide firm internationalization decisions. Nevertheless, our findings confirm the importance of this dimension, as it offers preliminary evidence concerning the diverse effects of strategic motivations in the outcomes of internationalization. Future investigations should focus on the performance implications of horizontal and vertical integration, as well as geographic diversification with different strategic motivations.

Our findings also suggest that service businesses benefit less from multinationality than manufacturing businesses. Assuming that incremental multinationality yields similar benefits for manufacturing and service firms, our findings suggest that international expansion is more costly in services than in manufacturing businesses. As detailed earlier, the unique characteristics of international service
operations (i.e., high costs of adaptation, investment, and coordination, and strict control over the extent of foreign involvement) increase the costs of operating in foreign markets for service firms to higher levels than those in manufacturing industries (Knight, 1999). In addition, service industries are notoriously reliant on intangible assets, such as human and relational capital (Hitt, Bierman, Uhlenbruck, and Shimizu, 2006). Our findings confirm that the overall costs of transferring and exploiting firm-specific assets may be higher for service firms than for manufacturing firms for each incremental unit of internationalization. Clearly, further research is warranted for a better understanding of how coordination and investment costs, as well as customization requirements, interact to affect the M-P relationship in manufacturing and service industries.

One of the most intriguing results of our study relates to the stronger M-P relationship obtained for firms from advanced economies than those from developing economies. Home country characteristics seem to be important determinants of firms’ international success as a result of internationalization efforts. These differences may be related to greater technological and innovative prowess of firms from advanced economies and the presence of related and supportive industries in home markets, as well as their monopoly power in some industries (Porter, 1990). In addition, firms from developing economies are relatively more recent players in the global marketplace. These findings point to the possibility that firms from advanced economies learn much faster on issues, such as cross-subsidiary knowledge transfer and activity sharing, than their counterparts in developing economies. Accordingly, having moved earlier on the experience curve seems to put advanced economy firms in richer spatial encounters, which enables them to adapt to unstable foreign environments much faster than their counterparts in developing economies (Van de Ven, 2004). An important issue that has been neglected in our meta-analysis due to data limitations is the effects of the country of destination of a firm’s international activities, which may impact the M-P relationship. Thus, researchers need to incorporate the country dimension more explicitly into future investigations of the M-P relationship. The focus of the current debate on the regional strategies of MNEs is a significant step in the direction of delineating the importance of where firms operate for understanding the impact of multinationality on performance (e.g., Rugman, 2007).

Finally, our investigation provides critical insights for managers and researchers alike. Over the last four decades, a considerable body of research has examined the linear (Grant, 1987; Delios and Beamish, 1999; Morck and Yeung, 1991) and nonlinear (Contractor et al., 2003; Gomes and Ramaswamy, 1999; Lu and Beamish, 2004) relationships based on the trade-off between costs and benefits at different stages of firm internationalization, as detailed earlier. Despite the vast number of studies, the current state of research findings pertaining to the curvilinear effects has been inconsistent and inconclusive. Our findings suggest that the slope of the M-P relationship is not a function of the stage of firm internationalization when several other contextual factors (firm, industry, and country characteristics) are taken into account. To further investigate this important issue, we have conducted additional analyses. Specifically, following the procedures described earlier, we calculated and compared the mean effect sizes obtained for the M-P relationship from original studies in a subgroup analysis.

The results of our subgroup analysis suggest that the slope of the M-P relationship is positive at early, intermediate, and late stages of firm internationalization and that the mean effect sizes obtained for the M-P relationship are significantly higher at intermediate stage than at early and late stages of internationalization. (r = 0.068 vs. r = 0.108 vs. r = 0.078, p < 0.01, respectively). As such, this finding indicates that an S-shaped, curvilinear pattern provides an accurate characterization of the M-P relationship. However, it is important to remember that the results of our multivariate analysis indicate that this significant result disappears when we introduce other substantive contextual factors (i.e., type of firm multinationality, firm strategic motivations, industry characteristics, and home country factors) in the model. Thus, we conclude that the search for more complex relationships (i.e., U-shaped, inverse U-shaped, horizontal S-curve) has the potential to expand our understanding of the underlying basis for the M-P relationship, only when the characteristics of different research contexts (e.g., manufacturing vs. services, country contexts), measurement issues (i.e., breadth versus depth of multinationality), and firm characteristics (i.e., revenue generation vs. profit maximization objectives) are taken into account in the theoretical development and research design stages of studies. In this respect, an empirical study that compares the benefits of breadth and depth of multinationality for firms with different
strategic motivations in services industries from developing economies may provide useful practical and theoretical implications.

This meta-analysis has a number of limitations that should be considered when interpreting the results. One concern is that meta-analysts are limited in their ability to code contextual variables by the often limited description of research settings in original studies. Thus, our study was limited to examining moderators that were available in existing studies. Additional sample and study characteristics (e.g., source of data, industry growth, host country characteristics) need to be modeled and reported in future studies on the M-P relationship. Second, due to the cross-sectional nature of the original studies, causal references pertaining to the M-P relationship are often hard to make in the M-P literature (Bowen, 2007). Finally, we used only studies whose results could be converted to correlation coefficients, which limited our sample size.

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