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Navigating Local Environments with Global Strategies: A Contingency Model of Multinational Subsidiary Performance

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Multinational corporations (MNCs) often pursue global strategies that emphasize efficiency, flexibility, and learning, but globally developed strategies often clash with the environmental idiosyncrasies of MNC country subsidiary markets in which the strategy is actually implemented. Extant research pays little attention to the contingent efficacy of such global strategies from the perspective of MNC country subsidiary markets. We adopt the strategy-environment alignment principle and study how host country task- and institutional environments might influence the efficacy of global strategies for MNC subsidiary performance. We assess MNC subsidiary performance using subjective managerial judgments, and on the basis of recent research on human judgments, we theorize that these judgments embody information about judgment magnitude and uncertainty. A mean-variance function model simultaneously teases out the effects of the explanatory variables on the magnitude and uncertainty of MNC subsidiary performance judgments. To test the hypotheses, we analyze survey data from German and Japanese subsidiaries in the United States. The results support the use of the mean-variance function model and specific theory about the antecedents of performance judgment magnitude and uncertainty. Findings pertaining to interactions between global strategies and the facets of the local country environment reveal ways in which MNCs can adapt “global” strategies to navigate the complex array of country markets they face.

Key words: multinational corporation; global strategies; environment; judgment uncertainty

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1. Introduction

Global competition is pervasive. From semiconductors to cleaning services, no industry is free from the impact of global competition. . . . The very distinction between “domestic” and “global” businesses is open to challenge.

—Prahalad and Hamel (1994, pp. 5–6)

The increasing globalization of markets makes it critical to understand the management of multinational corporations (MNCs) and marketing in foreign markets (e.g., Kumar and Trichy 2002, Rosenzweig 1994). Typically, an MNC consists of a headquarters and several geographically dispersed subsidiaries that operate in different country markets (e.g., Bartlett and Ghoshal 1995, Prahalad and Doz 1987). To optimize worldwide performance, MNC headquarters pursue various global strategies, generally some combination of global efficiency, multinational flexibility, and

worldwide learning, to achieve their global objectives (Bartlett and Ghoshal 1995). When MNCs pursue a global efficiency strategy, they emphasize the benefits of scale economies and managed cost structures, whereas those following the multinational flexibility strategy adapt and tailor their plans and programs to the specific needs of a country market and use flexible systems to manage idiosyncratic local needs and requirements. Finally, MNCs pursuing a worldwide learning strategy emphasize the assimilation and integration of learning from various country markets into a knowledge base, and then exploit that knowledge to attain competitive advantages and superior performance.

Our research focuses on the tensions that surface in considering issues of optimal strategy for MNCs. The tensions in this landscape emerge because though headquarters determine the strategic emphasis of the

MNC as a whole, the strategies are implemented by the MNC's country-specific subsidiaries. In many cases, the optimal strategy for the MNC globally may not be the most opportune for some of its subsidiaries (e.g., Ghoshal 1987, Prahalad and Doz 1987) such that a strategy developed with a global perspective might flourish in some local environments but falter in others. Little research has focused on the implications of adopting global strategies for MNC subsidiary performance, which therefore constitute the primary focus of this research endeavor.

To assess the criticality of global strategies for the performance of MNC subsidiaries, we examine the relationships between global strategies and subjective performance; that is, managerial judgments of MNC subsidiary performance (e.g., March and Sutton 1997, Pauwels and Hanssens 2007). We build our research on judgment uncertainty (e.g., Chandrashekar et al. 2000, Rust et al. 1999) to recognize that, similar to all human judgments, managerial judgments are fraught with varying degrees of uncertainty. As Koehler (1994, p. 461) succinctly notes, "Although we believe a great many things, we hold some of our beliefs with greater conviction than others." Adopting this perspective (see also Petrocelli et al. 2007, Rucker and Petty 2004), a burgeoning stream of research has gained new insights into human judgments by explicitly modeling the magnitude of judgments and their inherent uncertainties (e.g., Chandrashekar et al. 2007, Rust et al. 1999). Focus on the uncertainty of managerial judgments, however, does not yet appear to have caught the attention of marketing strategy researchers. Broadly, the relevance of an uncertainty-based performance judgment analysis for strategy research stems from the recognition that two managers can overtly express the same level of performance but hold their judgment with varying degrees of covert uncertainty. Although conventional analyses focusing entirely on the magnitude of judgments treat these two managers as identical, from a substantive viewpoint, some independent variables may influence the magnitude of a performance judgment but not uncertainty, and vice versa. Thus, richer insights will likely emerge if we simultaneously estimate the impact of independent variables on performance judgment magnitude and uncertainty.

With this research, we contribute to the literature in two specific directions. First, we adopt a contingency perspective to focus on the interplay of global MNC strategies and local environments in shaping MNC subsidiary performance. Our approach is similar to extant research in marketing strategy that examines the contingent efficacy of marketing capabilities and resources (e.g., Jaworski and Kohli 1993, Zeithaml et al. 1988). Such an approach enables us to address

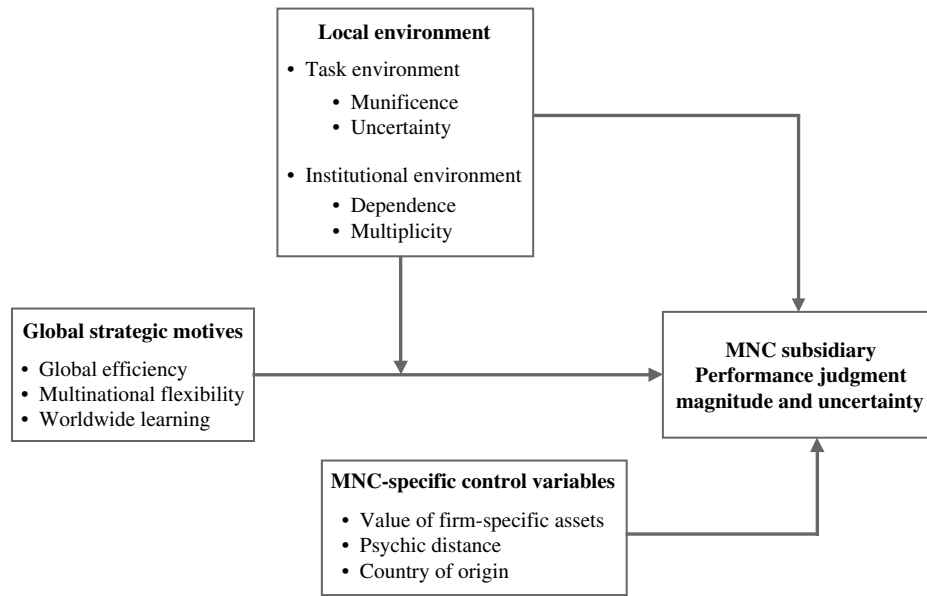
"which strategy is best when" from the perspective of MNC subsidiaries. Because from a customer acquisition and retention perspective, marketing provides the primary content for global strategies, it becomes important to study the efficacy of those strategies. Second, recognizing that similar to human judgments, managerial judgments of firm performance are laden with varying levels of uncertainty, we explicitly examine the drivers of performance judgment magnitude and uncertainty. Specifically, we use the Judgment Uncertainty and Magnitude Parameters (JUMP) model (Chandrashekar et al. 2000, Chandrashekar et al. 2005), which is a mean-variance model framework that enables us to take one measure of an overt judgment and simultaneously estimate the impact of explanatory variables on both performance judgment magnitude (mean function) and uncertainty (variance function). Moreover, because some variables may influence both judgment dimensions, whereas others affect only one, we obtain a more comprehensive understanding of the interplay of global strategies and local environments by studying both dimensions of performance judgments (i.e., magnitude and uncertainty).

To reach these research objectives and actualize the critical contributions, we first elaborate on the mean-variance function framework that we use to extract performance judgment magnitude and uncertainty from a single performance judgment. We then delineate the components of global strategies and local environments and develop theory to specify their interplay in shaping the two dimensions (magnitude and uncertainty) of MNC subsidiary performance judgments. We next subject the theory to empirical scrutiny and describe the survey data collected from German and Japanese MNCs operating in the United States. Because foreign direct investment (FDI) in the United States has ranged from \$100 to \$300 billion per year in this decade (Jackson 2005), our research should shed light on important public policy issues surrounding global strategies and local environments. Following a rigorous assessment of the psychometric properties of our measures, we present the results of the analysis, which illustrate the effect of the interplay of global strategies and facets of the host country task and institutional environments in shaping MNC subsidiary performance judgment magnitude and uncertainty. We conclude by elaborating on the implications of our research for theory and practice.

2. Conceptual Background and Research Hypotheses

Figure 1 displays our conceptual framework, which shows that the magnitude and uncertainty of MNC subsidiary performance judgments depend on the

Figure 1 Conceptual Model



interplay between the MNC's global strategies and facets of the host country task and institutional environments. Consistent with the strategy-environment alignment principle, we also control for MNC-specific variables. We first elaborate on the two-dimensional conceptualization of MNC subsidiary performance (i.e., magnitude and uncertainty) and then develop hypotheses pertaining to the antecedents of the two dimensions of performance.

2.1. Magnitude and Uncertainty of Judgments of MNC Subsidiary Performance

We model performance judgments by building on the mean-variance function model of Chandrashekar et al. (2000, 2005), which starts with the recognition that when a manager is exposed to a task situation (e.g., making performance judgments), a covert analysis ensues. The outcome of this analysis is an overt judgment with the potential to inform two aspects of judgments. First, consistent with extant approaches, modeling the mean sheds light on the position of the judgment along a subjective continuum. Second, consistent with the Bayesian perspective, the uncertainty inherent in the judgment is manifested in the variability surrounding the point estimate of the mean (Rust et al. 1999), and therefore can be viewed in terms of the strength with which the manager holds the judgment. Furthermore, as Chandrashekar et al. (2005) note, this fundamental uncertainty is not associated with the measurement instrument or random perturbations of the response organism, as in sensory tasks. Rather, the psychological essence of judgment uncertainty lies in the heterogeneity of the covert analysis, across and within individuals. The model

also recognizes that the two dimensions of the performance judgment—magnitude and uncertainty—are inevitably but not intractably linked and embodied in the *same* overt response. Given one measure of performance judgment, the model simultaneously estimates the impact of the explanatory variables on both performance judgment magnitude (mean function) and uncertainty (variance function).

2.1.1. The Model Structure. We let PERF, PJM, and PJU denote, respectively, the stated performance judgment, performance judgment magnitude, and performance judgment uncertainty; thus the mean-variance function framework adopts the following model structure (hereafter, subscript i denotes an individual MNC subsidiary):

$$\text{PERF}_i = \text{PJM}_i + \varepsilon_i \quad \text{and} \quad (1)$$

$$\text{var}(\text{PERF}_i) = \text{PJU}_i + \sigma_\varepsilon^2. \quad (2)$$

The two dimensions of the stated performance judgment may be specified as a function of independent variables as follows:

$$\text{PJM}_i = \alpha + \mathbf{X}_i \boldsymbol{\beta} \quad \text{and} \quad (3)$$

$$\text{PJU}_i = \mathbf{Z}_i \boldsymbol{\delta}, \quad (4)$$

where ε_i are i.i.d. normally distributed error terms, σ_ε^2 represents the homoskedastic component of the error variance, $\mathbf{X}_i = [x_{1i}, x_{2i}, \dots, x_{pi}]$ denotes a row vector of p -variables hypothesized to affect the magnitude of performance judgments, $\mathbf{Z}_i = [z_{1i}, z_{2i}, \dots, z_{ki}]$ indicates a row vector of k -variables hypothesized to influence performance judgment uncertainty, α is the intercept term, $\boldsymbol{\beta} = [\beta_1, \beta_2, \dots, \beta_p]$ denotes a column

vector of the impacts of X_i , and $\delta = [\delta_1, \delta_2, \dots, \delta_k]$ represents a column vector of the influences of Z_i . The elements of X_i and Z_i can overlap, which will not affect the estimation; that is, we can separate the impact of variables on performance judgment magnitude from their influence on performance judgment uncertainty (because X and Z influence the first and second moments of the distribution of PERF, respectively, and the correlation of these two moments of a normal distribution is 0). To specify X and Z , the drivers of the magnitude and uncertainty of performance judgments, we turn to the interplay of strategy and environmental variables. The estimation procedure and hypotheses testing proceeds within an iterative regression analysis framework (e.g., Amemiya 1985, Chandrashekar et al. 2005).

2.2. MNC Subsidiary Environment

Consistent with the open systems perspective and extant literature on organizational environments, we conceptualize the host country environment in terms of its *task environment* and *institutional environment* (e.g., Rosenzweig and Singh 1991, Sundaram and Black 1992).

2.2.1. Task Environment. The task environment rewards (penalizes) organizations for their (in)effective and (in)efficient management. As a result, organizations are motivated to develop rationalized structures to manage environmental demands (e.g., Oliver 1991). We consider two aspects of the task environment. First, we focus on *munificence*, which distinguishes between rich and lean markets, to capture the extent of organizational dependence on the environment for critical resources (e.g., Dwyer and Oh 1987). Because munificence measures both the extent to which the environment provides sufficient resources for firms and the degree of competition for these resources (Dess and Beard 1984), munificent markets imply firms have strong growth and profit opportunities. Second, drawing on the perspective that task environments offer sources of information (e.g., Dwyer and Welsh 1985), we consider environmental *dynamism*, or the extent to which consumer and competitive environments are changing. Environmental dynamism increases a decision maker's need to accumulate, assimilate, interpret, and use information to anticipate environmental conditions (Dess and Beard 1984). Therefore, high levels of dynamism offer greater contingencies to organizations, thereby creating difficulties in planning, coordinating, and implementing marketing plans and strategies.

2.2.2. Institutional Environment. The rules and requirements to which individual organizations must conform to receive legitimacy and social support characterize their institutional environments, which prioritize issues related to political power (e.g., Grewal and

Dharwadkar 2002). Because MNCs must deal with perceptions of foreignness, institutional environments take on even greater significance for subsidiary management (Kostova and Zaheer 1999). Specifically, host country institutional constituents, including the government, professional associations, consumer bodies, and the general public, impose varied constraints on MNC subsidiary operations (Rosenzweig and Singh 1991). An important consequence of the demands of the institutional environment is the *dependence* of an MNC's subsidiary operations on local institutional constituents for critical resources, funds, or the simple right to do business. Doz et al. (1981) suggest that high dependence on local institutional constituents is fairly common in international business, that it adversely influences the MNC's ability to resist the demands of these institutional constituents and reduces its latitude to manage local business. In addition, institutional theorists emphasize that the *multiplicity* of institutional constituents has ramifications for MNC host country operations (e.g., Grewal and Dharwadkar 2002). Multiplicity captures the environmental complexity stemming from a large number of institutional constituents that impose a variety of often contradictory laws, regulations, and expectations on organizations (Oliver 1991), which results in "a jungle of conflicting requirements" (Scott 1983, p. 105).

2.3. Interplay of Global Strategies with Environmental Variables

At the outset, we recognize the tensions inherent in the portfolio of global strategic motives—global efficiency, multinational flexibility, and worldwide learning. Although a focus on global efficiency makes it feasible for firms to attain scale economies in production and marketing, it also impairs the ability of managers of MNCs to meet the distinct needs of country markets (e.g., Bartlett and Ghoshal 1995). At the same time, though technological advances (e.g., flexible manufacturing systems such as computer-integrated manufacturing) have facilitated the compatibility of seemingly opposite goals in terms of attaining scale economies and customization to meet distinct needs, they have also ushered in an era of corporate emphasis on knowledge acquisition and learning processes (e.g., Sinkula 1994). This trend has brought to the forefront issues pertaining to a learning orientation and culture (i.e., assimilate, integrate, synthesize, disseminate, and use learning on a global scale), as well as the unique imperatives of global coordination and control systems that facilitate this learning. Against the backdrop of these tensions, we offer conjectures about the interplay of the three strategic motives and the environment in shaping MNC subsidiary performance judgments.

2.3.1. Global Efficiency and the Environment.

Global efficiency captures an MNC's objective of benefiting from scale economies in product design, development, production, and marketing (Prahalad and Doz 1987), and achieving global efficiency requires MNCs to find the means to enhance their revenues or reduce costs (Bartlett and Ghoshal 1995). To increase revenues, MNCs maintain strong portfolios of brands, develop powerful distribution systems, and attempt to gain access to key strategic markets. In turn, they reduce costs by exploiting national differences in factor costs, pursuing scale economies, and benefiting from shared investments across markets and businesses. Standardization, however, is not always desirable or feasible (e.g., Jain 1989). Either the environments across countries are so distinct that products do not function the same way in different countries (e.g., poor roads in developing countries make high-speed automobiles practically useless), or consumers have distinct and idiosyncratic needs (e.g., cows are viewed as holy animals in India, thereby diminishing the potential market for beef and related products). Thus, though global efficiency can be beneficial for MNCs on a global basis, not all subsidiaries benefit from the standardization approach.

Although munificent markets make it feasible and beneficial for MNCs to adapt product offerings and strategies to the unique needs of the local environment, an emphasis on global efficiency as a strategic motive precludes the possibilities of local adaptations of both product offerings and marketing strategy. This can hurt the subsidiary in two ways. First, consumers likely prefer products that have been adapted for the country market. Second, competitors have incentives to customize their product offerings and marketing strategies for attractive munificent markets. If competitors adapt to the local conditions, they probably communicate and sell better than companies with standardized strategies. Thus an emphasis on global efficiency in munificent environments should lead managers to believe that they are not optimizing their subsidiary's performance. The extent to which they fall below the optimal is less easily articulated, because performance variability typically is greater in fast growing munificent markets. This inability to articulate well-defined estimates of lost business leads to ill-defined (weakly held) judgments of realized performance. As a result, though managers may articulate lower subsidiary performance in munificent markets with a global efficiency emphasis, they likely hold this sentiment with greater uncertainty.

HYPOTHESIS H_{GE1}. *An emphasis on global efficiency in munificent environments, in comparison with lean environments, results in lower levels of performance magnitude and higher levels of performance judgment uncertainty.*

Although high levels of dynamism offer greater contingencies for organizations, they also create difficulties in planning, coordinating, and implementing marketing plans and strategies (e.g., Dwyer and Welsh 1985). Dynamism makes the local market difficult to manage, so trying to follow a standardized strategy in dynamic conditions should have an adverse influence on performance magnitude. Because dynamic environments create greater uncertainty, MNCs pursuing global efficiency likely recognize their poorer performance; in turn, a standardized approach is unlikely to be beneficial in dynamic conditions. Thus, managers should have a greater degree of conviction in their performance judgments.¹

HYPOTHESIS H_{GE2}. *An emphasis on global efficiency in dynamic environments, in comparison with stable environments, results in lower levels of performance magnitude and lower levels of performance judgment uncertainty.*

Dependence on local institutional constituents reduces an MNC's ability to resist the demands made by those institutional constituents, as well as its incentives to manage the local business (Kostova and Zaheer 1999). The performance of an MNC subsidiary therefore relies on conformity to institutional expectations, which often emphasize higher autonomy for the local operations. Attempts by MNC headquarters to control host country operations may be met by sanctions from local institutional bodies. Because an emphasis on global efficiency requires high levels of control by MNC headquarters over subsidiary operations, we reason that the threats of sanctions and the reduced motivations of an MNC in conditions of high dependence on local institutional constituents will diminish the influence of global efficiency on performance magnitude. Furthermore, as MNC subsidiary performance depends on host country institutional bodies that are not under the control of MNC subsidiary managers, their control over subsidiary performance is also likely to be low. As a result, managers cannot articulate the explicit drivers of their performance; their attributions for performance suboptimality likely disperse across strategic misalignment and the pressures of greater dependence. This impaired diagnostic ability and lack of crystallization in attributions should result in managers holding judgments of performance with higher uncertainty.

HYPOTHESIS H_{GE3}. *An emphasis on global efficiency when MNC subsidiary dependence on host country institutional bodies is high, as opposed to low, results in lower*

¹ As is evident from the development of the first two hypotheses, performance judgment uncertainty hypotheses depend on the performance judgment magnitude hypotheses. Thus, performance judgment uncertainty hypotheses should always be considered contingent on the performance judgment magnitude hypotheses rather than in isolation.

levels of performance magnitude and higher levels of performance judgment uncertainty.

Multiplicity in institutional environments tends to be high when various institutional bodies make contradictory demands on the MNC subsidiary operations (Grewal and Dharwadkar 2002). A standardized approach, as espoused by an emphasis on global efficiency, is unlikely to be successful in conditions of high multiplicity, which require firms to be adaptive and creative. Furthermore, the performance of the MNC subsidiary might depend on interplay among the institutional bodies that make contradictory demands. Therefore, a similar logic to that described for dependence should govern performance judgment uncertainty.

HYPOTHESIS H_{GE4}. *An emphasis on global efficiency when the host country institutional environment is high in terms of multiplicity, as opposed to low, results in lower levels of performance magnitude and higher levels of performance judgment uncertainty.*

2.3.2. Multinational Flexibility and the Environment. A multinational flexibility strategy captures an MNC's focus on responding strategically to and benefiting from diversity in country environments (Bartlett and Ghoshal 1991). With its emphasis on economies of scope and a tailored communication and marketing mix, multinational flexibility enables firms to satisfy the idiosyncratic demands of country markets. In most situations, this ability should be beneficial for the MNC subsidiary, unless the costs (including opportunity costs) involved in building flexible resources outweigh the gains (e.g., Grewal and Tansuhaj 2001).

Because a MNC that emphasizes multinational flexibility strives to derive benefits from localization, the influence of multinational flexibility on subsidiary performance should increase in munificent markets. As Buckley and Casson (1998, p. 23) note, an emphasis on flexibility also enhances the organization's "ability to reallocate resources quickly and smoothly in response to change." In other words, an emphasis on multinational flexibility should enable MNCs to manage munificent environments effectively and consistently; as a result, managers should have a high degree of conviction in their performance judgments, or low performance judgment uncertainty.

HYPOTHESIS H_{MF1}. *An emphasis on multinational flexibility in munificent environments in comparison with lean environments results in higher levels of performance magnitude and lower levels of performance judgment uncertainty.*

Multinational flexibility, by definition, emphasizes responses to the unique needs of local consumers, business partners, and institutional constituents. Thus

an emphasis on multinational flexibility in dynamic environments should result in higher performance magnitude. In addition, similar to the logic pertaining to munificent environments, an emphasis on multinational flexibility in dynamic environments should enable MNCs to manage those environments consistently. This ability increases managers' perception that they remain in control of performance outcomes, which should lead to greater conviction about performance assessments.

HYPOTHESIS H_{MF2}. *An emphasis on multinational flexibility in dynamic environments in comparison with stable environments results in higher levels of performance magnitude and lower levels of performance judgment uncertainty.*

A flexible approach, as embodied by the emphasis on multinational flexibility, should enable MNC subsidiaries to tailor their offering to the demands of the institutional bodies on which they depend. Thus the MNC subsidiary should be able to win the support of local institutional constituents and achieve higher performance magnitude. In addition, as stated previously, the increasing perception that they are more in control over outcomes will result in lower performance judgment uncertainty among managers.

HYPOTHESIS H_{MF3}. *An emphasis on multinational flexibility when MNC subsidiary dependence on host country institutional bodies is high, as opposed to low, results in higher levels of performance magnitude and lower levels of performance judgment uncertainty.*

A similar logic underpins the hypothesis about the interplay of multiplicity and multinational flexibility. Managers operating under the strategic motives of flexibility in environments characterized by high multiplicity perceive that they are responding more constructively to the often contradictory nature of demands made by the host country's institutional constituents.

HYPOTHESIS H_{MF4}. *An emphasis on multinational flexibility when the host country institutional environment is high in terms of multiplicity, as opposed to low, results in higher levels of performance magnitude and lower levels of performance judgment uncertainty.*

2.3.3. Worldwide Learning and the Environment. In the MNC context, worldwide learning represents an MNC's attempt to learn from diversity in environments and managerial systems across countries (e.g., Ghoshal 1987). Effective worldwide learning mechanisms support a balance between centralization and decentralization such that close coordination across subsidiary operations coexists with open lines of communication and frequent transfers of know-how, along with sufficient subsidiary autonomy (Bartlett

and Ghoshal 1995, Hauser et al. 2006). The coordination of subsidiary operations enhances an MNC's ability to derive advantages from knowledge accumulated across organizational components in different markets and businesses, as well as its capability to integrate the acquired knowledge into its daily operations.²

Munificent markets may not benefit from worldwide learning, because the focus on close coordination and control of an MNC's global operations, along with processes for accumulation, assimilation, and use of knowledge on a global scale, might impede the MNC's versatility in developing and implementing marketing strategies at the local level, which, in turn, may impair subsidiary performance. Furthermore, for a manager in a munificent country environment, learning from other environments can be useful (e.g., when other munificent markets are similar), but also might not pay off (e.g., when other environments are distinct in some manner from the existing market). Managers who operate in munificent markets and face such inconsistent information inputs (because of an emphasis on worldwide learning) may reveal lower convictions in their own performance assessments because these inconsistent information inputs should lead to higher performance judgment uncertainty.

HYPOTHESIS H_{WL1}. *An emphasis on worldwide learning in munificent environments in comparison with lean environments results in lower levels of performance magnitude and higher levels of performance judgment uncertainty.*

Dynamism creates difficulties for accumulating information and formulating strategic plans, which implies a clash with worldwide learning motives to the extent that it is difficult for managers in dynamic environments to specify what lessons from other markets apply to their own market. Thus we expect that an emphasis on worldwide learning in dynamic markets should adversely influence performance magnitude. Moreover, managers are acutely aware of the shortfalls of worldwide learning in dynamic country environments, which should make them certain of their subsidiary's suboptimal performance.

HYPOTHESIS H_{WL2}. *An emphasis on worldwide learning in dynamic environments in comparison with stable environments results in lower levels of performance magnitude and lower levels of performance judgment uncertainty.*

² Consistent with extant literature (e.g., Bartlett and Ghoshal 1995), we conceptualize worldwide learning at the intersection of two components: the worldwide component and the learning component. Thus, worldwide learning is learning on a global scale across MNC subsidiaries, which is conceptually distinct from local learning at the subsidiary level.

The ubiquity of high-dependence MNC subsidiaries (Doz et al. 1981) prompts positive benefits from a worldwide learning strategy. First, because it makes learning from higher dependence environments beneficial, a high involvement approach to managing institutional expectations is likely. Second, learning from other markets with similar characteristics can be used advantageously to manage local institutional constituents. As a result, MNC subsidiary performance magnitude should increase, as should managerial conviction in performance judgments.

HYPOTHESIS H_{WL3}. *An emphasis on worldwide learning when MNC subsidiary dependence on host country institutional bodies is high, as opposed to low, results in higher levels of performance magnitude and lower levels of performance judgment uncertainty.*

Because the multiplicity of demands from institutional constituents makes the host country market complex and unique, its management requires a flexible and locally focused approach on the part of an MNC. Worldwide learning, with its greater reliance on global coordination relative to flexibility, likely creates impediments to a unique strategy for a country market, and thereby adversely influences performance magnitude. In most cases, environments high in institutional multiplicity tend to be idiosyncratic, rendering a low likelihood of useful learning from other countries and suggesting a lower performance judgment magnitude. However, MNCs might be able to use learning from other countries in high institutional multiplicity environments. Because there exists some uncertainty about when such learning might be useful, we posit that performance judgment uncertainty will be high when firms pursue worldwide learning in environments characterized by high institutional multiplicity.

HYPOTHESIS H_{WL4}. *An emphasis on worldwide learning when the host country institutional environment is high in terms of multiplicity, as opposed to low, results in lower levels of performance magnitude and higher levels of performance judgment uncertainty.*

3. Methodology

3.1. Research Context

FDI in the United States has been aptly dubbed the "New American Challenge" (Rosenzweig 1994) because (1) the return on FDI remains well below other forms of investments, such as U.S. businesses, in general, and U.S. businesses abroad and (2) for many foreign MNCs, the United States represents a major source of revenue. For example, nearly 50% of the worldwide revenue of the Honda Motor Company comes from the United States; for the German MNC Bayer AG, this figure reaches 21% (Rosenzweig

1994). Our sample of German and Japanese MNCs in the United States comprises leading foreign firms (Doremus et al. 1998) that consider U.S. market strategically important because it is the home base of their global rivals. In addition, U.S. executives of German and Japanese MNCs are considered knowledgeable and responsible for strategic decision making in the local U.S. market (Kotabe 1990). Finally, German and Japanese MNCs are unique in terms of their corporate governance, financial structures, and innovation activity (Doremus et al. 1998). Therefore we sample German MNCs from the Directory of Subsidiaries of German Firms in the United States and Japanese MNCs from the Directory of Japanese-Affiliated Companies in the United States and Canada. The sampling frames consist of approximately 1,800 German and 2,000 Japanese manufacturing MNCs that operate in various industries.

3.2. Data Collection Procedure

We made initial phone contact with the MNCs to identify the key respondent involved in strategic decision making at the subsidiary and global levels. We attempted to talk with that key respondent to apprise him or her of our study and noted contact information. If this contact was unsuccessful, we made an additional effort within the same week. If, after examining the questionnaire, the chosen respondents believed that another member of the subsidiary would be in a better position to answer the questions, he or she could return a questionnaire redirecting form. We then would mail another copy of the survey to that identified manager.

The survey packet consists of a cover letter on university letterhead, the questionnaire, a self-addressed, prepaid return envelope, the redirecting form, and an incentive of \$1. The cover letter described the purpose of the study; namely, to investigate issues related to the management of foreign MNCs in the United States, and promised a copy of the findings as an added incentive. The cover letter and redirecting form were personalized for the individual managers. Two weeks after mailing the initial surveys, we mailed postcard reminders.

Prior to final data collection, we conducted two pretests. First, we interviewed managers from two MNCs to assess the content of the scale items and the general flow of the questionnaire. Second, we mailed the survey packet to a random sample of 400 subsidiaries, 200 from each list, to fine tune the data collection protocol and ensure the scale items evinced good psychometric properties. We received 91 responses and 16 redirection forms; from remailing these 16 surveys, we received 6 additional responses. Of the 97 responses, 90 are complete and usable, and their item-to-total correlations do not raise any issues with our measures.

Replicating this procedure, for the final study, we mailed an additional 1,000 survey packets, 500 from each list, and received 201 responses and 50 redirection forms that subsequently provided another 20 responses. Overall, we received 221 responses, of which 216 are usable; combined with the pretest, we obtained 306 usable responses for an effective response rate of 22.7%.

3.3. Control Variables

Consistent with the strategy environment alignment principle, we must control for MNC-specific variables to rule out any omitted variable biases and capture the influence of an MNC's capabilities, assets, and limitations on its capacity to choose and follow an appropriate course of action. Specifically, we examine three factors: (1) the value of an MNC's proprietary assets, (2) the psychic distance between an MNC headquarters and its subsidiary, and (3) the country of origin of the MNC (i.e., Germany or Japan).

3.3.1. Value of Firm-Specific Assets. The value of firm-specific assets refers to internal processes that create resource bundles and have the potential to create and sustain competitive advantage (e.g., Barney 1991). The two key premises for these resources are that they must determine a firm's performance and be rare and valuable. Described as the *raison d'être* for MNCs (Hamel 1991, p. 83), resources imbibe their owners with competitive advantages and have the potential to generate future rents. Therefore, resources and firm-specific assets create asymmetric power dynamics in favor of the firm that owns them. In the case of MNCs, as the value of firm-specific proprietary assets and resources increases, so does the power of headquarters over its subsidiary. The increased ability of headquarters to streamline and control subsidiary operations likely influences subsidiary performance judgments.

3.3.2. Psychic Distance. Psychic distance measures the extent of difference between cultures, languages, and values of an MNC's home country and the subsidiary's host country (Klein and Roth 1990). These differences inhibit communications between a headquarters and its subsidiary, thereby creating difficulties for the headquarters in managing and evaluating the subsidiary. Such communication difficulties adversely influence message content, frequency, and modality, which may increase transaction costs and eventually affect (lower) the level of subsidiary performance.

3.3.3. Country of Origin. Even though the notion of a transnational corporation seems to stress that the country of origin of MNCs is not critical, recent empirical evidence suggests the contrary (e.g., Doremus et al. 1998). Country-specific differences may exist in

corporate governance, financial structures, and innovation activity, based on country of origin. Thus we use a dummy variable to account for a multitude of such possible effects.

3.4. Measures

Using construct definitions, we develop new measures for the three global strategies. The global efficiency measure assesses the MNC's emphasis on extracting benefits from wage differences across nations; exploiting scale economies in marketing, distribution, manufacturing, and R&D; and the extent of sharing of investments and costs across countries (e.g., Kotabe 1990). We assess multinational flexibility with a measure of the stress of deriving benefits from the diversity across countries to develop MNC capabilities; the MNC's reliance on flexibility in managing political risks, which highlights the importance of handling institutional environments in an MNC context; versatility in terms of allocating human capital; and flexibility in terms of allocating key resources (e.g., Prahalad and Doz 1987). The worldwide learning measure captures the emphasis on gaining knowledge through sharing information across geographically scattered subsidiary operations. Thus the specific scale items focus on assessing learning on the basis of differences in MNC processes across countries, shared learning between MNC components across nations, shared innovations in products and organizational processes across subsidiaries, learning from differences in managerial systems across countries, and the emphasis on shared learning across subsidiaries (e.g., Gupta and Govindarajan 1991).

Consistent with research in international business and marketing (e.g., Kotabe 1990), to measure the performance of the U.S. subsidiary for the major product/process, we assess the attainment of profit goals, sales goals, and growth rate objectives. These items account for industry differences and firm-specific effects because we measure performance relative to targets.

We also adapt existing measures for the environmental munificence and dynamism items (e.g., Dwyer and Oh 1987, Dwyer and Welsh 1985). The scale for munificence measures the growth potential of the U.S. market compared with the rest of the world, industry growth potential, growth potential of the U.S. subsidiary, and profit opportunities offered by the U.S. business climate. The scale for environmental dynamism gauges variability in customer needs, product and brand features, price/quality, and uncertainty created by customer and competitor actions (e.g., Jaworski and Kohli 1993).

Because our research represents the first attempt to measure facets of the institutional environment,

we develop a new scale based on existing theoretical work (e.g., Grewal and Dharwadkar 2002). For institutional dependence, the scale items refer to the extent to which the success of the U.S. business depends on the policies of the U.S. government, the dependence of the U.S. operations on the local institutional constituents, the reliance of the U.S. operations on the local institutional constituents, the criticality of keeping the institutional constituents happy, and the importance of institutional members in the industry. The measure for institutional multiplicity captures the contradictions in the demands of institutional constituents in the host country, the relative number of institutional constituents making demands from the MNC, and the relative number of institutional constituents and the relative frequency with which they monitor U.S. operations.³

Finally, we use a four-item measure of the value of firm assets that considers value in terms of global reputation, quality, international recognition of the major product/process of the MNC used in its U.S. operations, and the extent to which the product is perceived as stylish (Kim and Hwang 1992). We also assess psychic distance by measuring differences in the language, culture, and values between the MNC headquarters and the host country (Klein and Roth 1990).

3.5. Measure Validation

To maintain an adequate ratio of sample size to the number of parameters, we estimate three confirmatory factor analytic models using the asymptotic variance-covariance matrix as the input: one for the three strategy variables (global efficiency, multinational flexibility, and worldwide learning), another for the four environmental variables (munificence, dynamism, dependence, and multiplicity), and a third for the two MNC-specific variables (value of firm assets and psychic distance) and MNC subsidiary performance. The overall fit statistics, according to the normed fit index, comparative fit index (CFI), goodness-of-fit index (GFI), and root mean square error of approximation (RMSEA), show that the three models exhibit good fit (Table 1). In addition, all ϕ s

³ There are two sources of variation in the institutional environments in a given country. First, laws and legal, environmental, and trade associations and industry structures are distinct across industries in the country, and as a result, we find variability in institutional environments even in a single country. Second, even within an industry, consistent with the widely accepted perspective on enacted environments (Weick 1995), managers act on perceived environments, and perception of the environments tends to vary across firms in a single industry. Thus, as our empirical data show (see standard deviations in Table 2) there are theoretical and empirical reasons for the variation in institutional environment variables in data from a single country.

Table 1 Measurement Model: Confirmatory Factor Analysis^a

Measurement model	Range of standardized factor loadings	NFI	CFI	GFI	RMSEA	$\chi^2_{(d.f., p\text{-val})}$
Strategy variables ^b	0.93–0.53	0.94	0.96	0.96	0.079	292.8 (101, 0.00)
Environmental variables ^c	0.92–0.50	0.97	0.99	0.97	0.056	323.1 (164, 0.00)
Subsidiary-specific variables ^d	0.94–0.45	0.98	0.99	0.99	0.062	88.6 (41, 0.00)

^aNFI = normed fit index; CFI = comparative fit index; GFI = goodness-of-fit index; RMSEA = root mean square error of approximation.

^bVariables include global efficiency, multinational flexibility, and worldwide learning.

^cVariables include munificence, dynamism, institutional dependence, and institutional multiplicity.

^dVariables include value of firm-specific assets, psychic distance, and MNC subsidiary performance.

are statistically less than 1, in support of discriminant validity, and the composite scale reliabilities are greater than 0.7 (Anderson and Gerbing 1988; for scale items, see the appendix). Furthermore, we compare early and late respondents to assess nonresponse bias in the pretest and final study, and find no evidence of a bias. In addition, Harmon's single factor test reveals no evidence of common method bias (Podasakoff et al. 2003). Finally, the pattern of correlations among the latent constructs and construct reliabilities suggests that multicollinearity should not be an issue (for details on the reliabilities and correlations, see Grewal et al. 2004).

3.6. Measurement Error

As with the multi-item measures for all constructs, we use factor scores to obtain a measurement error-corrected aggregate score for each latent construct (rather than an averaged score; Lastovicka and Thamodaran 1991). However, the indeterminacy of factor scores makes it tricky to choose the most suitable calculation method. Previous research recommends blockwise factor scores, in which multiple factor score methods in tandem indicate factor scores that approximate the measurement error-corrected covariance matrix among the latent constructs (Skrondal and Laake 2001). In a recent study,

Skrondal and Laake (2001) find that it is best to use regression factor scores for independent latent variables and Bartlett factor scores for dependent latent variables. The regression factor scores may be calculated as

$$A_{\xi} = [\Phi \Lambda'_x (\Lambda_x \Phi \Lambda'_x)^{-1} X']', \quad (5)$$

where ξ represents the explanatory latent variables; A_{ξ} is the $(n \times k)$ matrix of factor scores for the explanatory latent variables, such that n is the sample size and k is the number of explanatory latent variables; Φ ($k \times k$) is the covariance matrix of ξ ; Λ_x is the matrix of factor loadings ($q \times k$), in which q is the number of items used to measure the k explanatory latent variables; and X is the $(n \times q)$ data matrix of items for the explanatory variables. The Bartlett factor scores can be calculated as

$$A_{\eta} = (\Lambda'_y \Theta_{\varepsilon}^{-1} \Lambda_y)^{-1} \Lambda'_y \Theta_{\varepsilon}^{-1} Y', \quad (6)$$

where η represents the dependent latent variables; A_{η} is the $(n \times j)$ matrix of factor scores for the dependent latent variables, such that n is the sample size and j is the number of dependent latent variables; Λ_y is the matrix of factor loadings ($p \times j$), in which p is the number of items used to measure the j dependent

Table 2 Descriptive Statistics ($n = 306$)

Construct	GE	MF	WL	MUNF	DYN	DEP	MULT	VALUE	PDIS	PERFSUB
Global efficiency (GE)										
Multinational flexibility (MF)	0.61**									
Worldwide learning (WL)	0.35**	0.59**								
Munificence (MUNF)	0.22**	0.17**	0.11							
Dynamism (DYN)	0.07	0.06	0.00	0.14*						
Institutional dependence (DEP)	0.22**	0.31**	0.12*	0.03	0.05					
Institutional multiplicity (MULT)	0.16*	0.26**	0.12*	0.04	0.06	0.65**				
Value of firm-specific assets (VFS)	0.10	0.19**	0.21**	0.15**	0.10	−0.02	0.06			
Psychic distance (PDIS)	−0.04	−0.20**	−0.35**	0.06	0.13*	0.05	0.04	−0.14*		
Performance (PERFSUB)	0.05	0.14*	0.23**	0.30**	−0.08	−0.07	0.01	0.34**	−0.28**	
Mean	3.84	3.98	4.01	4.61	4.24	3.05	3.25	5.47	3.87	4.80
Standard deviation	1.11	1.08	1.28	1.28	1.09	1.35	1.30	1.02	1.37	1.35

Note. We report descriptive statistics with average scores as indicators of the latent variables.

* $p < 0.05$ (two-tailed test), ** $p < 0.01$ (two-tailed test).

latent variables; Θ_e is the $(p \times p)$ covariance matrix of errors of measurement for items used to measure the dependent latent variables; and Y is the $(n \times p)$ data matrix for the items of the dependent variables.

3.7. Estimation Procedure

We present the descriptive statistics for the aggregate factor score measures in Table 2. Consistent with the mean-variance function model testing procedure, we consider three model specifications (details are available from the authors on request; also see Chandrashekar et al. 2005). The first null model (M_0) does not incorporate the drivers of the magnitude (PJM) or uncertainty (PJU) of MNC subsidiary performance judgment. The second model (M_R) considers only PERF magnitude and ignores PERF uncertainty. Finally, the hypothesized model (M_H) simultaneously models both performance judgment magnitude and uncertainty.⁴ In terms of the various hypotheses developed, model M_H can be represented by Equations (1)–(5), with the following specification for PJM (variables defined as in Table 2):

$$\begin{aligned} \text{PJM}_i &= \beta_0 + \beta_1 \text{MUNF}_i + \beta_2 \text{DYN}_i + \beta_3 \text{DEP}_i \\ &\quad + \beta_4 \text{MULT}_i + \beta_5 \text{VALUE}_i + \beta_6 \text{PSYDIS}_i \\ &\quad + \beta_7 \text{PCOM}_i + \beta_{8i} \text{GE}_i + \beta_{9i} \text{MF}_i + \beta_{10i} \text{WL}_i, \quad (7) \\ \beta_{8i} &= \gamma_{M0} + \gamma_{M1} \text{MUNF}_i + \gamma_{M2} \text{DYN}_i \\ &\quad + \gamma_{M3} \text{DEP}_i + \gamma_{M4} \text{MULT}_i, \quad (7a) \\ \beta_{9i} &= \mu_{M0} + \mu_{M1} \text{MUNF}_i + \mu_{M2} \text{DYN}_i \\ &\quad + \mu_{M3} \text{DEP}_i + \mu_{M4} \text{MULT}_i, \quad \text{and} \quad (7b) \\ \beta_{10i} &= \omega_{M0} + \omega_{M1} \text{MUNF}_i + \omega_{M2} \text{DYN}_i \\ &\quad + \omega_{M3} \text{DEP}_i + \omega_{M4} \text{MULT}_i, \quad (7c) \end{aligned}$$

as well as the following specification for performance judgment uncertainty:

$$\begin{aligned} \text{PJU}_i &= \delta_1 \text{MUNF}_i + \delta_2 \text{DYN}_i + \delta_3 \text{DEP}_i + \delta_4 \text{MULT}_i \\ &\quad + \delta_5 \text{VALUE}_i + \delta_6 \text{PSYDIS}_i + \delta_7 \text{PCOM}_i \\ &\quad + \delta_{8i} \text{GE}_i + \delta_{9i} \text{MF}_i + \delta_{10i} \text{WL}_i, \quad (8) \\ \delta_{8i} &= \gamma_{U0} + \gamma_{U1} \text{MUNF}_i + \gamma_{U2} \text{DYN}_i \\ &\quad + \gamma_{U3} \text{DEP}_i + \gamma_{U4} \text{MULT}_i, \quad (8a) \\ \delta_{9i} &= \mu_{U0} + \mu_{U1} \text{MUNF}_i + \mu_{U2} \text{DYN}_i \\ &\quad + \mu_{U3} \text{DEP}_i + \mu_{U4} \text{MULT}_i, \quad \text{and} \quad (8b) \\ \delta_{10i} &= \omega_{U0} + \omega_{U1} \text{MUNF}_i + \omega_{U2} \text{DYN}_i \\ &\quad + \omega_{U3} \text{DEP}_i + \omega_{U4} \text{MULT}_i. \quad (8c) \end{aligned}$$

⁴ To improve the interpretability of the main effects, we mean-center the explanatory variables before multiplying them to create the interaction terms.

Note from Equations (7a–7c) and (8a–8c) that the γ parameters capture the main and interactive effects involving GE, the μ parameters capture the main and interactive effects pertaining to MF, and the ω parameters capture the main and interactive effects for WL. In turn, the subscripts M and U denote the effect of the variables on the magnitude and uncertainty of performance, respectively. For example, γ_{M0} and γ_{U0} capture the main effect of GE on performance magnitude and uncertainty, respectively, and γ_{M1} and γ_{U1} capture the interaction between GE and DYN on performance magnitude and uncertainty.

Defining $\beta = (\beta_1, \beta_2, \dots, \beta_7, \beta_{8i}, \beta_{9i}, \beta_{10i})$ as the vector of performance judgment magnitude parameters and $\delta = (\delta_1, \delta_2, \delta_3, \delta_{4i}, \delta_{5i}, \delta_{6i})$ as the vector of performance judgment uncertainty parameters, we note that model M_H nests models M_0 and M_R with the following restrictions: $M_0 = M_H \mid \beta = \delta = 0$, and $M_R = M_H \mid \delta = 0$. By comparing M_R and M_H , we can examine whether the hypothesized magnitude-uncertainty model of performance judgments outperforms a conventional analysis that ignores performance judgment uncertainty. Because of the nested nature of the model specifications, we can use traditional likelihood ratio tests (LRTs) to compare the three models and assess the validity of our theory. Hypothesis testing then proceeds within the retained model. For descriptive statistics see Table 2.

4. Results

4.1. Overall Model Testing

We estimate the three models, M_0 , M_R , and M_H , and to assess the overall fit of the two-dimensional model of performance judgment magnitude and uncertainty, we consider three questions:

(1) Is the overall performance judgment magnitude–performance judgment uncertainty model (M_H) significant? An LRT reveals that model M_H fits significantly better than model M_0 ($\chi^2_{44} = 302.06, p < 0.01$).

(2) Is there a significant contribution of \mathbf{X} , the hypothesized drivers of performance judgment magnitude? An LRT for $H_0: \beta = 0$ supports the significant contribution of the hypothesized driver of performance judgment magnitude ($\chi^2_{22} = 131.08, p < 0.01$).

(3) Is there a significant contribution of \mathbf{Z} , the hypothesized driver of performance judgment uncertainty? This question focuses on the comparison of the magnitude-uncertainty model with a magnitude-only model. We assess the significance of \mathbf{Z} with a test of the null Hypothesis $H_0: \delta = 0$, and an LRT supports the significant contribution of \mathbf{Z} ($\chi^2_{22} = 167.17, p < 0.01$).

Overall, these results support our theorizing about the *structure* of MNC subsidiary performance judgments (i.e., two-dimensional model of performance

Table 3 Antecedents of the MNC Subsidiary Performance Magnitude

Class of variables	Covariates	Parameter	Hypothesis		Parameter estimate	<i>t</i> -value
			Number	Sign		
—	Constant	β_0	—	—	3.452	7.95
Direct effect of task and institutional environmental variables	Munificence (MUNF)	β_1	—	—	0.278***	5.45
	Dynamism (DYN)	β_2	—	—	−0.149***	−2.73
	Institutional dependence (DEP)	β_3	—	—	−0.169***	−2.49
	Institutional multiplicity (MULT)	β_4	—	—	0.128**	1.88
Direct effects of strategic motives	Global efficiency (GE)	γ_{M0}	—	—	−0.089	−1.15
	Multinational flexibility (MF)	μ_{M0}	—	—	0.089	0.92
	Worldwide learning (WL)	ω_{M0}	—	—	0.038	0.57
Interactions between global efficiency and environmental factors	GE * MUNF	γ_{M1}	H _{GE1}	—	−0.132***	−2.64
	GE * DYN	γ_{M2}	H _{GE2}	—	0.086*	1.53
	GE * DEP	γ_{M3}	H _{GE3}	—	−0.055	−0.74
	GE * MULT	γ_{M4}	H _{GE4}	—	−0.031	−0.49
Interactions between multinational flexibility and environmental factors	MF * MUNF	μ_{M1}	H _{MF1}	+	0.210***	3.37
	MF * DYN	μ_{M2}	H _{MF2}	+	−0.007	−0.10
	MF * DEP	μ_{M3}	H _{MF3}	+	0.060	0.72
	MF * MULT	μ_{M4}	H _{MF4}	+	0.028	0.35
Interactions between worldwide learning and environmental factors	WL * MUNF	ω_{M1}	H _{WL1}	—	−0.090**	2.33
	WL * DYN	ω_{M2}	H _{WL2}	—	−0.114**	−2.08
	WL * DEP	ω_{M3}	H _{WL3}	+	0.072*	1.33
	WL * MULT	ω_{M4}	H _{WL4}	—	−0.104**	−1.98
MNC-specific variables (control variables)	Value of firm-specific assets	β_5	—	—	0.341***	5.14
	Psychic distance between MNC headquarters and subsidiary	β_6	—	—	−0.149***	2.73
	Country of origin (Germany coded as 1 and Japan as 0)	β_7	—	—	0.101	0.74

Notes. We report one-tailed tests for statistical significance. The R^2 for this model is 0.34.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

judgment magnitude and uncertainty), as well as the composition of MNC subsidiary performance judgments (i.e., groups of variables influence performance judgment magnitude and uncertainty). We therefore examine specific effects within model M_H (see Tables 3 and 4).

4.2. Hypotheses Testing

In presenting these results, we use “ m ” to signify an effect on performance judgment magnitude and “ u ” to signify the effect on performance judgment uncertainty (Tables 3 and 4). In terms of the control variables, the results suggest that the higher the value of firm-specific assets used in a country operation, the higher both the performance judgment magnitude ($m = 0.341, p < 0.01$) and uncertainty ($u = 0.095, p < 0.05$). The psychic distance between MNC headquarters and subsidiary decreases performance judgment magnitude ($m = -0.149, p < 0.01$), but increases performance judgment uncertainty ($u = 0.168, p < 0.01$). However, country of origin (i.e., Germany or Japan) does not seem to influence either of the two dimensions.

4.2.1. Global Efficiency. Consistent with H_{GE1}, emphasizing global efficiency in munificent environments lowers performance judgment magnitude

($m = -0.132, p < 0.01$) and increases performance judgment uncertainty ($u = 0.131, p < 0.05$). However, contrary to H_{GE2}, which suggests that in dynamic as opposed to stable country markets, a global efficiency emphasis leads to lower levels of performance judgment magnitude and uncertainty, we find that global efficiency increases MNC subsidiary performance judgment magnitude ($m = 0.086, p < 0.10$) and has no statistical effect on performance judgment uncertainty. This finding seems to suggest that when demand uncertainty is high (e.g., in dynamic country markets), global efficiency likely yields benefits for the MNC subsidiary. In developing the logic behind H_{GE2}, we relied on the idea of managing revenues by focusing on meeting demand that changes considerably in dynamic environments, and therefore hypothesized that performance judgment magnitude would decrease. However, the results seem to suggest that the cost side might outweigh the shortcomings of revenue management, such that the cost saving accrued from a focus on global efficiency, because of economies of scale, more than offsets the downside of selling standardized products in dynamic environments. The remaining two global efficiency Hypotheses (H_{GE3} and H_{GE4}) relating to the institutional environment are not supported. This lack of

Table 4 Antecedents of the MNC Subsidiary Performance Uncertainty

Class of variables	Covariates	Parameter	Hypothesis		Parameter estimate	<i>t</i> -value
			Number	Sign		
Direct effect of task and institutional environmental variables	Munificence (MUNF)	δ_1	—	—	0.003	0.04
	Dynamism (DYN)	δ_2	—	—	0.049	0.54
	Institutional dependence (DEP)	δ_3	—	—	0.099	0.98
	Institutional multiplicity (MULT)	δ_4	—	—	−0.301***	−3.04
Direct effects of strategic motives	Global efficiency (GE)	γ_{V0}	—	—	0.101	0.91
	Multinational flexibility (MF)	μ_{V0}	—	—	0.122	0.87
	Worldwide learning (WL)	ω_{V0}	—	—	−0.170**	−1.78
Interactions between global efficiency and environmental factors	GE * MUNF	γ_{U1}	H _{GE1}	+	0.131**	1.96
	GE * DYN	γ_{U2}	H _{GE2}	—	−0.025	−0.31
	GE * DEP	γ_{U3}	H _{GE3}	+	0.068	0.65
	GE * MULT	γ_{U4}	H _{GE4}	+	−0.073	−0.79
Interactions between multinational flexibility and environmental factors	MF * MUNF	μ_{U1}	H _{MF1}	—	−0.234***	−2.76
	MF * DYN	μ_{U2}	H _{MF2}	—	−0.149*	1.37
	MF * DEP	μ_{U3}	H _{MF3}	—	0.049	0.43
	MF * MULT	μ_{U4}	H _{MF4}	—	0.038	0.33
Interactions between worldwide learning and environmental factors	WL * MUNF	ω_{U1}	H _{WL1}	+	0.051	0.95
	WL * DYN	ω_{U2}	H _{WL2}	—	0.067	0.82
	WL * DEP	ω_{U3}	H _{WL3}	—	−0.180***	−2.34
	WL * MULT	ω_{U4}	H _{WL4}	+	0.164**	2.26
MNC-specific variables (control variables)	Value of firm-specific assets	δ_5	—	—	0.095**	1.708
	Psychic distance between MNC headquarters and subsidiary	δ_6	—	—	0.168***	2.45
	Country of origin (Germany coded as 1 and Japan as 0)	δ_7	—	—	0.123	0.62

Note. We report one-tailed tests for statistical significance.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

result seems to suggest that the payoffs on global efficiency do not depend on the host country institutional environment, as we discuss subsequently.

4.2.2. Multinational Flexibility. In support of H_{MF1} , results indicate that emphasizing multinational flexibility in munificent environments results in higher levels of performance judgment magnitude ($m = 0.210, p < 0.01$) and lower performance judgment uncertainty ($u = -0.234, p < 0.01$). We find partial support for H_{MF2} ; emphasizing multinational flexibility in dynamic (versus stable) environments does not seem to influence performance judgment magnitude but reduces performance judgment uncertainty ($u = -0.149, p < 0.10$). In developing this hypothesis, we reasoned that a flexible approach should aid an MNC in managing dynamic environments, which would prompt a positive effect on performance judgment magnitude. Although we cannot support this hypothesis, consistent with our reasoning, an emphasis on multinational flexibility results in consistent performance, as suggested by the negative effect on performance judgment uncertainty. Perhaps firms should supplement a flexible strategic emphasis with a local learning orientation to receive a payoff on their flexibility or other complementary firm resources. Clearly, more research is needed about

the role of multinational flexibility in dynamic country environments. Nonetheless, this result points to the advantages of modeling performance judgment magnitude and uncertainty because we can differentiate the effects of strategies on performance judgment magnitude from those on uncertainty. Again, consistent with the results for global efficiency, we find that the effect of multinational flexibility on MNC subsidiary performance does not depend on facets related to the institutional environment (H_{MF3} and H_{MF4}), as we discuss subsequently.

4.2.3. Worldwide Learning. The results partially support H_{WL1} . Emphasizing worldwide learning in munificent markets as opposed to lean markets lowers performance judgment magnitude ($m = -0.090, p < 0.05$) but does not influence performance judgment uncertainty. Perhaps because learning from other environments can be useful (e.g., when munificent markets are similar) but also might not pay off (e.g., when environments are distinct), managers simply discount the information value of worldwide learning in munificent markets for performance judgment uncertainty. Similarly, for H_{WL2} , we find that emphasizing worldwide learning in dynamic environments, rather than stable markets, lowers performance judgment magnitude ($m = -0.114, p < 0.01$),

but does not influence performance judgment uncertainty. Again, managers may discount the information value of worldwide learning in dynamic environments because they cannot be sure when learning from other dynamic environments will be beneficial. Further research is needed to clarify the role of worldwide learning for performance judgment uncertainty under diverse task environment situations. In support of H_{WL3} , we find that emphasizing worldwide learning in high dependence environments enhances performance magnitude and lowers performance uncertainty ($m = 0.072, p < 0.10$; $u = -0.180, p < 0.01$, respectively). Finally, we find support for H_{WL4} , such that a worldwide learning emphasis and high institutional multiplicity decreases performance judgment magnitude ($m = -0.104, p < 0.05$) and increases performance judgment uncertainty ($u = 0.164, p < 0.05$).

5. Discussion

Because no firms can remain totally immune to the effects of globalization, MNCs proliferate in this organizational landscape. In these organizational forms, headquarters plays the lead role in strategic planning, but the subsidiaries implement the strategies. Optimizing global performance underlies the strategic planning efforts of headquarters, whereas subsidiary managers are more concerned with the performance of their own subsidiaries. This tension between headquarters and subsidiary objectives, between strategy planning and implementation, makes it important to understand the ramifications of global strategies for MNC subsidiary performance (e.g., Hewett and Bearden 2001, Taggart 1998). With this pivotal question as the nucleus of our research, we adopt the strategy-environment alignment principle to suggest that the efficacy of MNC global strategies depends on host country environmental conditions. Our research undertakes a large-scale empirical study to examine this issue, along with task environmental contingencies we consider contingencies due to the institutional environment, which become critical for MNCs because they are foreigners in most countries.

Similar to human judgments, in general, managerial performance judgments likely reflect a covert decision-making process, and thus have some associated uncertainty (e.g., Chandrashekar et al. 2005). Accordingly, we use the mean-variance function model to test the efficacy of global strategies for MNC subsidiary performance judgments. Using this model we can separate the effect of the explanatory variables on performance judgment magnitude from their influence on performance judgment uncertainty. With survey data from German and Japanese subsidiaries in the United States, model selection results seem to support the mean-variance function model rather than a

traditional mean function model (i.e., ordinary least squares). According to the explanatory variable perspective, results show that some explanatory variables influence both performance judgment magnitude and uncertainty, whereas others affect only one performance dimension.

Despite the limitations of our research, which largely stem from the survey method (e.g., we cannot infer causality from survey data), our research has important implications for theory and practice. From a theoretical perspective, consistent with the strategy-environment alignment principle, the impact of global strategies on MNC subsidiary performance depends on the host country task and the institutional environment. With headquarters-subsidiary tensions in terms of strategic planning and implementation at its core, the alignment perspective shines further light on an important yet underresearched issue related to MNC subsidiary performance. Our research also contributes to a better understanding of managerial subjective performance judgments, often used in marketing to assess firm performance. The results indicate that the interplay of strategy and environment does not always produce beneficial or detrimental influences for either performance judgment magnitude or uncertainty. Responding constructively to the notion that “psychological certainty is a cornerstone of beliefs” (Petrocelli et al. 2007, p. 30), these findings provide more comprehensive insights into managerial performance judgments.

From a manager’s perspective, it is important to navigate complex global markets by relying on global strategies. Thus, understanding “which strategy works in which conditions” at the subsidiary level is crucial for managers at both MNC headquarters and subsidiaries. Specifically, in munificent environments, compared with lean environments, emphasizing global efficiency and worldwide learning has an adverse effect on performance magnitude, whereas stressing multinational flexibility seems beneficial from a subsidiary perspective. The results for performance judgment uncertainty in munificent environments are quite similar such that in munificent environments, an emphasis on global efficiency increases performance judgment uncertainty, whereas multinational flexibility reduces that uncertainty. In contrast, in dynamic environments, as opposed to stable environments, to enhance performance magnitude, greater emphasis should be placed on global efficiency and less on worldwide learning. However, efforts to manage performance judgment uncertainty underscore the importance of multinational flexibility. In dynamic environments, the strategy for managing performance judgment magnitude differs significantly from that used to lower the uncertainty associated with performance judgments. The

results for the two dimensions of the institutional environment (dependence and multiplicity) relate predominantly to worldwide learning. Worldwide learning in environments characterized by high levels of institutional dependence seems beneficial because it increases performance judgment magnitude and decreases performance judgment uncertainty. In contrast, when institutional multiplicity is high such that the host country's institutional constituents make varied and contradictory demands on the MNC subsidiary, an emphasis on worldwide learning does not pay off because such situations are likely to be unique to every country. Specifically, emphasizing worldwide learning when multiplicity is high results in lower performance judgment magnitude and higher performance judgment uncertainty.

By simultaneously considering two performance judgment dimensions (magnitude and uncertainty), we begin to unveil which global strategies are harmful or beneficial on both dimensions. The best case occurs when performance judgment magnitude is high and performance judgment uncertainty is low, that is, when managers confidently believe in their strong performance magnitude. This dual-benefit situation emerges when MNCs stress multinational flexibility in munificent environments and worldwide learning in environments characterized by high levels of institutional dependence. In contrast, in the worst-case scenario, managers have high levels of confidence (i.e., low performance judgment uncertainty) that their performance magnitude is low. This lose-lose situation arises when MNCs stress global efficiency in munificent environments and worldwide learning in environments characterized by high levels of institutional multiplicity.

Despite these interesting findings from our analysis, some hypotheses are not supported, especially those pertaining to the interaction of the facets of the institutional environment with global efficiency and multinational flexibility. Institutional environments focus on the "necessity of organizational legitimacy," which is "the key demand factor in assessing social fitness"

(Grewal and Dharwadkar 2002, p. 84). Thus, strategies might not relate directly to social fitness, and organizational legitimacy might not matter for facets of the institutional environment. Of the three strategic motives, worldwide learning relates to social fitness because it involves learning about nation-states and the institutions therein. Global efficiency that stresses scale economies and multinational flexibility that seeks to benefit from country-specific idiosyncrasies relate more to demand management than to social fitness, which is critical for institutional environments. Although these conjectures offer plausible explanations for the pattern of the results associated with the institutional environment, more research is needed on the issue.

In conclusion, we offer important implications for strategy research. The implications for studying the marketing strategies of MNCs are fairly evident and have been discussed, but the implications for examining performance judgment magnitude along with performance judgment uncertainty are more far reaching. Marketing strategy research largely tends to focus on mean-level phenomena (e.g., judgments of performance, returns on investments, revenues). Explicitly engaging the "second moment" as an important phenomenon in its own right, and answering the question of what influences this aspect, should shed more light on phenomena of interest to strategy researchers. Consistent with the vast body of psychological research, we recognize that uncertainty in managerial judgments manifests itself in variance, and interesting findings emerge from our subsequent analysis. We hope this research kindles more uncertainty-based inquiries on managerial judgments and on MNCs strategies.

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Appendix. New Measures Used in the Study

Item ^a	Item description ^b
Global efficiency (GE: $\rho_c = 0.91$). Aspects of your organization's worldwide strategy:	
GE1	Our worldwide strategy emphasizes extracting benefits from differences in wages across countries.
GE2	We emphasize scale economies in distribution and marketing.
GE3	We seek to exploit potential scale economies in manufacturing and R&D.
GE4	We typically share investments and costs across countries.
GE5	We seek to derive benefits from variation in costs of capital across countries.
GE6	We regularly share investments and costs across businesses.

Appendix (Cont'd.)

Item ^a	Item description ^b
Multinational flexibility (MF: $\rho_c = 0.93$). Aspects of your organization's worldwide strategy:	
MF1	We seek to derive benefits from diversity in environments across countries.
MF2	Our global strategy reflects high levels of flexibility in managing political risks arising because of differences between nations.
MF3	Our worldwide strategy emphasizes versatility in allocating human capital.
MF4	We seek high levels of flexibility in allocating key resources.
MF5	Our worldwide strategy exploits opportunities arising because of the variability in the environment across countries.
Worldwide learning (WL: $\rho_c = 0.97$). Aspects of your organization's worldwide strategy:	
WL1	We stress learning from differences in organizational processes across subsidiaries.
WL2	We emphasize shared learning across organizational components in different businesses.
WL3	We share innovations in products and organizational processes across subsidiaries.
WL4	We put emphasis on learning from differences in managerial systems across countries.
WL5	We stress shared learning across subsidiaries.
Dependence (DEP: $\rho_c = 0.96$). For the U.S. institutional environment:	
DEP1	Our U.S. subsidiary operations are highly dependent on the institutional constituents.
DEP2	Success of our business rests on favorable U.S. national, state, and municipal government policies.
DEP3	The success of our business in the United States depends on the institutional constituents.
DEP4	Keeping our U.S. institutional constituents happy is a critical objective.
DEP5	Institutional members play an important role in our industry.
Multiplicity (MULT: $\rho_c = 0.94$). For the U.S. institutional environment:	
MULT1	Sometimes the demand made by one institutional constituent contradicts the demand made by another institutional member.
MULT2	Number of institutional constituents making demands of our subsidiary operations exceeds those in the other industries.
MULT3	Substantial numbers of institutional constituents monitor our U.S. subsidiary operations.
MULT4	The institutional constituents frequently monitor our U.S. subsidiary operations.
MULT5	There are many institutional constituents that make demands on our U.S. operations.

^aWe use the composite scale reliability (ρ_c) formulae recommended by Bagozzi and Yi (1988, p. 80) and the asymptotic covariance matrix as input for the confirmatory factor analysis. For existing measures, the ρ_c values are 0.95, 0.95, 0.81, 0.85, and 0.91 for subsidiary performance (adapted from Grewal and Tansuhaj 2001), environmental munificence (adapted from Dwyer and Oh 1987), environmental dynamism (adapted from Dwyer and Welsh 1985), value of firm-specific assets (adapted from Kim and Hwang 1992), and cultural distance (adapted from Klein and Roth 1990), respectively.

^bAll items are measured on a 7-point semantic differential scales, with 1 = disagree and 7 = agree, unless otherwise indicated. All responses refer to the major product involved in the U.S. operations, unless otherwise indicated. We use listwise deletion to eliminate incomplete responses, which leaves us with 306 complete and usable responses.

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