Through an internalization theory lens, an argument is developed to suggest that the traditional concept of geographic scope should be split into two related, but more precise, elements of international asset dispersion and country environment diversity. Subsequently, these new concepts are tested using a structural equation modeling approach on a sample of 580 large multinational enterprises (MNEs). We find that the relationship between economic performance and international asset dispersion is positive, but that country environment diversity is negatively associated with performance, with a positive interaction between them. This study adds to our theoretical understanding of MNEs, and also provides a bridge between the mixed findings of prior research on multinationality by disentangling the unique effects of the latent subcomponents of geographic scope on firm performance.

LITERATURE REVIEW

The relationship between geographic scope and the economic performance of MNEs has been
examined by many scholars. Some have found geographic scope to have a positive and linear association with firm performance, others have found this relationship to be nonlinear where rising scope yields benefits only until some point of inflection is reached, and still others have suggested that rising geographic scope is a detriment to firm performance. Thus, the field remains divided as to the nature of the relationship between geographic scope and firm economic performance—yet a distinction between these possibilities is a critical issue to both practitioners and scholars as it has ‘significant ramifications for the management of MNEs’ (Geringer, Beamish, and daCosta, 1989).

A substantial amount of research has provided empirical support for a positive, linear relationship between geographic scope and firm performance. Examples include Kim, Hwang, and Burgers’ (1989) analysis of 62 MNEs as well as Tallman and Li’s (1996) examination of 192 U.S. MNEs. They observed that as firms expand their international holdings, they continue to reap benefits in the form of improved returns on sales, for example, from ever broader exposure to international markets.

A substantial amount of research has found, on the other hand, that the relationship between geographic scope and economic performance is negative (Denis, Denis, and Yost, 2002) or nonlinear where firms benefit from foreign involvement only until some threshold is reached. Geringer et al. (1989), for example, suggested a linear relationship in their study of 189 U.S. and European MNEs but found, in their post hoc analysis, that the association between geographic scope and return on sales was an inverted U-shaped function. Similarly, Hitt, Hoskisson, and Kim’s (1997) study of 295 large MNEs revealed a nonlinear relationship indicating that the impact of geographic scope on accounting-based performance measures may be more complex than previously theorized.

To explain their nonlinear findings, some researchers have suggested that diseconomies of scale underpin the decline in economic performance at higher levels of geographic scope since, as suggested by Roth (1992), escalating dispersion of business interests can greatly increase managerial information-processing demands, making the organization more complex and difficult to manage. In addition to the administrative burden, the probability of inefficient resource allocations that result from the difficulty in fine-tuning the firm’s production activities would also rise. Since economizing is often a key imperative in the structure of organizations, those firms that ignore the short-term costs of their strategies would be expected to suffer a reduction in economic performance.

The argument that organizational complexity is at the root of diminishing returns to foreign involvement is lacking, however, in that it does not directly address the concept of geographic scope—uninational multidivisional firms would be expected to experience a broadly similar organizational complexity effect. Therefore, to understand the ramifications of geographic scope on MNE performance, it is important to isolate the specific factors that may have an impact on the MNE.

Scholars have begun to describe these specific factors through a number of important theoretical contributions. Vachani (1991) theorized that MNE diversity should be split into product and geographic diversity and that the geographic component should be subdivided into related and unrelated international diversity. Guisinger (2001) proposed that MNE environments could be split into various ‘geovalent’ elements that incorporate higher levels of environmental complexity. Others have made a contribution by attempting to develop better measures of the degree of internationalization (Sullivan, 1994). Further, some researchers have begun to explore the role of moderating factors on MNE performance such as the pace and rhythm of expansion (Vermeulen and Barkema, 2002). Yet, a great deal is still unknown; following Dunning’s (1998) suggestion, therefore, the discussion below develops a finer-grained perspective on the relationship between geographic scope and MNE performance.

**THEORETICAL DEVELOPMENT**

The most prominent argument offered in the literature is that international diversification provides the opportunity to exploit the benefits of internalization (Rugman, 1976, 1979). While internalization theory (Buckley and Casson, 1976; Rugman, 1981) has its roots in transaction cost theory, its underlying reasoning is also closely related to the resource-based view (RBV) of the firm, implying an ambiguous relationship between geographic expansion and firm performance. The RBV perspective is essentially a linear argument that...
suggests no inherent natural limits—as long as the MNE’s proprietary assets retain their value, rarity, inimitability, and nonsubstitutability, the firm will gain from continued international expansion. The transaction cost perspective, however, with its sharper focus on the limits of organization, suggests that the costs of organizing and the losses through mistakes will increase as the dissimilarity of transactions rises. The MNE would, therefore, reach the limits of organization before exhausting the value of its proprietary resources and capabilities.

It is important, therefore, to determine the costs and benefits of internationalization given that this concept is multidimensional (Sullivan, 1994). Since a distinguishing factor of an MNE is that it operates at the intersection of different country environments, Sundaram and Black (1992) have suggested that two of the key considerations in the analysis of MNEs are the number of geographic locations in which the firm operates and the extent to which these country environments vary. Following this approach, geographic scope will be parsed into the two related, but distinct components of international asset dispersion (IAD) and country environment diversity (CED).

It is important at this point to consider briefly the meaning of economic performance. While performance cannot be completely understood by the extent to which a single parameter is optimized (e.g., profit, growth, market share), a well-accepted assertion is that firms are strategic, rational actors that are fundamentally concerned with economic results. This study, therefore, will define economic performance through several objective market-based figures, as described in the empirical section.

**International asset dispersion and economic performance**

Prior research on geographic scope has often focused on the RBV notion of an MNE’s bundle of proprietary assets that underpin the firm’s capacity to successfully operate abroad (Fladmoe-Lindquist and Tallman, 1994). The well-established stream of research that has focused directly on the international component of firm diversity has supported the view that increasing IAD, hereinafter defined as the extent of MNE investment in foreign markets, is a positive factor in firm economic performance (Kim *et al*., 1989; Tallman and Li, 1996). Some of the factors that underpin this effect have been shown to be the ability to appropriate value from proprietary assets (Buckley and Casson, 1976; Rugman, 1981), learning (Kogut and Zander, 1993), flexibility (Tang and Tikoo, 1999), and the capacity to engage in multipoint competition (Karnani and Wernerfelt, 1985), to name a few. This discussion suggests the following hypothesis:

**Hypothesis 1:** The relationship between an MNE’s International Asset Dispersion and its Economic Performance is positive, where a larger portfolio of international operations is associated with superior performance.

**Country environment diversity and economic performance**

Prior research has focused on the extent of foreign investment without explicitly considering the diversity incurred by the firm through these foreign investments. By doing so, researchers have implicitly assumed either unitary international conditions or that differences between national environments are not important. The theory of internationalization (Johansson and Vahlne, 1977), however, suggests that firms often become international in a step-by-step process in which investment opportunities in the least psychically distant foreign locations are developed first. Thus, firms increase the extent of their holdings abroad while consciously trying to minimize the diversity of these investments. Thus, the path-dependent nature of foreign subsidiary accumulation would still leave, as its legacy, many MNEs with significant international holdings that do not entail a great deal of foreign diversity. It is essential, therefore, to disentangle the effect of IAD from that of diversity in foreign holdings.

While CED, hereinafter defined as the variance of country-level conditions in which the MNE operates, could be analyzed in many ways, this research will adopt the approach of Parsons’ (1971) theory of modern social systems, which suggests that societies can be decomposed into several basic subsystems including collectives organized for differentiated goal attainment (i.e., the political system), roles designed to govern the efficient management of resources (i.e., the economy), and values that effectively maintain patterns of interaction (i.e., cultural conditions). This approach towards
the concept of CED also receives face validity upon examination of prior empirical research given that the most common country attributes examined by international business scholars are politico-regulatory environments (e.g., Delios and Henisz, 2000), levels of economic development (e.g., Woodward and Rolfe, 1993), and cultural conditions (e.g., Chang and Rosenzweig, 2001).

In addition to increasing the sheer number of different environments, international investment would also create exponential complexity at the corporate level depending on the extent to which these environments vary (Kostova and Zaheer, 1999). Thus, the more dissimilar the country profiles, the more difficult it would be to understand the requirements of the collection of operations and to respond appropriately to local demands. As suggested by Meyer and Scott (1983: 202), an organization is ‘negatively affected by the number of different authorities sovereign over it and by the diversity and inconsistency of their accounts of how it is to function.’

While MNEs may be able to mitigate the challenges that stem from their foreignness by becoming more isomorphic with the local environment, this would be a very difficult task to do repeatedly in the context of a large MNE and, as suggested by Westney (1993), it would incur substantial incremental costs. Thus, managers are faced with the dilemma of either adding to their internal translation costs (i.e., by conforming to local expectations causing large differences between head office and subsidiary practices) or their external translation costs (i.e., when the subsidiary practices are globally standardized, causing large differences between the firm and local expectations). Thus, MNEs with operations in diverse environments must pay these costs one way or the other and, either way, this represents the significant costs of doing business in diverse country environments.

It is important to note that, although the country-level factors of politics, level of economic development, and culture can be viewed as separate domains, they will be treated together for two reasons. First, the argument developed here is at the level of the MNE and, therefore, the measures of the MNE’s total set of country-level factors would be aggregated; while individual estimates of politics, economic development, and culture may not be highly correlated at the level of the individual country, it is likely that if an MNE’s variance in country-level political scores were large, then the other scores at an aggregated corporate level would probably have large variances as well. Second, these elements are believed to have much the same impact on the firm, when aggregated, as they all serve to increase management complexity. In line with the argument above, the following hypothesis is suggested:

Hypothesis 2: The relationship between an MNE’s Country Environment Diversity and its Economic Performance is negative, where a portfolio of more diverse environments is associated with inferior performance.

The combination of dispersion and diversity

MNEs are increasing their foreign exposures to ever higher levels in response to economic, technological, and market forces. Thus, whether the overall organizational trend is towards the globalized or transnational MNE (Bartlett and Ghoshal, 1989) or the regional or triadic MNE (Rugman and Hodgetts, 2001), the common thread is that MNEs are becoming increasingly dispersed geographically and, at the same time, exposed to greater diversity in host country environments. Thus, it is important to examine the ways in which these distinct, yet related, elements of geographic scope combine to effect MNE performance.

As shown in Figure 1, IAD and CED can be dichotomized into a simple matrix to highlight the interaction between these constructs. At low levels of IAD and varying levels of CED, an MNE could be characterized as being ‘far-flung,’ where the

![Figure 1. Geographic configuration of MNEs](https://example.com/figure1.png)
firm has few but wide-ranging foreign investments (i.e., Cell 1 in Figure 1); in contrast, an MNE may also be ‘anchored’ through a small number of foreign operations within country environments that are quite similar (Cell 2). Further, ‘replicator’ MNEs may have invested widely across nations although these foreign operations may be situated in country environments that are relatively homogenous (Cell 3). Finally, a ‘transnational’ MNE may be invested not only in a great number of foreign environments but these locations together may also constitute a very wide range or diversity of national environments (Cell 4).

To shed light on the differential effects of high vs. low IAD and CED, it is important to briefly retrace the theoretical building blocks that underpin internalization theory. The core determinants that drive the internalization of value-adding processes are the MNE’s firm-specific advantages and the country-specific factors upon which the firm relies to obtain competitive advantage (Rugman and Verbeke, 2001). As suggested by Caves (1971), foreign direct investment is undertaken by successful firms that produce a differentiated product and control the essential knowledge about that product’s market that can be transferred to other national markets at low cost. Unless comparative advantage or other factors restrict production to a single country, MNE internalization will require each firm to operate a network of plants on a worldwide basis (Buckley and Casson, 1976). Thus, enterprises will engage in foreign production whenever they perceive it is in their best interests to combine spatially transferable intermediate products produced in the home country, with at least some immobile factor endowments, or other intermediate products, in another country (Dunning, 1988). This basic explanation combines both the RBV in its reference to the appropriation of the value of firm-specific advantages in foreign markets as well as to the transaction cost perspective with its focus on the expansion of firm boundaries across national borders based on trade friction considerations.

This reasoning suggests that there are benefits associated with locating certain activities in particular countries where there exists the potential to economize on transaction costs by reducing risks and also from exposure to advantageous factor inputs (Rugman, 1990). The underlying implicit assumption is that an MNE’s core firm-specific advantages are not location bound and are, therefore, easily transferable across borders as an intermediate product. Firm-specific advantages that are not location bound may reflect either a functional, production-related proprietary asset that is typically know-how of technology, manufacturing, or marketing, or it may refer to an organizational capability to efficiently coordinate and control the MNE’s asset base (Dunning and Rugman, 1985).

Companies possessing nonlocation-bound firm-specific resources and capabilities are able to overcome imperfections in foreign markets leading to benefits of scale, scope, or exploitation of national differences (Rugman, 1981). As noted earlier, many studies on geographic scope have found that greater dispersed assets are associated with higher performance. In addition, research that has focused on MNE operational flexibility, for example, has also supported the view that firms with greater international breadth (i.e., the number of countries in which the MNE is invested) experience superior financial returns (Allen and Panzalis, 1996; Tang and Tikoo, 1999). Taken together, these studies that have analyzed the concept of multinationality from different perspectives indicate that IAD is a powerful and positive force in firm performance (i.e., the performance of firms within Cells 3 and 4 of Figure 1 should be superior to that of firms in Cells 1 and 2).

Within conventional internalization theory as summarized above, it has been generally assumed that firm-specific advantages in the form of intangible, production-related assets could be dispersed internationally across foreign subsidiaries relatively easily within the firm without too much attention to adaptation or codification problems (Rugman and Verbeke, 2001). As suggested by Buckley and Casson (1976), however, the personnel responsible for encoding and decoding must have similar backgrounds or operate in a similar environment, otherwise misunderstandings will arise because the implicit assumptions of the decoder will differ from those of the encoder; misunderstandings can be avoided only by additional expenditure on checking. Either way, the communication costs that vary with the economic, social, and linguistic dissimilarities between national markets will have a clear impact on the economics of firm boundaries (Kogut and Zander, 1993).

When significant national differences exist within an MNE’s portfolio of operations, the bases of knowledge and understanding that exist within
the MNE would also be idiosyncratic (Nelson, 1993) and would be characterized by mobility barriers or isolating mechanisms (Rumelt, 1984) that make full absorption difficult throughout the MNE because of the low absorptive capacity of potential recipients abroad. An intermediate product such as a firm-specific advantage, therefore, is not fully transferable internally and, while many of the firm-specific advantages generated within the parent company may be perceived by management to be nonlocation bound, they may in reality be tied to location (Rugman and Verbeke, 2001). Here, internalization would lead to inferior performance if the difficulty of managing across widely disparate country environments is underestimated.

One solution to this problem, as suggested by various authors, including Bartlett and Ghoshal (1989), is that the creation of ‘shared values’ would guarantee that managers would be willing and able to act in a way that maximizes the organization’s collective benefit. A key issue with this suggestion, however, is that ‘very few organizations assume full responsibility for the socialization and training of their participants. Employees come to the organization with heavy cultural and social baggage obtained from interactions in other social contexts’ (Scott, 1998: 21). In addition, there would be significant administrative costs associated with the requisite socialization mechanisms of normative integration (Nohria and Ghoshal, 1997).

Taken together, these arguments suggest that as an MNE increases its IAD, it will experience the benefits associated with the appropriation of firm-specific advantages in new markets. However, as CED expands without a concurrent expansion in IAD (e.g., by investing in a small number of dissimilar countries), then they would likely experience the managerial challenges and organizational costs of maintaining a collection of far-flung operations without fully achieving the advantages of multinationality such as flexibility (i.e., the average performance of firms within Cell 1 of Figure 1 should be inferior to that of firms in Cell 2). This suggestion is supported by Vermeulen and Barkema (2002), who found that when an MNE is invested in very dissimilar countries, its absorptive capacity to benefit from the diverse information is highly taxed. Conversely, as MNEs reach higher levels of both greater IAD and CED, they would likely experience the benefits of learning and flexibility as well as the advantages of being located in uncorrelated environments that are at different stages of development (i.e., the average performance of firms within Cell 3 of Figure 1 should be superior to that of firms in Cell 4).

Another assumption commonly found within internalization theory arguments is that host country-specific factors are exogenous and can only play a role in local sense (Rugman and Verbeke, 1992). While MNEs must respond to the economic, political, and cultural environments of nations, rather than determine them, the range or diversity to which the MNE is exposed through its foreign investments is within the firm’s control and CED is, therefore, endogenous. Based on this discussion, the following hypotheses are suggested:

Hypothesis 3a: Regardless of the levels of Country Environment Diversity, firms with greater levels of International Asset Dispersion experience superior Economic Performance (i.e., the average performance of firms in Cells 3 and 4 of Figure 1 will be superior to that of firms in Cells 1 and 2).

Hypothesis 3b: Firms with low levels of International Asset Dispersion and greater Country Environment Diversity experience inferior Economic Performance whereas firms with high levels of International Asset Dispersion and greater Country Environment Diversity experience superior economic performance (i.e., the average performance of firms in Cell 2 of Figure 1 is superior to that of firms in Cell 1 and the average performance of firms in Cell 3 is superior to that of firms in Cell 4).

METHODS

Empirical setting

The primary source of data used in this study was a 1999 survey of 13,529 subsidiaries of 580 Japanese MNEs that, following Stopford and Wells’ (1972) definition of an MNE, had operations in six or more countries. The survey results were published by Kaigai Shinshutsu Kigyou Souran (Toyo Keizai, 1999). The 13,529 surveys, sent to the subsidiaries
through their parent firms, were completed by the subsidiary general managers. The survey included basic questions such as the subsidiary location, industry, annual revenue, and capital investment and these subsidiary-level data were aggregated using a FORTRAN program\(^1\) into a database of 580 Japanese MNEs. These core corporate-level data were then augmented with industry and corporate details from Datastream, Compustat, and Analysts’ Guide (Daiwa Institute of Research, 1999). In addition, this database was supplemented by other well-known archival data on national political systems, cultures, and economies, as described below.

### Analytical approach

A structural equation modeling (SEM) approach was used, as it is a powerful generalization of earlier statistical approaches. SEMs are regression equations with less restrictive assumptions, as compared to ordinary least squares, that allow measurement error in the exogenous as well as the endogenous variables. They consist of factor analyses that also permit direct and indirect effects between factors and they routinely include multiple indicators of latent variables that bridge the gap between the way social scientists think substantively and the way they analyze data (Bollen, 1989). Using this statistical method, the measures and latent constructs were tested for reliability and validity using a randomly selected ‘validation’ sub-sample of 290 MNEs (i.e., 50% of the total sample of 580 MNEs). Once the measurement model had been validated, hypothesis testing on the structural model was then carried out on the remaining ‘confirmatory’ sample of 290 firms.

As suggested in the conceptual development section, there may be an interaction between the latent variables in this research. Since published examples of the direct estimation of interaction effects within SEMs are extremely rare because the required procedures are very demanding and have not yet been fully developed in the technical literature (Schumacker and Marcoulides, 1998), our nonlinear equation \( \eta = \alpha + \gamma_1 \xi_1 + \gamma_2 \xi_2 + \gamma_3 \xi_1 \xi_2 + \xi \) was analyzed through a regression of latent variable scores, as suggested by Jöreskog (2000). These latent variable scores are estimated by constructing individual scores on \( \eta \) and \( \xi \) for every case in the sample such that their sample mean vector and covariance matrix satisfy the same relationships as the latent variables themselves (for a detailed explanation of the matrix algebra, see Jöreskog, 2000).

### Variable description and measurement

#### Economic performance

Although accounting-based performance measures have been common in strategic management research, more recent research has begun to adopt a fuller view of performance (Ramanujam and Varadarajan, 1989). To an increasing extent, the strategy literature is using market-based measures that adjust for levered and unlevered market risk (Farjoun, 1998) since they are more ‘forward looking’ as compared to accounting-based measures that are retrospective, based on historical information (Meyer, 1994). Within this study, therefore, Economic Performance is defined by three well-known market-based measures with all data for the fiscal year 1999 sample period collected from Datastream.

The first measure is Jensen’s alpha (Jensen, 1968), as defined by the following calculation: 
\[
\alpha_i = \bar{\tau}_i - [\bar{\tau}_i + \beta_i (\bar{\tau}_M - \bar{\tau})],
\]
where \( \alpha_i \) is firm \( i \)’s ‘excess’ return over and above that predicted by the Capital Asset Pricing Model, \( \bar{\tau}_i \) is firm \( i \)’s average stock market return (i.e., capital gains/losses plus dividends), \( \bar{\tau}_M \) is the risk-free rate of return defined by the 10-year Japanese Corporate Bond Benchmark Rate, \( \beta_i \) is the firm’s beta (derived from the firm’s stock price variance), and \( \bar{\tau} \) is the average Nikkei Stock Exchange return, all over the sample period. The second market-based measure of Economic Performance is Sharpe’s measure (Sharpe, 1966), calculated as follows: 
\[
\frac{\tau_i - \bar{\tau}}{\sigma_i},
\]
where \( \tau_i \) is firm \( i \)’s average rate of return and \( \bar{\tau} \) is the risk-free rate of return, and \( \sigma_i \) is the firm’s standard deviation of returns. Following prior research (e.g., Nayyar, 1993), the third measure of market-based Economic Performance is the market-to-book ratio.

#### International asset dispersion

To determine the extent to which firms have dispersed assets, several measures have been used in

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\(^1\) The authors wish to extend their sincere thanks to Professor Rajulton Fernando of the University of Western Ontario’s Sociology Department for his extremely valuable advice and assistance in developing the FORTRAN code.
prior research. A well-known approach, which was adopted in this research, is the *asset dispersion entropy score*, developed in previous studies on international diversity (Kim, 1993), and is defined as: \[ \Sigma c E_c \ln(1/E_c), \] where \( E_c \) is the number of employees in a particular country \( c \) and \( \ln(1/E_c) \) is the weight given to each country, or the natural logarithm of the inverse of the MNE’s total employment. This entropy measure considers both the number of national markets in which a firm operates and the relative importance of these national markets to the firm, and has been shown by Hitt *et al.* (1997) to be reliable. Following prior research, IAD was also operationalized through traditional measures including a count of the number of countries, as well as the number of foreign subsidiaries (e.g., Morck and Yeung, 1991; Tallman and Li, 1996).

**Country environment diversity**

To determine the extent to which there is diversity in the country environments of an MNE’s foreign operations, four entropy measures (calculated as explained above) were derived using well-known data. First, to estimate economic conditions, a 5-year average of the Economic Freedom Index (O’Driscoll, Holmes, and Kirkpatrick, 2000) and a 4-year average of the Global Competitiveness Index (World Economic Forum, 1998) was determined. Second, cultural boundaries were estimated using Hofstede (1980). Finally, political systems were calculated using a 5-year average of the Political Constraint Index (Henisz, 2000). Since the entropy measure requires categories to be estimated, these cultural, political, economic country averages must be categorized (see Kim, 1993, for a detailed explanation). To define categories—similar to the 3-digit SIC codes commonly used in the product diversification literature—that allow the calculation of the entropy formulae, the Economic Freedom Index, the Global Competitiveness Index, and the Political Constraint Index were categorized through hierarchical clustering (Hofstede, 1980, provided estimates of cultural categories so these data did not have to be clustered). Accordingly, North and South Korea, for example, were placed in the same cultural cluster yet different political clusters given their similar ethnic background yet different political systems.

**Product diversity**

Since the majority of research has concluded that Product Diversity is significantly related to firm performance (Chang and Thomas, 1989; Palich, Cardinal, and Miller, 2000), it was included as a control variable. This variable was calculated using the traditional *product diversity entropy score* approach (Hitt *et al.*, 1996).

**Proprietary assets**

Since much of the international diversity research has been criticized for not taking into account the MNE’s Proprietary Assets (Dess *et al.*, 1995), it is important to include this variable. Following prior research (Delios and Beamish, 1999; Kogut and Chang, 1991), proprietary technological assets was measured by R&D intensity and proprietary marketing assets by advertising intensity.

**Industry profitability**

Industry Profitability has been shown to influence diversification strategy and performance (Stimpert and Duhaime, 1997) and was controlled, therefore, using the *industry average operating return on assets*. This measure was obtained from Compustat and, following prior research (see, for example, Delios and Beamish, 1999; Hitt *et al.*, 1997; Tallman and Li, 1996), was based on the firm’s primary area of business.

**Firm size**

Since Firm Size has been shown to boost performance (Chang and Thomas, 1989), it is important to control for this variable. Firm Size has often been operationalized in prior research using the number of employees, a measure adopted in this study.

**Capital structure**

Financial leverage often appears in prior research since it contributes to risk–return outcomes (Bühner, 1987). Capital Structure (i.e., the *debt-to-equity ratio*) has been argued to affect firm performance (Jensen, 1989) and it was included, therefore, as a control variable.
International experience

International Experience, measured by deriving the MNE’s average subsidiary age, was included as a control since prior research has indicated that this factor increases the skill with which a firm’s managers use internal reservoirs of knowledge and information (Pennings, Barkema, and Douma, 1994). Further, average subsidiary age was transformed into its natural logarithm, following prior research (e.g., Ingram and Baum, 1997) to account for the possibility that the marginal value of each incremental unit of experience declines as overall experience increases and that the first year of experience may not be as relevant as the last due to redundancy and to forgetting.

Firm nationality

Since the sample is of only Japanese firms, this homogeneity inherently controls for macroeconomic factors such as regional business cycles that may have a differential effect on MNEs headquartered in varying geographic areas.

RESULTS

Descriptive results

The firms in this sample are very large MNEs with a great deal of market and financial power (see Table 1). Average annual revenue, for example, is over U.S. $6 billion and total assets average over U.S. $16 billion. In general, the firms in our sample include some of the largest firms in Japan in terms of market value, with some reaching as high as U.S. $156 billion.

Despite the homogeneity of the sample (i.e., all Japanese firms), Table 2 shows that all observed variables exhibit considerable variance within expected bounds, provided some evidence that the data, as collected and calculated, are reasonable.

Sharpe’s measure, for example, ranges from −0.93 to 0.76 with an overall average of −0.04. Jensen’s alpha varied in a much tighter range, from −0.07 to 0.11 with a mean of 0.00. In essence, these market-based measures indicate that the Japanese firms in this sample did not, on average, achieve a return in excess of their risk-adjusted rate within the period under study. The mean market-to-book ratio, on the other hand, appears much more flattering to the sample firms, with an average of 1.8, some firms achieving a ratio of almost 2.3.

The MNEs in the research sample are substantially geographically dispersed, having invested in over 11 countries on average to a maximum in this sample of 57 countries. Further, the average MNE in this sample registered an asset dispersion entropy score of 1.6 and had over 26 foreign subsidiaries, reaching a high of 598. The Global Competitiveness, Economic Freedom, and Political Constraint entropy scores are also indicated in Table 2 with reasonable averages, ranging from 1.1 to 1.2, and acceptable ranges—from 0.0 to 2.0.

Item validity and reliability

As suggested by Bollen (1989), measurement validity can be assessed by examining the size and statistical significance of $\lambda$ — the direct structural standardized and unstandardized coefficients of individual observed measures and their associated latent variables. As shown in Table 3, all measures indicated have acceptable unstandardized regression weights that are uniformly highly significant statistically. Further, their standardized regression weights are all high, suggesting that the measures in this study have acceptable validity.

2 The only exception was Jensen’s Alpha with a standardized regression weight of 0.48; this manifest variable is judged, nonetheless, to be acceptable on the grounds that it is a well-known variable that has been used in prior literature.

Table 1. Summary of 1999 corporate statistics

<table>
<thead>
<tr>
<th>($ U.S. million)</th>
<th>Mean</th>
<th>S.D.</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual revenue</td>
<td>$6,152</td>
<td>$14,177</td>
<td>$39</td>
<td>$110,080</td>
</tr>
<tr>
<td>Total assets</td>
<td>$16,416</td>
<td>$61,811</td>
<td>$87</td>
<td>$626,636</td>
</tr>
<tr>
<td>Invested capital</td>
<td>$4,853</td>
<td>$14,128</td>
<td>$25</td>
<td>$200,876</td>
</tr>
<tr>
<td>Operating income</td>
<td>$180</td>
<td>$545</td>
<td>−$302</td>
<td>$6,853</td>
</tr>
<tr>
<td>Market value</td>
<td>$3,876</td>
<td>$10,839</td>
<td>$19</td>
<td>$155,859</td>
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</table>
Table 2. Descriptive statistics of observed variables

<table>
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<th>Economic Performance</th>
<th>Mean</th>
<th>S.D.</th>
<th>Minimum</th>
<th>Maximum</th>
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<tr>
<td>Sharpe’s measure</td>
<td>−0.04</td>
<td>0.22</td>
<td>−0.93</td>
<td>0.76</td>
</tr>
<tr>
<td>Jensen’s alpha</td>
<td>0.00</td>
<td>0.03</td>
<td>−0.07</td>
<td>0.11</td>
</tr>
<tr>
<td>Market-to-book ratio</td>
<td>1.80</td>
<td>1.67</td>
<td>−3.21</td>
<td>22.75</td>
</tr>
</tbody>
</table>

<table>
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<th>International Asset Dispersion</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of countries</td>
<td>11.24</td>
<td>7.13</td>
<td>6</td>
<td>57</td>
</tr>
<tr>
<td>Asset dispersion entropy score</td>
<td>1.63</td>
<td>0.47</td>
<td>0.21</td>
<td>2.92</td>
</tr>
<tr>
<td>Number of foreign subsidiaries</td>
<td>26.28</td>
<td>54.10</td>
<td>6</td>
<td>598</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country Environment Diversity</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Competitiveness entropy score</td>
<td>1.24</td>
<td>0.34</td>
<td>0.18</td>
<td>1.96</td>
</tr>
<tr>
<td>Economic Freedom entropy score</td>
<td>1.11</td>
<td>0.38</td>
<td>0.00</td>
<td>1.89</td>
</tr>
<tr>
<td>Political Constraint entropy score</td>
<td>1.06</td>
<td>0.31</td>
<td>0.10</td>
<td>1.77</td>
</tr>
<tr>
<td>Cultural Diversity entropy score</td>
<td>0.91</td>
<td>0.32</td>
<td>0.08</td>
<td>1.73</td>
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</table>

<table>
<thead>
<tr>
<th>Control variables</th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Product diversity entropy score</td>
<td>1.16</td>
<td>0.63</td>
<td>0.00</td>
<td>4.04</td>
</tr>
<tr>
<td>Industry average return on assets</td>
<td>6.52</td>
<td>6.07</td>
<td>−21.34</td>
<td>23.80</td>
</tr>
<tr>
<td>Average subsidiary age</td>
<td>10.78</td>
<td>3.65</td>
<td>1.20</td>
<td>28.40</td>
</tr>
<tr>
<td>Debt-to-equity ratio</td>
<td>8.89</td>
<td>82.27</td>
<td>−50.92</td>
<td>1,356.05</td>
</tr>
<tr>
<td>Number of employees</td>
<td>6,324</td>
<td>11,218</td>
<td>216</td>
<td>138,150</td>
</tr>
<tr>
<td>R&amp;D intensity</td>
<td>0.03</td>
<td>0.03</td>
<td>0.00</td>
<td>0.20</td>
</tr>
<tr>
<td>Advertising intensity</td>
<td>0.01</td>
<td>0.02</td>
<td>0.00</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Table 3. Item validity and reliability

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized regression weight</th>
<th>Standard error</th>
<th>Critical ratio</th>
<th>Standardized regression weight</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market-based performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Jensen’s alpha</td>
<td>1.000</td>
<td>0.106</td>
<td>9.813</td>
<td>0.48</td>
<td>0.227</td>
</tr>
<tr>
<td>Sharpe’s measure</td>
<td>1.043</td>
<td>0.158</td>
<td>5.175</td>
<td>0.69</td>
<td>0.482</td>
</tr>
<tr>
<td>Market-to-book ratio</td>
<td>0.819</td>
<td>0.037</td>
<td>11.352</td>
<td>0.037</td>
<td>0.525</td>
</tr>
<tr>
<td>International Asset Dispersion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of countries</td>
<td>1.000</td>
<td>0.037</td>
<td>19.455</td>
<td>0.93</td>
<td>0.861</td>
</tr>
<tr>
<td>Asset dispersion entropy score</td>
<td>0.423</td>
<td>0.037</td>
<td>11.352</td>
<td>0.60</td>
<td>0.362</td>
</tr>
<tr>
<td>Number of foreign subsidiaries</td>
<td>0.716</td>
<td>0.037</td>
<td>19.455</td>
<td>0.87</td>
<td>0.754</td>
</tr>
<tr>
<td>Country Environment Diversification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Competitiveness entropy score</td>
<td>1.000</td>
<td>0.042</td>
<td>19.748</td>
<td>0.93</td>
<td>0.857</td>
</tr>
<tr>
<td>Economic Freedom entropy score</td>
<td>1.051</td>
<td>0.056</td>
<td>19.052</td>
<td>0.81</td>
<td>0.710</td>
</tr>
<tr>
<td>Political Constraint entropy score</td>
<td>0.807</td>
<td>0.056</td>
<td>19.052</td>
<td>0.81</td>
<td>0.660</td>
</tr>
<tr>
<td>Cultural Diversity entropy score</td>
<td>0.708</td>
<td>0.106</td>
<td>12.740</td>
<td>0.65</td>
<td>0.427</td>
</tr>
</tbody>
</table>

Of central importance to the measurement component of SEMs is the item reliability or consistency—that part of the measure that is free of purely random error. While there are a number of methods to test reliability (e.g., test–retest, alternative forms, split-halves, and Cronbach’s alpha), an accepted standard in the testing of SEMs proposed by Bollen (1989) is the magnitude of the direct relations as determined by the squared correlation of a given manifest variable and its associated latent variable—on the condition that the measure depends solely on a single factor. Table 3 summarizes the $R^2$ values of the observed variables on their latent constructs. While the $R^2$ value of Jensen’s alpha is low, this variable is still acceptable, explaining 23 percent of the variance.
Table 4. Construct validity and reliability

<table>
<thead>
<tr>
<th>Latent variable</th>
<th>No. of items</th>
<th>Convergent validity&lt;sup&gt;a&lt;/sup&gt;</th>
<th>η&lt;sub&gt;1&lt;/sub&gt;</th>
<th>ξ&lt;sub&gt;2&lt;/sub&gt;</th>
<th>ξ&lt;sub&gt;3&lt;/sub&gt;</th>
<th>ξ&lt;sub&gt;4&lt;/sub&gt;</th>
<th>ξ&lt;sub&gt;5&lt;/sub&gt;</th>
<th>ξ&lt;sub&gt;6&lt;/sub&gt;</th>
<th>ξ&lt;sub&gt;7&lt;/sub&gt;</th>
<th>ξ&lt;sub&gt;8&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>η&lt;sub&gt;1&lt;/sub&gt;: Economic Performance</td>
<td>3</td>
<td>0.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent latent variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;2&lt;/sub&gt;: International Asset Dispersion</td>
<td>3</td>
<td>0.85</td>
<td>0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;3&lt;/sub&gt;: Country Environment Diversity</td>
<td>4</td>
<td>0.89</td>
<td>-0.03</td>
<td>0.60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control latent variables</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;4&lt;/sub&gt;: Product Diversity</td>
<td>1</td>
<td>1.00</td>
<td>-0.06</td>
<td>0.45</td>
<td>0.34</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;5&lt;/sub&gt;: Average Industry Profitability</td>
<td>1</td>
<td>1.00</td>
<td>0.03</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;6&lt;/sub&gt;: International Experience</td>
<td>1</td>
<td>1.00</td>
<td>0.18</td>
<td>0.44</td>
<td>0.29</td>
<td>0.16</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;7&lt;/sub&gt;: Capital Structure</td>
<td>1</td>
<td>1.00</td>
<td>0.14</td>
<td>0.12</td>
<td>0.06</td>
<td>-0.04</td>
<td>-0.04</td>
<td>0.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;8&lt;/sub&gt;: Firm Size</td>
<td>1</td>
<td>1.00</td>
<td>-0.14</td>
<td>0.18</td>
<td>-0.04</td>
<td>0.24</td>
<td>0.11</td>
<td>0.09</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>ξ&lt;sub&gt;9&lt;/sub&gt;: Technical Assets</td>
<td>1</td>
<td>1.00</td>
<td>0.38</td>
<td>0.19</td>
<td>0.07</td>
<td>0.16</td>
<td>0.04</td>
<td>0.19</td>
<td>-0.01</td>
<td>-0.03</td>
</tr>
<tr>
<td>ξ&lt;sub&gt;10&lt;/sub&gt;: Marketing Assets</td>
<td>1</td>
<td>1.00</td>
<td>0.22</td>
<td>-0.03</td>
<td>-0.12</td>
<td>-0.16</td>
<td>0.19</td>
<td>0.11</td>
<td>-0.04</td>
<td>-0.25</td>
</tr>
</tbody>
</table>

<sup>a</sup>Convergent validity is calculated using the formula \((\Sigma \lambda_{yi}^2)/(\Sigma \lambda_{yi}^2 + \Sigma \text{var}(\varepsilon_i))\).

Table 5. Construct discriminant validity<sup>a</sup>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>International Asset Dispersion</td>
<td>0.812</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Country Environment Diversity</td>
<td></td>
<td>0.361</td>
<td>0.815</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Diversity</td>
<td>0.203</td>
<td>0.117</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Industry Profitability</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.189</td>
<td>0.082</td>
<td>0.026</td>
<td>0.002</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Experience</td>
<td>0.013</td>
<td>0.004</td>
<td>0.002</td>
<td>0.001</td>
<td>0.004</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Structure</td>
<td>0.031</td>
<td>0.001</td>
<td>0.058</td>
<td>0.012</td>
<td>0.007</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Proprietary Technical Assets</td>
<td>0.036</td>
<td>0.005</td>
<td>0.026</td>
<td>0.001</td>
<td>0.035</td>
<td>0.000</td>
<td>0.001</td>
<td>1.000</td>
</tr>
<tr>
<td>Proprietary Marketing Assets</td>
<td>0.001</td>
<td>0.014</td>
<td>0.027</td>
<td>0.038</td>
<td>0.011</td>
<td>0.002</td>
<td>0.064</td>
<td>0.029</td>
</tr>
</tbody>
</table>

<sup>a</sup>Average variances explained \((\Sigma \lambda_{yi}^2)/(\Sigma \lambda_{yi}^2 + \Sigma \text{var}(\varepsilon_i))\)^0.5 are in the bold diagonal column; other values represent the shared variance between constructs.

Construct validity

According to Bollen (1989), construct validity can be determined by examining the internal consistency or convergent validity of the individual items, the correlations between latent variables, and discriminant validity. As shown in Table 4, the convergent validity of all measures is acceptable and the correlations between constructs are sufficiently low in all cases. As would be expected, the correlation between IAD and CED is moderate \((\rho = 0.601)\), although not so high as to threaten discriminant validity as shown in Table 5. The average variances explained in Table 5 (i.e., the bold, diagonal column) are larger than the corresponding numbers in each respective column and are much higher, suggesting acceptable measurement reliability.
row, which suggests acceptable separation between constructs. Taken together, therefore, since the constructs are internally consistent and also distinct, construct validity and reliability are acceptable.

Fit indices

Once the measurement model has been determined as above to be satisfactory using the ‘validation’ sample of 290 MNEs, the next stage of evaluation was to determine the extent to which the hypothesized model fits the ‘confirmatory’ sample of 290 MNEs. The traditional measure of model fit is the $\chi^2$ value and its associated confidence level; it has long been observed, however, that this measure is excessively conservative and is biased against large samples (Bollen, 1989; Jöreskog and Sörbom, 1981). While no consensus exists on the sufficiency of a single index to define model quality, there are a great many indicators available that, when several are used together, are considered to be an accurate reflection of overall model fit (Bollen, 1989; Kaplan, 2000). Therefore, several disparate indices were used, as suggested by Tanaka (1993), to converge on an overall assessment including the Incremental Fit Index (Bollen, 1989), the Comparative Fit Index (Bentler, 1990), and the Goodness of Fit Index (Jöreskog and Sörbom, 1981).

As shown in Table 6, the hypothesized model holds up well when tested against the confirmatory sample of 290 MNEs. While the $\chi^2$ value of 279 is statistically significant with 79 degrees of freedom, the Normed Fit Index, the Comparative Fit Index, the Incremental Fit Index, and the Goodness of Fit Index are all greater than 0.90 and, coupled with a model $R^2$ of 0.30, these figures suggest that the research model fits the observed data well.

As a further robustness check of these results, the residual matrix as well as the path and error covariance modification indices were examined to see whether simple alterations can be made to ‘improve’ the model without threatening its theoretical integrity. An examination of these indices indicated that there are no changes that would significantly improve model fit.

Table 6. Model fit indices

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>279.067*</td>
</tr>
<tr>
<td>Degrees of freedom</td>
<td>79</td>
</tr>
<tr>
<td>Sample size</td>
<td>290</td>
</tr>
<tr>
<td>Comparative fit index</td>
<td>0.900</td>
</tr>
<tr>
<td>Incremental fit index</td>
<td>0.903</td>
</tr>
<tr>
<td>Goodness of fit index</td>
<td>0.904</td>
</tr>
</tbody>
</table>

* $p < 0.001$

Structural model path analysis

Although published empirical studies often do not go beyond establishing goodness of fit (Kaplan, 2000), an important practice in the evaluation of SEMs is the interpretation of the structural path coefficients. Once the fit between the hypothesized model and the observed data is found to be acceptable, as shown above, individual paths using both latent variable scores regression and structural equation modeling can then be interpreted to evaluate the strength and significance of these relationships, as discussed in detail below.4

Hypothesis 1: international asset dispersion and economic performance

As shown in Table 7, IAD has a positive and statistically significant relationship with Economic Performance ($\gamma = 0.09$, $p < 0.001$). This result confirms the first hypothesis that greater dispersion of assets is positively associated with firm performance.

While the direct paths from the independent observed measures to the dependent observed measures cannot be decomposed, an examination of the relationships between the independent latent variable measures in terms of both standardized regression weights and variances explained yields some interesting qualitative implications. Referring again to Table 3, the primary driver of IAD

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4 As a further robustness check of the findings reported below, we analyzed the extent to which our conclusions are sensitive to the types of firms that are included in the sample. We tested a sample with Mahalanobis Distance ‘outliers’ removed, a second sample that isolated manufacturers, and a third sample that included only manufacturers with the associated outliers removed. In each case, the statistical results based on these alternative samples were very consistent with the results reported in this study and, therefore, are not reported in detail here.

5 The observed measures of both independent and dependent measures are endogenous to their associated latent variables, making the decomposition of the paths from independent to dependent measure technically inappropriate.
is the number of countries (recall its standardized regression weight of 0.93 and an $R^2$ of 0.86). Thus the simple, traditional measure of the sheer number of countries appears to be a robust operationalization of the asset dispersion construct. Further, coupled with the fact, also from Table 3, that the key measure of Economic Performance appears to be the market-to-book ratio (standardized regression weight of 0.73 and an $R^2$ of 0.53), it could be inferred that investors see additional value in firms that invest abroad in a large number of countries. In essence, these results suggest that dispersed assets, the traditional measurement of geographic diversity, have a positive impact on the performance of large MNEs.

**Hypothesis 2: country environment diversity and economic performance**

As shown in Table 7, CED is negative and statistically significant ($\gamma = -0.12, p < 0.05$). This result confirms the second hypothesis that rising CED is negatively associated with firm performance.

Upon closer examination of the individual paths from CED to the observed dependent measures shown in Table 3, it appears that the Global Competitiveness entropy score is the dominant element (standardized regression weight of 0.93 and an $R^2$ of 0.86). Moreover, the Cultural Diversity entropy score registered a more modest impact—although still statistically significant—with a standardized regression weight of 0.65 and an $R^2$ of 0.43. These individual path coefficients suggest that a great variance in the levels of economic development to which an MNE is exposed through its foreign operations has an important negative effect on Economic Performance, perhaps by making the corporation more difficult to manage, and that cultural diversity across MNE subsidiaries has a similar, although slightly more modest effect.

Since the average firm in this sample was profitable, it is probably not valid to suggest that greater CED is associated with economic losses but, instead, it is more accurate to state that rising CED leads to diminishing returns to foreign involvement (i.e., it has a dampening effect). This interpretation is also supported by the fact that IAD is highly statistically significant ($p < 0.0001$), whereas the CED is more moderately significant ($p < 0.05$), indicating that the number of foreign countries has a more pronounced, consistent, and positive association with firm performance that may largely mitigate the negative association with the economic, political, and cultural diversity of an MNE’s foreign operations.

**Hypotheses 3a and 3b: interaction between dispersion and diversity**

As shown in Table 7, a latent variable scores analysis indicates that the interaction between IAD and CED is positive and statistically significant ($\beta = 0.004, p < 0.01$). In this regression, the two main effects become statistically insignificant, although the Capital Structure and R&D Intensity control variables retain their highly significant relationship with Economic Performance ($\beta = -0.03$ and $\beta = 0.08, p < 0.001$, respectively).

To more clearly depict the nature of the interaction between dispersion and diversity, the MNEs in the sample were dichotomized into high and low levels of IAD and CED and then separated into groups based on these levels. For each of these groups, the mean levels of Economic Performance were derived as presented in Figure 2. This figure makes clear that at all levels of CED higher levels of IAD are associated with superior performance, supporting Hypothesis 3a.

In contrast, at high levels of CED in the presence of low levels of IAD, performance suffers. Moreover, at high levels of CED with concurrently
DISCUSSION

In this research, the traditional concept of geographic scope was separated into IAD and CED. It was found that dispersed assets, the traditional means of understanding geographic scope, are significantly associated with superior firm performance even after providing for a number of key controls, including Proprietary Assets as suggested by Caves (1996). These findings support prior research that has found that firms with more geographically dispersed assets experience superior performance (Allen and Pantzalis, 1996; Delios and Beamish, 1999; Gomes and Ramaswamy, 1999; Hitt et al., 1997; Nayyar, 1993; Tallman and Li, 1996; Tang and Tikoo, 1999). Thus, this analysis reinforces the view that IAD is an important and robust concept in the study of MNEs.

This study also advances our understanding of multinationality by separately analyzing the influence of heterogeneous local environments in which firms operate. In contrast to Gómez-Meija and Palich (1997), who suggested that cultural similarities and differences (i.e., language, religion, etc., in their study) are not related to MNE performance, the findings here suggest that the main effect of CED is negatively associated with firm performance. Once the interaction between IAD and CED is considered, however, it was discovered that these two new geographic scope constructs combine to yield an overall positive effect on firm performance. Since Gómez-Meija and Palich (1997) did not analyze the interaction between dispersion and diversity, the results here may provide some insight into their statistically nonsignificant findings; it may be that, given the great asset dispersion of the large U.S. MNEs in their sample, their country diversity main effect may have been weakened by the underlying interaction between dispersion and diversity.

This reasoning may also provide some insight into the nonlinear findings reported by some prior research that has focused exclusively on asset dispersion. It may be that the poorer-performing MNEs with the highest levels of asset dispersion in the samples of Geringer et al. (1989) and Hitt et al. (1997), for example, had achieved on average relatively low levels of CED. The results of this study suggest, however, that MNEs with high levels of IAD and CED experience superior performance as compared to those with high levels of IAD and low levels of CED. Although this suggestion can only be confirmed by subsequent research, the results of this study suggest a bridge between the mixed findings of prior literature. Further, this research provides a more nuanced explanation of the ‘organizational complexity’ effect—the main explanation advanced in prior research to explain the nonlinear relationship between geographic scope and firm performance—by putting forward an argument that makes use of concepts that are unique to MNEs, enhancing our understanding of the MNE organizational form.
Aside from its empirical contribution, this paper also extends our understanding of internalization theory by identifying its underpinnings in transaction cost theory and the RBV. While the RBV has become a mainstream perspective in the strategy literature, it has not been widely applied to the study of MNEs (Tallman and Li, 1996). It may be, however, that the development of firm-specific resources may be closely tied to the nature of internationalization itself (dispersion vs. diversity) as internal resources and capabilities would develop differently with differential effects on the firm.

According to Boddewyn (1999), our understanding of environmental complexity is not nearly as evolved as our knowledge of the structural complexity of MNEs. This research addresses the concept of environmental complexity, in line with Doz and Prahalad’s (1991) call to incorporate a ‘differentiated approach to businesses, countries, and functions, providing enough flexibility for different trade-offs between multiple dimensions to be made.’ In line with the current research trend identified by Guisinger (2001) toward MNE profitability and away from a preoccupation with entry mode, this study has linked environmental complexity with MNE performance.

Caveats and suggestions for future research

A central piece of this research was the concept of firm performance. While this study adopted the mainstream view that firms are strategic, rational actors that are fundamentally concerned with economic results (Fama and Jensen, 1983; Penrose, 1952), a limitation may be that this definition is too narrow, particularly for Japanese firms. Although this research defined Economic Performance in a much more comprehensive way than most previous studies by including several measures of market-based performance, it is widely recognized that many firms pursue multidimensional goals over time and that firms can be viewed as more than simply profit-making entities. Instead, the firm can be best viewed across a nexus of interests in the different markets (e.g., capital, industrial, and labor) on which it is simultaneously dependent and may also have various noneconomic goals (e.g., employment stability, reputation enhancement). Future research could examine these alternative concepts of performance to determine whether they have a role in the relationships under study that may be particularly relevant in the context of Japanese organizations. In addition, in the context of market-based performance, the origin or nationality of shareholders may play a role and could be considered in future research.

Another limitation of this research may be that the concepts of IAD and CED, which were operationalized by creatively adapting traditional measures in line with Sullivan’s (1994) suggestion that ‘future research can help build the inventory of multiple, dissimilar measures and methods required to evaluate . . . the degree of internationalization,’ could be improved. It may be, for example, that physical distance plays a key role and this interesting empirical question could be addressed through future theoretical and empirical validation. It also may be very useful to examine other previously unexamined aspects of globalization such as where inputs are sourced (raw materials, capital purchases), the origin of firm-specific tangible and knowledge-based assets, the location of key organizational activities, the location of specific types of employees, and the nationality of top managers or board members, to name a few.

Since our sample is of large Japanese MNEs, another caveat is that the components of geographic scope may have a different impact on Japanese firms as compared to MNEs originating in other countries. Further, our sample includes only large MNEs, so our findings may not be generalizable to the greater population of MNEs. Both limitations can be resolved through future comparative research. In addition, our empirical results may be affected by the firms’ processes of internationalization (i.e., incremental or through large leaps) and also by the way in which MNEs’ subsidiaries are connected (e.g., pooled, sequential, or reciprocal) as per Thompson (1967). These issues can be addressed through longitudinal and case based studies, respectively.

CONCLUSION

The findings reported in this research indicate that large MNEs benefit from IAD and that being international appears to be significantly related to firm Economic Performance even after a variety of alternative explanations have been considered. Clearly, these findings should provide encouragement to MNE managers that broader exposure to international markets can be a positive force within the firm.
The second contribution of this research is that the diversity in the MNE’s host nation environments has a negative association with firm performance. This finding sheds light on prior research that has found the relationship between geographic diversity and firm performance to be sometimes linear and sometimes nonlinear. Rather than simply invoking the argument that greater geographic diversity increases organizational complexity, this research has separated IAD from CED and found that dispersed assets are positively related to firm performance whereas the impact of environmental diversity is negative and that there is an interaction between these two constructs.

The third contribution is that this study has examined a sample of non-Western firms in contrast to the vast majority of prior research on MNEs, which has been carried out on samples of Western-based firms, the United States in particular. Although this imbalance is understandable given the historical dominance of Western firms in the international economy, research on Japanese MNEs continues to be clearly lacking given that Japan has long been the second largest economy and many of its organizations exert enormous influence on a variety of fronts.

Finally, this research has added to our understanding of internalization theory by discussing its roots in transaction costs theory and the RBV. By addressing these complementary perspectives and focusing on the definition of an MNE, which is a firm that operates at the intersection of different country environments, an empirical step has been taken to add to our knowledge of the impact of environmental complexity on MNE performance.

REFERENCES


