



TWO DECADES OF MULTINATIONALITY-PERFORMANCE RESEARCH: THE PERSISTENT PROBLEM OF UNDER- SPECIFICATION

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ABSTRACT

In this paper we adopt a narrative approach to review the literature on the relationship between a firm's multinationality and financial performance. We include studies adopting accounting- and/or stock market-based measures of performance. In an attempt to explain the inconsistent results in this literature, we view a number of commonly identified problem areas through the lens of model specification. Our discussion centres on how existing multinationality-performance research can be advanced through the use of mediating and moderating variables.

INTRODUCTION

The relationship between multinationality (also referred to as “degree of internationalization”, “geographic or international diversification”) and financial performance (MN-P) has occupied the attention of international business (IB) and finance/economics scholars for several decades. The earliest studies in either field tended to adopt the so-called *comparative* approach (Grant, 1987), examining the relative performance of domestic versus multinational firms. More recent enquiries typically adopt a *control* approach, operationalising multinationality as a continuous variable (and typically examining its performance implications in the context of MNC samples).

Despite an impressive outputⁱ, MN-P research has failed to generate consistent findings over the years and prevented the emergence of an empirical consensus. This line of inquiry is yet to reach maturity (see Palich, Cardinal and Miller, 2000). To echo the contention of the pioneers in the field of international business (Bergsten, Horst and Moran, 1978), our understanding of the consequences of foreign direct investment (FDI) by multinational corporations (MNCs) is still rather primitive.

There have been several reviews of the empirical literature as scholars were trying to assess the state of knowledge and make sense of the mixed results (Ramaswamy, 1992; Dess, Gupta, Hennart and Hill, 1995; Annavarjula and Beldona, 2000). The general consensus, if any, seems to be that the mixed findings and low explanatory power of prior efforts are the result mainly of methodological problems, chiefly related to variable operationalisation, which can, ultimately, be traced back to the scant theoretical underpinning as to why multinationality should be associated with performance.

In this narrative review we cover 37 MN-P studies within the IB and financial economics fields over the last two decades (1985-2004). Each of the fields comes with its own set of paradigmatic assumptions, measurement approaches, favoured data analytic methods and a choice of dependent variables. On the latter, in the finance/economics literature the dependent is chosen with a view toward the investor, culminating in stock market-based assessments of performance such as Tobin’s q or P/E ratios. By contrast, IB studies tend to favour accounting-based measures, overwhelmingly of profitability. We restrict our review to these two categories of performance measures.ⁱⁱ We further limit ourselves to studies with large-company samples to rule out size confounds. Finally, we focus exclusively on studies adopting a control mode, that is, those that test the performance consequences of *degree* of multinationality (rather than multinationality status *per se*).

MN-P studies within the IB area are prolific and consequently we narrowed our sources to four prominent journals: *Academy of Management Journal*, *Strategic Management Journal*, *Journal of International Business Studies* and *Management International Review*. Relevant research in the financial economics area is more dispersed and consequently we included studies from a variety of journals. In order to

arrive at an adequate number of investigations we also included widely cited working papers.

The paper is structured as follows. After briefly reviewing the empirical results of the studies, we discuss the issues of motives / performance rationales, intangibles, causality, linearity and implementation capability. In the next section we focus on two aspects of model under-specification – lack of mediating and moderating variables. Recommendations for future research are offered in the concluding section of the paper.

REVIEW

Details of the reviewed works are provided in Appendices 1 and 2. Sample sizes range from 40 to 7,520 firms (44,288 firm-year observations) and the timeframe of analysis spans from 1964 to 1999. 19 of the studies sample U.S.-based firms, 5 sample European-based firms, 4 sample Japanese firms, and 9 sample firms from more than one home country. Before discussing results of the studies reviewed herein it is appropriate to briefly explain the respective strengths and weakness of the two types of performance indicators considered.

Accounting- vs. market-based indicators

Accounting-based measures of performance have been criticised for the use of low quality data, their backward looking nature and their failure to reflect the associated risk (Peterson and Peterson, 1996). This has led some scholars to proclaim the superiority of market-based performance metrics. Stevens (1990), however, suggests that the advantages of market-based indicators are far from clear. Overwhelmingly the most common measure of performance used in financial economics is Tobin's q . It is commonly defined as the market value of the firm's securities divided by the replacement value of the firm's (tangible) assets, although numerous variants of Q exist. As such, in practice Tobin's q may be subject to many of the same limitations that plague accounting-based rates of returns.

An added complication with market-based measures is that any positive results may be due to the fact MNCs are a better conduit for international diversification than investors directly holding a portfolio of international stocksⁱⁱⁱ. In effect then, value-based studies investigate a *joint* hypothesis pertaining to differences in firms' competitive performance (*vis-à-vis* other firms) *and* performance differences from the security holder's point of view. Ultimately we are unable to determine whether the findings are due to superior competitive performance and/or superior outcomes for shareholders (Errunza and Senbet, 1981).

As such, neither accounting nor stock-market based measures can lay claim to being the superior yardstick of performance. What is clear is that market- and accounting-based measures of financial performance tap into slightly different dimensions of performance. As such the two major streams of the MN-P literature cannot be expected to match neatly – indeed a number of the studies that use both reported profitability *and* market value find their results contradictory (see Appendix 2) – but collectively they can be expected to provide a good indication of the performance implications of multinationality.

Results of MN-P studies

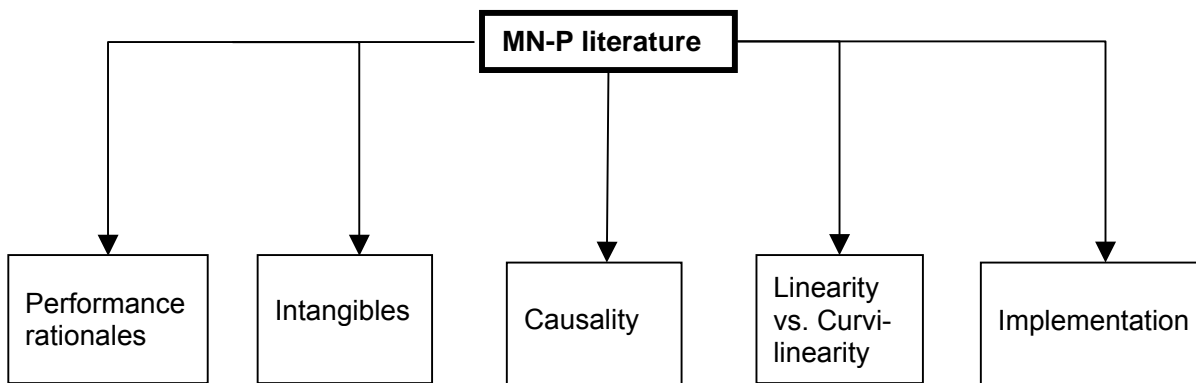
Contrasting the study details across the two groups reveals that works emphasising accounting-based performance indicators tend to investigate more complicated (higher-order) relationships and more often explore different dimensions of multinationality; they also have decidedly smaller samples. Inspection of the reported results is rather frustrating: there seems to be little difference across the two sets, with inconsistent results on both sides. Overall, the results of curvilinear model testing are as inconsistent as the findings of studies testing a linear specification. There is also no obvious systematic patterns in results across the home countries sampled or the period of analysis, the only possible exception being a heightened likelihood of negative associations within the more recent financial economics studies. It seems that the only conclusive verdict that can be reached is that MN-P results are truly inconclusive.

Previous reviews of the MN-P literature relied heavily on method-driven reasoning in order to explain the mixed results. In particular, the issue of variable operationalisation was covered comprehensively by authors such as Ramaswamy, (1992), Sullivan (1994a), Annavarjula and Beldona (2000) and will not be elaborated here. These studies rightly deplore the almost arbitrary choice of indicators for MN and performance, chiefly driven by data availability and with little regard for a particular conceptual logic. The resulting lack of content and construct validity were seen as the main culprits for the inconsistent results (and low R^2) attained.

It is unlikely, however, that measurement error on its own can explain the mixed results since the findings of more recent studies, which tend to bring a more sophisticated, multi-item approach to the issue of measurement are as inconsistent as earlier efforts. This would suggest that flawed measures are not the main or exclusive reason for the poor results. Consequently, in this paper we focus mainly on model specification issues. *Model specification*, according to our definition, includes (1) the set of variables featured in the research model, (2) the relationships among these variables, as well as (3) the direction and nature of these relationships.

Below we identify five of the most common non-method problems and issues (see Fig.1) that are often cited as undermining the validity and usefulness of MN-P research. After briefly elaborating these points we link them to a more detailed discussion of model specification.

Fig. 1



PROBLEMS AND CHALLENGES IN MN-P RESEARCH Espoused performance rationales

As we pointed out earlier, most research to date simply addressed the question whether multinational firms are better performers than domestic ones (comparative studies) or whether more multinational firms are better performers than less multinational ones (the control studies reviewed in this paper). Theoretical discussion of why this should be is frequently reduced to a vague laundry list of potential performance rationales.^{iv}

Economies of scale, scope and experience. Multinational expansion can help the firm to increase output and thus cut unit costs (Hout, Porter and Rudden, 1982; Ghoshal, 1987). For instance, MNCs with a large subsidiary network are able to spread the costs of creating firm-specific assets over a larger base. They are also able to institute a better division of labour with the concomitant gains from specialisation. Multinational expansion also helps to increase accumulated output, thus allowing the firm to enjoy the dynamic variant of scale economies, viz. experience effects.

Locational advantage arbitrage. Greater multinationality may also boost performance by affording the MNC more opportunities to arbitrage locational advantage across the markets served. A particular country may be advantaged in terms of the lower cost and/or superior quality of its production factors (labour, capital, raw materials, etc.) or its auspicious institutional setting (tax laws, antitrust regimes, industrial relations, and the like). By concentrating each activity in the most favourable environment, the multinational firm can extract gains from multinationality (Kogut, 1985a).

Learning. Every country's operating environment (i.e., its customers, rivals, governments and other stakeholders) generates a distinct set of stimuli that frame learning opportunities. As a result, greater multinationality affords more opportunities to acquire valuable knowledge and capabilities that can subsequently be exploited in other markets (Hitt, Hoskisson and Kim, 1997; Birkinshaw, 1998).

Strategic advantage: bargaining power and "global chess". A higher degree of multinationality may also confer greater strategic advantages. The flexibility inherent in operating across multiple markets grants the MNC bargaining power with governments, suppliers, customers, and other stakeholders (Kogut, 1985b). The mere threat of shifting activities to other host countries may be sufficient to extract concessions. By operating across a larger number of countries the MNC may increase its leverage over the various stakeholders.

Even more important are strategic advantages predicated on oligopolistic ploys directed at rivals. MNCs operating across a larger number of countries may have an enhanced ability to cross-subsidise an attack on competitors in a particular host country. Greater multinationality may also increase the firm's capacity to guard against the aggressive moves of others by denying them "profit sanctuaries" (Prahalad and Doz, 1987).

Option value. The above benefits to multinationality are essentially static. In contrast, the option perspective invokes a distinctly dynamic type of benefit that is realised as the MNC reacts to changes in locational advantage (e.g., changes in the real price of labour or in government policy) and other extraneous factors such as the real exchange rate or technology.^v In response to any of these changes the firm may shift its various activities from one host country to another. For instance, in reaction to adverse changes in government policy the MNC may transfer manufacturing capacity from the local subsidiary to a subsidiary in another country.

In essence, the MNC's multinational network represents a string of real, non-tradeable options written on contingent outcomes across host countries. A more extensive multinational network equates to a larger set of options. The value of these options depends, *inter alia*, on the prevailing uncertainty: the more variable the global environment, the more valuable the options (Kogut, 1983; Kogut and Kulatilaka, 1994).

Portfolio diversification. According to portfolio diversification theory, owning assets whose returns are uncorrelated will reduce risk at any level of return. To the extent that economic conditions are uncorrelated across countries – or, more accurately, less correlated across countries than within a given country – the multinational firm is likely to display more stable returns than a strictly domestic firm. By extension, greater multinationality leads to a greater reduction in risk. While portfolio effects are typically studied in terms of risk, any risk-reducing effects may also have second-order effects on other dimensions of financial performance. In particular, lower risk is expected to translate into lower borrowing costs (Madura and Whyte, 1990), which, in turn, exert a positive effect on firm profitability (see Khambata and Reeb, 2000 for a review).

Managerialism. Some or all of the above “synergy” rationales are routinely listed in MN-P studies in the IB field. Strategic management researchers’ preoccupation with synergistic rationales may be the result of their rather sanguine views of managers. The spectre of managerialist motivations is typically only alluded to in the final caveats, if at all. But agency-based rationales such as “empire building” (Jensen, 1986) and risk reduction from the managers’ views^{vi} are occasionally investigated in the finance/economics literature (e.g., Click and Harrison, 2000; Garrod and Rees, 1998).

Dess et al. (1995: 364) forcefully argue for more theoretical and empirical emphasis on exploring the varied rationales underpinning multinationality. But invariably empirical studies merely examine the overall association between multinationality and performance. Especially cross-sectional investigations, which account for more than 95% of all MN-P studies, suffer from the existing state of theoretical arbitrariness. For example, it is likely that industries differ not only in terms of the magnitude of overall performance effects, but also the underlying source. For example, in labour-intensive industries the ability to utilise cheap overseas labour (arbitrage of location advantage) may be the key to performance improvement. In another industry it may be global scale economies that are the dominant source of any observed positive association between performance and multinationality. Existing specifications are ineffective in detecting different sources of value across industries.

Intangibles

A number of authors associated with the resource-based view and internalisation theory suspect that any observed positive association between multinationality and profitability is spurious (Dess et al., 1995, Morck and Yeung, 1991), due entirely to the fact that both are caused by (unobserved) *firm-specific assets*, most likely *intangible*. There are, however, a number of studies that seem to repudiate claims of spuriousness by exploring the relationship in the presence of intangibles. For instance, Delios and Beamish (1999) show that multinationality retains a significant positive association with performance when variables proxying for R&D- and marketing-related intensities are controlled, as do some of the specifications presented in Kim and Lyn (1986). The same conclusion can be drawn from the results of Morck and Yeung (1991) and Mishra and Gobeli (1996), although the authors (erroneously) suggest otherwise.^{vii}

But there is also a number of studies that find multinationality a non-significant predictor of performance once intangibles are controlled (e.g. certain specifications in Kim and Lyn 1986). Consequently, the results of studies that fail to neutralise the effects of intangible assets are to be treated with caution and future studies should attempt to neutralise the potentially confounding effects of such assets.

Causality

It must be stressed that, for methodological reasons, the overwhelming majority of studies exploring the MN-P nexus between multinationality and performance are only capable of detecting an *association*. A significant association is, as a rule, interpreted as multinationality *causing* performance. But any observed association, irrespective of its sign, can also be plausibly interpreted as performance

causing multinationality. For instance, a positive association may be explained based on the argument that only high-performing (especially highly profitable) firms have the resources required to further expand abroad and to bear the risks associated with international expansion. A negative association may conceivably be interpreted as low-performing firms seeking out additional, more hospitable environments.^{viii} There are also appealing arguments for more complicated, reciprocal chains of causation. For instance, there is evidence that managers of highly profitable firms may use free cash flow for expansion in order to increase their power, prestige and income (Jensen, 1986, Morck, Shleifer and Vishny, 1989). In turn, such “empire building” often has a devastating impact on the firm's future profitability. Alternatively, managerial hubris (Seth, Song and Pettit, 2000) may lead successful firms to erroneously think that they can easily replicate their success in new host markets, again with detrimental consequences for future performance.

Only a small set of studies attempt to establish causality. With the aid to time lags and change variables, Grant (1987), Click and Harrison (2000) and Denis et al. (2003) establish causality as generally conceived, that is, running from multinationality to performance. Only Garrod and Rees (1998: 1279) find “weak support for the view that high company value leads to international diversification.”

Linearity vs curvilinearity

Earlier studies in the MN-P literature focused exclusively on the presumed *benefits* of multinationality and typically examined a *linear* association. More recent efforts view multinationality as giving rise to benefits *and* costs and often hypothesise a curvilinear relationship. Most of these researchers seem to favour a deterministic relationship, typically in the shape of an inverted U (see Gomes and Ramaswamy, 1999; Capar and Kotabe, 2003). It is posited that performance rises monotonically with multinationality until it reaches a threshold from which on it monotonically declines. The relationship is explained with reference to the espoused cost/benefit dynamic accompanying the process of internationalisation. Firms initially expand into markets characterised by similar consumer tastes, market and institutional settings that permit the use of existing product offerings without adaptation and facilitate the transfer of knowledge and technology. Further international expansion leads the firm into progressively dissimilar territories and the cost/benefit dynamic reverses: benefits are reduced and costs aggravated.

A second, smaller group of theorists (Sullivan, 1994a; Hitt et al., 1997; Ruigrok and Wagner, 2003), united by their preoccupation with learning theory, reject any such deterministic association. In essence, this second group of authors emphasise that the MN-P relationship is subject to learning processes. Firms' extant strategies, structures and systems will inevitably become misaligned as they enter increasingly unfamiliar territories. It is believed that astute managers can halt the corresponding slide in performance by making the necessary changes in the quest for renewed ‘fit’ with novel environments (Ruigrok and Wagner, 2003).

Irrespective of their deterministic vs. voluntaristic variants, a curvilinear MN-P association is a likely scenario in view of convincing theoretical arguments. Attempting to fit linear models to curvilinear associations thus may result in erroneous results (Nehrt and Phene, 2001) and may explain inconsistencies in earlier studies.

But failure to test for higher-order terms is an unlikely explanation for inconsistent findings in more recent years since such testing has become standard research practice.

Implementation capability

Sullivan (1994b: 166), who has studied the relationship between multinationality and performance extensively, is critical of the notion of a "deterministic relationship between financial performance and internationalisation [...since it] questions the premise of proactive management." With others we share Sullivan's misgivings about the suppression of management's role in the MN-P relationship. Extensive qualitative and quantitative scholarship demonstrates that, in order to extract performance benefits from multinationality, management must put in place the required organisational structures, systems and processes and provide tireless leadership and support (e.g., Prahalad and Doz, 1987; Bartlett and Ghoshal, 1995).

The implicit assumption that the multinational firm can, by default, realise the benefits of economies of scale, shared knowledge or other performance rationales is untenable. For instance, an extensive empirical literature attests to the logistical, psychological and others barriers that have to be surmounted when transferring knowledge across borders (see Bresman, Birkinshaw and Nobel, 1999; Szulanski, 1996). Katrishen and Scordi (1998), who investigate MNCs in the insurance sector, demonstrate that the exploitation of economies of scale from multinationality requires firms' active efforts at integrating their worldwide operations. Firms such as Zurich, with a highly decentralised structure and holding company characteristics, fail to attain the potential scale effects due to their inability to implement the required degree of integration.

In the product diversification literature, such contingency relationships are well established (e.g., Markides and Williamson, 1996). The notion is most memorably captured in Prahalad and Hamel's (1990) reference to "imprisoned" resources that, in the absence of the appropriate organisational systems and structure, cannot be leveraged in other divisions. In the product diversification literature, researchers are regularly reminded "to bring structure and corporate management back into the picture"^{ix} (Hill, 1994: 297).

In the MN-P literature, similar calls (e.g., Dess et al., 1995) have largely fallen on deaf ears. Only one facet of organisation design has been tested to a significant extent: incentive alignment. In accordance with agency theory, a number of finance studies posited that greater multinationality makes it more difficult for shareholders to monitor the behaviour of managers. Some support was found for the resulting hypothesis that better alignment of managerial incentives with shareholder interests positively moderates the MN-P relationship (e.g. Morck and Yeung, 1991; Mishra and Gobeli, 1998).

Model (Under-)Specification

In this section we show the common problems and issues identified above to be related to the overarching topic of model specification, thus substantiating our claim that advances in model specification offer the best chance for advancing the

MN-P agenda at this point in time. To restate, model specification, according to our definition, includes the set of variables featured in the research model, the relationships among these variables, as well as the nature and direction of these relationships. As such, model specification firstly includes the issue of *control variables*. Many authors have highlighted the absence (or inadequacies) of controls such as product diversification, industry, home country, and so on in extant MN-P research and we simply refer the reader to these studies (e.g. Cantwell and Sanna-Randaccio, 1993); Sullivan 1994b, Sambharya, 1995, Tallman and Li, 1996). The particular need to control for the presence of intangibles was already made clear in our earlier discussion. Model specification further pertains to the choice between *linear vs. non-linear associations*. We have noted the trend toward stipulating curvilinear (benefit- and cost-driven) relationships and further recommend the discussions in Gomes and Ramaswamy (1999) and Ruigrok and Wagner (2003). The *direction* of the relationship among the focal variables was briefly covered in our discussion of causality. The remainder of this specification section is dedicated to the array of relationships among the chosen constructs, in particular the introduction of *mediating and moderating relationships*, which only occasionally feature in MN-P research. This is motivated by our belief that the inconsistent results of studies in the M-P realm may be traced chiefly to scholars' preoccupation with the *direct* and *unmoderated* MN-P effects. We wholeheartedly concur with Geringer et al. (2000: 76-77) that "the need to look at more complex variable relationship ... is becoming more apparent in [multinational] diversification studies".

Lack of mediating constructs (Fig. 2a)

The specification of a direct MN-P link represents a specification "at one remove" and there is a strong case for augmenting the traditional research model with mediating constructs. A more fully specified model is likely to yield greater insight and explanatory power. In particular, the introduction of mediating constructs may be able to shed light on the relative importance of the earlier listed performance rationales. Baron and Kenny (1986) highlight the usefulness of mediation models in probing causal mechanisms: a mediator explains how or why the independent affects the dependent. Hoyle and Kenny (1999) agree with this assessment and contend that mediation models are indicative of a maturing research literature.

An example of a promising mediator that helps to home in on particular performance rationales may be "global integration" – most commonly conceptualised as various intra-firm border-crossing flows of raw material, finished and semi-finished products, information and knowledge, and the like (Bartlett and Ghoshal, 1989). Depending on their concrete operationalisation, such flow variables may be able to indicate the presence and strength of specific performance rationales such as economies of scale, arbitrage of locational advantage or learning.

Extant scholarship in the MN-P tradition effectively *assumes* a very strong positive relationship between multinationality and the (unobserved) global integration construct. This mostly implicit position is articulated in Cantwell and Sanna-Randaccio (1993:282, emphasis added) who submit that "multinationality is depicted as a source of firm-specific advantage [i.e., superior performance] *owing to the opportunities it provides for the international integration of dispersed production*

facilities". As such, the multinationality variable in the MN-P literature effectively serves as a surrogate for the (unobserved) global integration construct.

We believe this to be an overly deterministic view and contend that multinationality is but one of several influences on global integration. For instance, there are sound reasons to argue that, *inter alia*, executive attitudes towards global integration (Kotabe and Murray, 1996) exert considerable influence on global integration. We therefore consider existing MN-P research to be underspecified and concur with Mauri and Sambharya 's (2001: 442) assessment that "distinguishing between integration and [multinational] dispersion is critical". Two studies that successfully insert such mediating flow variables into the MN-P relationship are Zahra, Ireland and Hitt (2000), who measure the depth, breadth and speed of technical knowledge flows, and Osegowitsch (2003), who measures various intrafirm flows of operational resources, including staff, project modules and project solutions.

Apart from helping to uncover which of the touted rationales are actually yielding performance stimuli to multinationality, another attractive trait of mediating constructs is that it is typically more difficult to find intellectually appealing arguments that would allow for reverse causality in a mediated relationship. For instance, Zahra et al. (2000) hypothesise and find support for the notion that international diversity exposes the firm to new circumstances that facilitate learning; such learning, in turn, leads to superior financial performance. It would be implausible to interpret their findings as high performance leading to more learning which, in turn, causes further international expansion.

Fig. 2a

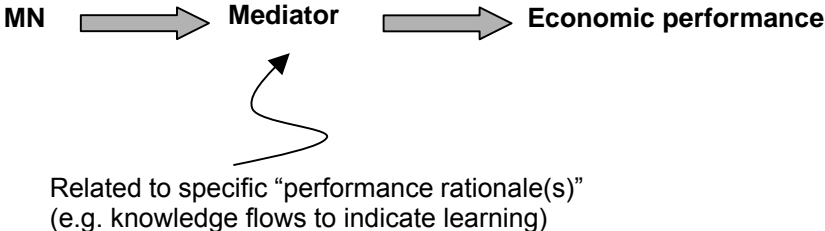
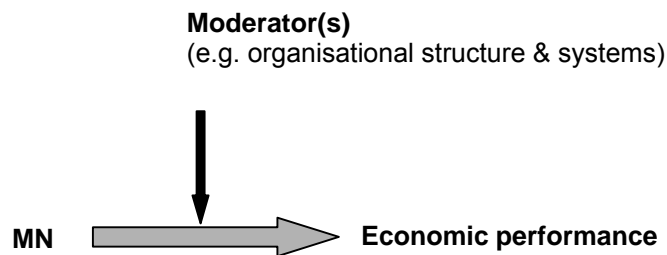


Fig. 2b



Lack of moderating constructs (Fig. 2b)

Another specification inadequacy in extant MN-P research is the neglect of moderating effects. Consistent with earlier assessments (e.g., Ramaswamy, 1995; Ruigrok, Wagner and Amann, 2004) suggest that the introduction of moderators may help the MN-P research stream to resolve inconsistent findings and provide more practically relevant implications for internationalising firms. As such, a thorough investigation of likely moderation effects may improve consistency in future studies' results. Ruigrok et al. (2004: 21) conclude that "the research stream may benefit from replacing the hitherto dominant quest for a *grande theory* by a pursuit of a more modest, but potentially also more valid mid-range contingency theory on the internationalisation-performance relationship."

Home country. The discussion by Ruigrok et al. (2004) as well as the results of recent studies that sample firms with multiple home countries (e.g. Dastidar, 2002); Fauver et al. 2003; Nehrt and Phene, 2001) suggest that the MN-P relationship is unlikely to be universalistic. To better understand it, the moderating influences induced by the home country setting should be investigated. Consequently, Ruigrok and coauthors call for the generation of home country-induced variables that may serve as a parsimonious set of moderators in future studies.

The authors maintain that home countries trigger distinct internationalisation profiles and, ultimately, differing cost/benefit tradeoffs on the basis of multinationality. Home country "givens" such as geographical location, cultural and institutional attributes and domestic markets size may uniquely frame the cost / benefit tradeoff associated with MN. The authors give the example of firms from certain nations (e.g. Japan, Germany) being unable to expand into significant culturally/institutionally related markets, thus imposing a very pronounced "liability of foreignness". Similarly, firms from countries with small domestic markets may be induced to expand at a relatively early stage of their life. Later in life, the accumulated international experience may leave these firms uniquely positioned to capitalise on their far-flung operations. We would offer that the size of the home market has an even more direct effect on firms' cost/benefit tradeoff: while firms from small home countries may be able to attain significant unit cost reductions from adding foreign subsidiaries, their

counterparts from large markets may only derive marginal gains from the scale effects of international expansion.

Implementation Capability. The earlier discussed issue of implementation capability offers another fertile ground for likely (firm-specific) moderator variables. To recapitulate, to fully capitalise on the various performance rationales, the appropriate organisational and managerial infrastructure must be present.

To the best of our knowledge, only one narrow facet of organisation design has to a significant extent been tested for its moderating influence – incentive alignment (e.g. Morck and Yeung, 1991, Mishra and Gobeli, 1998). Based on a variety of related literatures, other likely contenders for moderating roles can be identified, such as various knowledge transfer mechanisms (e.g. Zahra et al. ,2000), global rather than country-based incentives (Gupta and Govindarajan, 1986) and, at the most general level, a cooperative rather than competitive culture within the MNC. Beyond that, implementation capability may also be generated by management leadership (Kotabe and Murray, 1996) and managerial characteristics (Gupta and Govindarajan, 1986).

CONCLUSIONS AND FUTURE DIRECTIONS

We hope to have provided in this paper an incremental contribution toward advancing the field of MN-P research. Given the preoccupation of prior reviews with measurement issues, and positive developments on that front in recent years, we have chosen to focus our discussion on the issue of model specification. In particular, we have outlined the benefits of augmenting traditional MN-P research models with mediator and moderator variables.

The introduction of mediators is one strategy for researchers to “get closer” to the many competing performance rationales. Particularly in the interest of practitioners, who require more detailed insights into the value creating and/or destroying consequences of multinationality, we need to try and shine a torch into the black box that is currently placed between the multinationality and performance constructs. Of course, the more meaningful mediators, such as those sketched in this paper, are likely to necessitate the collection of primary data.

Moderation models, in turn, have the capacity to illuminate the contingencies that affect the MN-P relationship and that may ultimately be at the heart of the inconsistencies found in prior studies. Unless we know the relevant variables at work, future studies cannot control for their moderating influence.

Owing to the complexity of the matter at hand, such specification initiatives must proceed in tandem with other initiatives. At a general level, inconsistent results and a lack of firm consensus regarding model specification (e.g., linear vs. squared vs. cubed association) as well as measurement strongly suggest an inadequate understanding of the underlying phenomenon. This would indicate that MN-P research has progressed too quickly towards large-scale cross-sectional studies. To remedy the situation, we would suggest more fieldwork to carefully consider the motivations for multinational expansion and the actual behaviour shown in the quest for improved performance. In general, clinical studies are helpful in two instances

(Eisenhardt, 1989): when the subject matter is new (hardly the case with MN-P research) or when the topic is over-researched and a fresh perspective is needed – an apt description of the current state of MN-P research.

As a sensible intermediate step, clinical studies should be complemented by systematic quantitative research in single industry settings.^x Such settings allow the investigator to build a qualitative understanding of the industry prior to quantitative research, thus resulting in superior model specification and the design of customised measures in a bid to enhance (content) validity (Rossiter, 2000). The elimination of industry confounds, which often prove difficult to control in cross-sectional research (Ketchen et al., 1997), would be a highly desirable corollary.

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Appendix 1 – International Business / Management Studies (Using Accounting-Based Measures of Performance)

Study	Sample	MN Measure	Performance Measure	Result
Grant (1987)	304 UK manufacturing companies, 1964-1984	Sales of o/s subsidiaries / total sales, Disaggregated into separate ratios for Europe, North America and Rest of the World	Sales growth and profitability (RONA), growth of pre-tax, pre-interest profits, ROE and ROS, profit rates averaged	MN is positively associated with superior profitability. Causation: overseas production generating increased sales and profitability
Kim, Hwang and Burgers (1989)	62 US MNCs, 1982-85	UD, GMD and GRD, DT (sum of the first three)	ROS, ROA	Performance impact of related and unrelated diversification varies contingent upon the extent of a firm's MN.
Geringer, Beamish and Costa (1989)	100 largest MNCs from US and 100 largest MNCs from Europe 1977-1981	MN: FSTS	ROA (mean after-tax profits-to-sales over 5-year period 1977-1981)	MN: inverted J-shape (internationalization threshold). Related PD is positively associated with performance.
Daniels and Bracker (1989)	116 US firms 1974-1983	FSTS and FATA Sub-segments: three competitive entry barriers: technology, marketing and capital	ROS, ROA	A significant positive relationship is found for the overall sample, for 6 of the 8 industries, and for 9 of the 10 years.
Haar (1989)	150 MNCs in the US, Europe, and Japan, 1976-1986	FSTS	ROA	Past profitability is the single most important influence on MNC profitability. Industrial environment also had a significant effect, especially in the US. Japanese and European MNC profitability showed significantly less variation across industries. State ownership had a decidedly negative impact on MNC profitability. Nationality was found to have a significant and independent impact on the profitability of MNCs, with US MNCs outperforming their European and Japanese counterparts
Habib and Victor (1991)	144 US MNCs (manufacturing)	PD: SIC codes	ROA	The strategy-structure fit and economic performance are statistically significant only

Victor (1991)	and service), 1987-1988	MN: FSTS		for manufacturing MNCs.
Kim, Hwang and Burgers (1993)	125 large US firms, 1982-1986	Kim's entropy measure of global diversification (UD, GMD and GRD)	ROA (5-year average 1982- 1986)	Firms with highest DOI enjoy higher profits at lower risks than less geographically less diversified firms
Sullivan (1994b)	Replication of Geringer et al. (1989) study: 100 largest European and 100 US MNCs	Composite: performance (FSTS, R&D intensity, Adv. intensity, ESTS, FFTP); structural (FATA, FSUBS); attitudinal (TMIE, PDIO)	ROS, ROA (mean, 1977-1981)	J-curve relationship (but looks more like S- shaped).
Sambharya (1995)	53 US manufacturing MNCs, 1985 - 1986	Multiple measures: MN: FATA, FSUBS	ROA, ROA and ROE, Foreign return on sales, foreign return on assets	Both MN and PD have no effect on performance, but their interaction leads to a substantial increase in performance. There is an inverse relationship between MN and PD.
Tallman and Li (1996)	192 large US multinational manufacturing firms, 1987	Product diversity: Herfindahl-type index; International diversity: FSTS, Country scope (FSUBS)	ROS	MN does not have a significant effect on firm performance. Country scope has a positive but weaker effect on performance. There is a consistent quadratic relationship between PD and multinational firm performance.
Hitt, Hoskisson and Kim (1997)	295 US manufacturing MNCs, 1988-1990	Entropy measure (FS weighted by a global market region)	ROA, ROS and ROE	MN is negatively related to performance in non-diversified firms, positively related in highly product-diversified firms, and curvilinearly related in moderately diversified firms. MN is positively related to R&D.
Qian (1997)	169 largest US industrial firms, 1981-1990	Entropy measure (subsidiaries)	ROA, ROE	There are no significant cross-sectional differences between the profitability of firms with high, medium and low total PD. Related diversifiers outperform unrelated diversifiers in the case of high global diversification. Firms engaging in high international market

				diversification achieve a much higher profit stability (lower risks).
Delios and Beamish (1999)	399 publicly listed Japanese manufacturing firms, 1997	FDI count and Count of the No of countries where FDI occurred	ROA, ROE, ROS	Multinational scope is positively associated with firm profitability. Performance is not related to the extent of PD.
Gomes and Ramaswamy (1999)	95 US manufacturing firms, timeframe of analysis not clear	Composite index: FSTS, FATA, Country scope	ROA, Op costs/sales	Curvilinear (inverted U-shape) MN-P relationship.
Geringer, Tallman and Olsen (2000)	108 largest Japanese industrial multinationals 1977-1993	FSTS; Export Sales Ratio; IR	ROA, ROS and Δ sales	MN has negative profitability and positive growth consequences in some time periods. Product diversity has weak effects on firm performance only in one time period.
Kotabe, Srinivasan, Aulakh (2002)	49 US firms from 12 manufacturing industries, 1987-1993	FITI	ROA, sales/op costs	The impact of multinationality on firm performance is moderated by R&D intensity and marketing intensity.
Contractor, Kundu and Hsu (2003)	World, 103 service firms, 1990	DOI index comprised of FSTS, FETE, FSUBS	ROS, ROA	MN-P relationship is S-shaped: at an early stage the firm's performance decreases (negative slope), then increases (positive slope), and decreases again at a later stage (negative slope).
Capar and Kotabe (2003)	81 major German service firms in 4 industries 1997-1999 (averaged to reduce random variation)	FSTS	ROS (assets are not available)	Inverted U-shape. Lagged results by 1-2 years to examine causality, but results did not change significantly.
Ruigrok and	Large 84 German	FSTS	ROA, Op costs / total sales	Standard U shape across all three statistical

Wagner (2003)	manufacturing companies in 4 industries, 1993-1997			techniques (ANOVA, multiple regression and pooled time-series). MNC profitability declines at 60% FSTS, after which profitability increases. MNCs pass through an organizational learning process characterised by internal reconfiguration that allows for superior performance at high levels of MN.
Lu and Beamish (2004)	1,489 Japanese firms, 1986-1997	Firm's number of overseas subsidiaries Number of countries in which a firm has subsidiaries	ROA, Tobin's q	MN-P relationship is non-linear (S-shaped). Intangible assets moderate the MN-P relationship and augment firm value.

Abbreviations

ESR	Export Sales to Total Firm Sales	PD	Product Diversification
FATA	Foreign Assets to Total Assets	PDIO	Psychic Distance
FSTS	Foreign Sales to Total Sales	ROA	Return on Assets
FSUBS	Overseas subsidiaries to Total Subsidiaries	ROE	Return on Equity
FITI	Foreign income to total income	RONA	Return on Net Assets
MN	Multinationality	ROS	Return on Sales
IR	Internal Ratio (sales by foreign subsidiaries to total subsidiary + export sales)	TMIE	Top Management's International Experience

Appendix 2 – Financial Economics Studies (Using Mostly Market-Based Measures of Performance)

Study	Sample	MN measure	Performance Measure	Results
Kim and Lyn (1986)	154 US-based MNCs (1974-78)	FSTS, Number of foreign affiliates, FS*number foreign affiliates.	Excess value = (market value – equity) / sales	Only FSTS has a (marginally) significant positive impact on excess value.
Bühner (1987)*	40 large West German firms (from the Top 300) (1966-1981)	Regional (sales-based) entropy index	Jensen's alpha (share return relative to market index) ROA, ROS, growth measures and risk measures	Consistently positive association between MN and market- and accounting-based measures of performance.
Soenen (1990)	46 US manufacturing MNCs (1978-86)	FATA, FSTS, FPTP	P/E and beta	No significant relationship between measures of MN and P/E [or beta] for the full sample. A significantly higher P/E and lower systematic risk were detected for the low multinationality (<25% FATA) subsample for some MN measures but not others.
Morck and Yeung (1991)	1644 domestic and multinational US firms (1978) [62% of the sample are domestic firms]	Number of foreign subsidiaries, Number of foreign nations with subsidiaries. [both measures also used in the form of dichotomised dummies]	Market value of equity (common shares) – market value of preferred stock and debt [i.e. not normalised by size] [robustness check: market to book ratio]	Both measures of MN have a significant positive impact on market value
Allen and Pantzalis (1996)	363 manufacturing MNCs (1991)	Breadth: number of foreign countries (log) Depth: concentration ratio of foreign subsidiaries in the top two foreign countries [Additional control: number of foreign subsidiaries (log)]	Excess market valuation (market value of equity + book value of debt -total assets)/sales Difference in EVS between focal firm and average EVS for all domestic firms of the subject's industry.	For both dependent variables, valuation is maximised for firms with high breadth and low depth. Non-linearities indicated (e.g. above a certain threshold, no more gains)
Christophe (1997)	US firms (sales > \$50m) (1978-1986)	FSTS	Tobin's q	FSTS has a consistently negative association with q (although only significant in some of the years studied)

Bodnar, Rang and Weintrop (1997)	4722 US domestic and multinational firms (24,522 observations for 1987-1993)	Dummy variable for MNCs; continuous measure: 1 + ln number of geographic segments	Excess value: actual value over imputed value (based on a domestic firm baseline for each of the firm's industries)	Consistently positive impact of MN on performance.
Mishra and Gobeli (1998)	105 US manufacturing MNCs	FSTS, Number of subsidiaries (absolute and dummy dichotomy)	Market value / book value of total assets	Both measures of MN have a consistently positive association with performance.
Doukas, Pantzalis and Kim (1999)	362 manufacturing MNCs (1991)	Ln (number of countries with subsidiaries); [measures of focus: number of subsidiaries in the two countries with the most subsidiaries relative to total number of subsidiaries]	Market value – book value/sales	Across the full sample and all except one subsample there is a consistently positive relationship between MN and performance.
Click and Harrison (2000)*	US (domestic and multinational) nonfinancial firms, 42,529 firm-year observations (1984-1997)	FSTS Country count MNC dummy (foreign sales: yes/no)	Tobin's q (market value of equity + book value of debt / book value of assets) alternative measures: book equity/market equity, P/E ratio, ROA	Consistently negative MN-P relationship. Exporting creates values and raises Tobin's q.
Nehrt and Phene (2001)*	103 (domestic and multinational) firms in the paper and pulp industry from 13 home countries	FSTS (for alternative models combined with (categorical) FATA to distinguish export strategy (high FSTS coupled with low FATA) from FDI-based strategy.	ROS, ROA Market value/book value	Inverted U-shaped association for ROA and (marginally significant) MV/BV. No significant results when domestic firms are excluded from sample. Results indicate interaction with exporting.
Ramirez-Aleson and Espitia-Escuer (2001)*	103 nonfinancial firms quoted on the Spanish Stock Market (1991-95). [412 observations for Tobin's q]	Categorical measure based on spread <i>across</i> and <i>within</i> six regions. Continuous measure: Region-based entropy measure based on the number of subsidiaries.	Market value/replacement cost of capital	Significant effects for both MN measures. Entropy: + Categorical: "international" categories show superior valuation to the "domestic" (low/low) category. No systematic differences across the three "international" categories.
Denis, Denis and Yost (2002)	7520 firms of US (domestic and multinational) firms, exclusive of financial	Multinational Status dummy; FSTS (subsidiary sales) [robustness check: including exports	Excess value: actual value over imputed value (based on a domestic firm baseline for each of the firm's industries)	Multinational status and degree of MN have a consistently negative impact on firm value.

	and energy firms (44,288 observations for 1984-1997)	sales in the judging of multinational status]	of the firm's industries) [robustness check: market value / book value]	
Fauver et al. (2003)	More than 3000 nonfinancial firms in the US, UK and Germany (1991-95)	Categorical measure for international sales (yes/no), FSTS, Herfindahl Index of international Sales.	Market capital / sales [relative to the same ratio for a portfolio of firms in the same industry/home country.]; also relative to firms in the same industry and home/host countries]	Consistent results for all measures of MN and performance: US MNCs trade at a significant discount relative to domestic US firms; no significant association between MN and firm value in Germany and the UK.
Dastidar (2003)	16,146 firm years (1990-98) of (domestic and multinational) firms from the US, Japan, UK and Germany.	Categorical measure for international sales (yes/no)	LN (market value/sales) Alternative measure: Market capitalisation + long-term debt + current liabilities/Total Assets	MN has a significant negative impact in German and Japanese companies, a non-significant impact in UK companies and a positive impact in US companies. Somewhat inconsistent result where the alternative performance measure is used. Evidence for interaction between MN and PD
Goerzen and Beamish (2003)	13,529 subsidiaries of 580 Japanese MNCs, Toyo Keizai 1999 survey	Asset dispersion entropy scope (extent of investment in foreign markets) Country environment diversity	Jensen's alpha, Sharpe's measure and market-to-book ratio	The relationship between economic performance and international asset dispersion is positive. Country environment diversity is negatively associated with performance.
Christophe and Lee (2004)*	100 "most international" US manufacturing MNCs, according to 1999 absolute foreign sales	Sullivan's DOI and its constituent elements. Only FATA achieves significant results	Tobin's q: market value divided by the replacement value of the firm's (tangible) assets.	Negative association for FATA; nonsignificant associations for the remaining MN proxies. FATA squared is marginally significant, suggesting a slight upturn at very high levels of FATA.

Studies marked with * feature accounting-based and market-based performance measures

Abbreviations:

ESR	Export Sales to Total Firm Sales	PD	Product diversification
FATA	Foreign Assets to Total Assets	ROA	Return on Assets
FSTS	Foreign Sales to Total Sales	ROE	Return on Equity

FSUBS	Overseas subsidiaries to Total Subsidiaries	RONA	Return on Net Assets
MN	Multinationality	ROS	Return on Sales
IR	Internal Ratio (sales by foreign subsidiaries to total subsidiary + export sales)		

Endnotes

ⁱ According to Ruigrok and Wagner (2004) there are over a hundred investigations of this linkage in international management literature undertaken worldwide. In another review, Liu (2004) cites 143 papers written in 1987-2004, which includes papers from the field of international business and financial economics.

ⁱⁱ Due to their in-between status we chose not to include a small number of studies that exclusively utilise *risk-adjusted* measures of returns.

ⁱⁱⁱ Imperfect capital markets theory suggests that individual investors face a number of impediments to holding their own portfolio of international shares. Impediments such as foreign exchange controls, capital market controls, trading costs and tax structures, and information asymmetries may be less pronounced for the multinational corporation, making it a superior vehicle for portfolio diversification for the individual investor.

^{iv} We believe that a (positive) link between multinationality and performance on the basis of a transaction cost rationale, which is frequently invoked in the literature can only be asserted with considerable licence. Internalisation theory (Rugman, 1980) and Dunning's (1980) eclectic theory offer an explanation of why MNCs come into existence based on, among other, market imperfections and the associated transaction costs. These theories juxtapose the cost effectiveness of the multinational firm with that of international arms-length markets; they make no pronouncements on inter-firm performance differentials. As highlighted by Buckley (1990), internalisation is concerned with the firm's advantage *vis-a-vis* the market; it is not concerned with its (competitive) advantage *vis-a-vis* other firms.

^v To some extent, the realisation of option benefits conflicts with the realisation of economies of scale or the exploitation of locational and learning advantages. The latter are strongly contingent on a more refined division of labour among *specialised* operations. By contrast, the realisation of option value requires similarity of operations across countries (as well as excess capacity), so that activities can be shifted from one country to another in response to environmental changes.

^{vi} Because managers cannot diversify their jobs and because their incentive pay may weigh their portfolio heavily with shares of their employer, the firm may be more (internationally) diversified than is optimal from the perspective of individual shareholders.

^{vii} In Morck and Yeung (1991) the significant interaction term for R&D and multinationality renders a previously significant main effect for multinationality (in the main effects-only model) nonsignificant. The authors interpret this result as suggesting that multinationality has no value except in conjunction with R&D. We believe this to be an unwarranted claim based on an inappropriate judgement of the main effect coefficient in the presence of the interaction effect. According to Jaccard et al. (1990)26-27), coefficients pertaining to the main terms in the main effect-only model estimate *general* relationships at each level of the other independent variable. By contrast, in the presence of interaction terms the same main term coefficients estimate conditional relationships, i.e. where all X variables but the one in question equal zero. As such coefficient. b_1 reflects the influence of X_1 on Y when X_2 equals zero.

In the case of Mishra and Gobeli (1996), who emulate Morck and Yeung's investigation, the introduction of interaction terms results in a *drop* in R^2 , which should have led the authors to immediately reject an interaction effect. In their baseline models, containing only the main terms, multinationality (in various operationalisations) does attract a significant positive coefficient in the presence of R&D spending.

^{viii} For instance, in the product diversification literature it has been suggested that the link between diversification and performance is not causal. Instead, it is poor performance in the core business that drives diversification (see (Ramanujam and Varadarajan, 1989).

^{ix} In response, authors such as Markides and Williamson (1996) have used organisational structure as a moderating construct between (related) product diversification and performance. In a similar vein, Govindarajan and Fisher (1990) investigate the moderating effects of control systems on the relationship between inter-SBU resource sharing and performance.

^x Unfortunately, single industry investigations are scarce in the MN-P literature. The only examples we have been able to uncover are Ramaswamy (1995) in pharmaceuticals, Katrishaen and Scordis (1998) in insurance, Al-Obaidan and Scully (1995) in petroleum refining and Nehrt and Phene (2001) in paper and pulp. We acknowledge that ongoing industry concentration can prevent the achievement of adequate sample sizes in single industry settings.