ANALYZING INTERNATIONAL COMPETITIVENESS AT THE FIRM LEVEL: CONCEPTS AND MEASURES

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Abstract

The topic of firms' competitiveness is greatly debated today among managers, politicians, and academics. Although the definition of the competitiveness appears to be straightforward, such construct is often used in different and somewhat ambiguous meanings.

In this paper we explore some "open questions" related to the measurement of competitiveness at the firm level and develop a conceptual framework for the analysis of the different dimensions of competitiveness as well as the approaches of the studies in this field.

In our framework, the construct of international competitiveness can be disentangled into three components:

- degree of internationalization, which measures the firm's presence abroad;
- international economic and market performance, which measures the results associated with that presence ('ex post' competitiveness);
- the nature and sources of competitive advantages, which provide information about the sustainability of competitive positions over time and, consequently, about a firm's capability to augment or preserve its performance and competitive position in the future ('ex ante' competitiveness).

ANALYZING INTERNATIONAL COMPETITIVENESS AT THE FIRM LEVEL: CONCEPTS AND MEASURES*

Donatella Depperu - Daniele Cerrato

1. Introduction

The topic of firms' competitiveness is greatly debated today among managers, politicians as well as academics. Globalization and changes in the world economy over the last years have raised new challenges for firms, industries and countries. The popularity of the concept of competitiveness is clearly demonstrated by the fact that there is an increasing interest around the issue of competitiveness benchmarking at the country level as well as the policies through which governments can enhance national industrial competitiveness.

Although the definition of the competitiveness appears to be straightforward, such construct is often used in different and somewhat ambiguous meanings. This paper explores some "open questions" related to the analysis and measurement of competitiveness at the firm level. Linking the concepts of internationalization, performance and competitiveness at the firm level, we build a conceptual framework for the analysis of the different dimensions of competitiveness as well as the approaches of the studies in this field. The contribution of our

* Although this paper is the result of a joint research project of both authors, Daniele Cerrato is the primary author of sections 2, 3, and 6; Donatella Depperu is the primary author of sections 4, 5, and 7. Section 1 and 8 are co-authored.

paper is to provide a well-grounded basis for future research about the new paths of international expansion and the strategic characteristics of firms which gain superior competitiveness in the global context.

2. Competitiveness and competitive advantage

The concept of competitiveness reminds of that of competitive advantage. According to the largely consolidated view of competitive process, a firm's performance is affected by its competitive advantages. In its turn, the nature of such advantage results in one or more specific sources of competitive advantage which a firm controls.

The concept of competitive advantage is central in strategic management studies (Porter, 1985; Ghemawat, 1986). It recalls that of comparison and rivalry. It can be interpreted as "the asymmetry or differential among firms along any comparable dimension that allows one firm to compete better than its rivals" (Ma, 2000: 53). A competitive advantage refers to the position of superiority within an industry that a firm has developed in comparison to its competitors. Firm level competitiveness indicated a firm's ability to design, produce and market products superior to those offered by competitors, where superiority can be evaluated from several factors, like price, quality, technological advancement, etc.

Competitiveness can be considered at different levels of aggregation: firm, industry, and country. Firm level analysis focuses on behaviours and performance of firms. Competitiveness is frequently analyzed also at industry level or "cluster" level. The competitiveness of an industry can be assessed by a comparison with the same industry in another region or country with which there is open trade.

Beyond firm-specific and industry-specific factors, in recent years globalization has emphasized the importance of country-related effects as determinants of performance. Resource endowments, cost of labour and production inputs, financial and technological infrastructure, access to markets, institutional and regulatory frameworks are examples of country-specific factors that affect firm performance.

The different dimensions of competitiveness are strongly related: for example, a country's competitiveness factors are determinants of its firms' international competitiveness. On the other hand, the most evident aspect of a country's international competitiveness is represented by its firms' competitiveness in comparison to other countries' firms.

As it is based on comparison, competitiveness is a *relative* concept in the sense that criteria and variables used to measure such construct cannot be applied regardless of specific time and spatial conditions.

At the firm level, profitability, costs, productivity and market share are all indicators of competitiveness. Generally, competitiveness is considered synonymous with success. In very simple terms, success can be intended as achievement of company objectives. Hence, performance should be measured in terms of how an organization manages its critical success factors (Ferguson and Dickenson, 1982). Today, beyond financial or market-based indicators, measures of competitiveness increasingly include other variables such as innovativeness, quality, and social ones like ethical standing, social responsibility, working conditions of employees, etc.

Given the aim of our study, the first question we should address is why and to which extent it makes sense to analyze competitiveness at the firm level. The importance of such analysis is indirectly proved by all research works about the importance of firm variables in explaining performance. From an empirical point of view, research about the influence of firm and industry effects on performance shows that a relevant percentage of the variance in profitability is attributed to firm-level variables (Schmalensee, 1985; Wernerfelt, Montgomery, 1988; Rumelt, 1991; McGahan and Porter, 1997). Theoretically, resource-based view scholars argue that the sources of a firm's competitive advantages rely on its set of unique and differentiated resources (Wernerfelt, 1984; Barney, 1991; Peteraf, 1993).

The analysis of the sources of variance in firm performance is a key issue in both industrial organization and strategic management studies.

Fundamentally there are least two main views of the origin of a firm's competitive advantage. On one side, industrial organization scholars focus on the influence of industry-related determinants of firm performance and particularly emphasize the importance of factors like concentration, entry and exit barriers and economies of scale. Classical industrial organization scholars (Mason, 1939; Bain, 1956) claim that a firm can neither influence industry conditions nor its own performance. Therefore, the competitive advantage originates from external sources rather than internal (firm-specific) sources. A modified framework has been advanced by the new industrial organization scholars which recognizes that firms have a certain influence on the relationship between industry structure and a firm's performance (Hansen and Wernerfelt, 1989). According to Porter (1980), competition within an industry is defined by five structural parameters: current competition within the industry, bargaining power of suppliers, bargaining power of buyers, threat of new entrants, threat of substitute products or services. In Porter's (1980) view, the paths of industry evolution depend (among other things) on firms' strategic choices.

On the other hand, strategic management scholars underline the importance of firm-specific resources in determining variance of performance among firms. Research works belonging to the resource-based, competence-based and knowledge-based views of firms fall within this perspective. They shift the focus from the external to internal sources of competitive advantage, by pointing out that a firm creates a competitive advantage through the accumulation, development, and reconfiguration of its unique resources, capabilities and knowledge.

Resource-based view emerged as dominant paradigm in the strategic management studies during the 90s. According to this perspective, a firm's competitive advantage derives from those resources that match specific conditions such as value, heterogeneity, rareness, durability, imperfect mobility, unsubstitutability, imperfect imitability, and 'ex ante' limits to competition (Barney, 1991; Peteraf, 1993). Several classifications of firm's resources have been developed by literature (Barney, 1997; Grant, 1991) and generally they build on the distinction between tangible and intangible resources.

In a capability-based perspective a firm's competitive advantage derives from its capabilities/competencies (Collis, 1994). This perspective emphasizes a more dynamic view of competition, by focusing on firm's business processes rather than on assets or resources in a static view. In a broad sense, this perspective encompasses all research works dealing with concepts like distinctive capabilities (Snow and Hrebiniak, 1980; Hitt and Ireland, 1985), organizational capabilities (Collis, 1994), core competencies (Leonard-Barton, 1992; Prahalad and Hamel, 1989), and dynamic capabilities (Eisenhardt and Martin, 2000; Teece, Pisano, and Shuen, 1997). In a knowledge-based perspective (Inkpen, 1998; Zack, 1999; Nonaka and Takeuchi, 1995) scholars argue that knowledge-based resources are the most relevant to the achievement of a firm's competitive advantages.

3. An organizing framework for the analysis of the literature on firm-level competitiveness

In order to develop a systematic review of the research works that directly or indirectly relate to the topic of competitiveness at firm level, we propose an organizing framework that positions mainstreams of literature in a 2 x 2 matrix (Fig. 1).

The vertical dimension refers to the way competitiveness is intended. Competitiveness can be treated as a dependent or independent variable: the first approach looks at competitiveness as driver of a firm's performance whereas the second one considers competitiveness as outcome of a firm's competitive advantages. In different terms such distinction can be expressed as

difference between competitiveness 'ex ante' and competitiveness 'ex post'. The horizontal dimension distinguishes the approach to the study of competitiveness in terms of static *vs.* dynamic analysis.

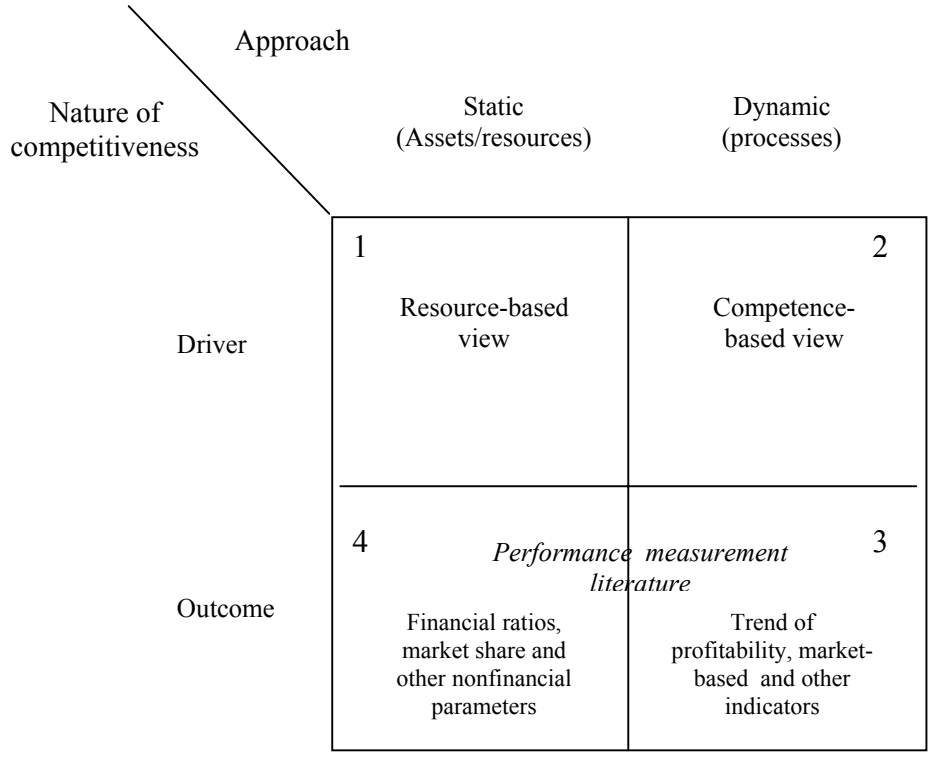
Competitiveness as a driver

Within the view of "competitiveness as a driver" all research contributions about the sources of a firm's competitive advantage are included. The main classification of the sources of a firm's competitiveness distinguishes between internal sources, i.e. sources that arise from a firm, and external sources, i.e. industry- and country-based factors.

Internal sources could be classified as tangible and intangible, and employee-related and firm-related (Cater, 2005):

- Internal intangible firm-related sources mostly include organizational resources, transformational and output-based capabilities (Lado et al., 1992), and the knowledge of the firm as a whole;
- Internal intangible employee-related sources mostly include a firm's strategies, human resources, managerial capabilities, and the knowledge of individuals;
- Internal tangible firm-related sources include physical and financial resources and input-based and some functional capabilities.

Fig. 1 Analysis of competitiveness

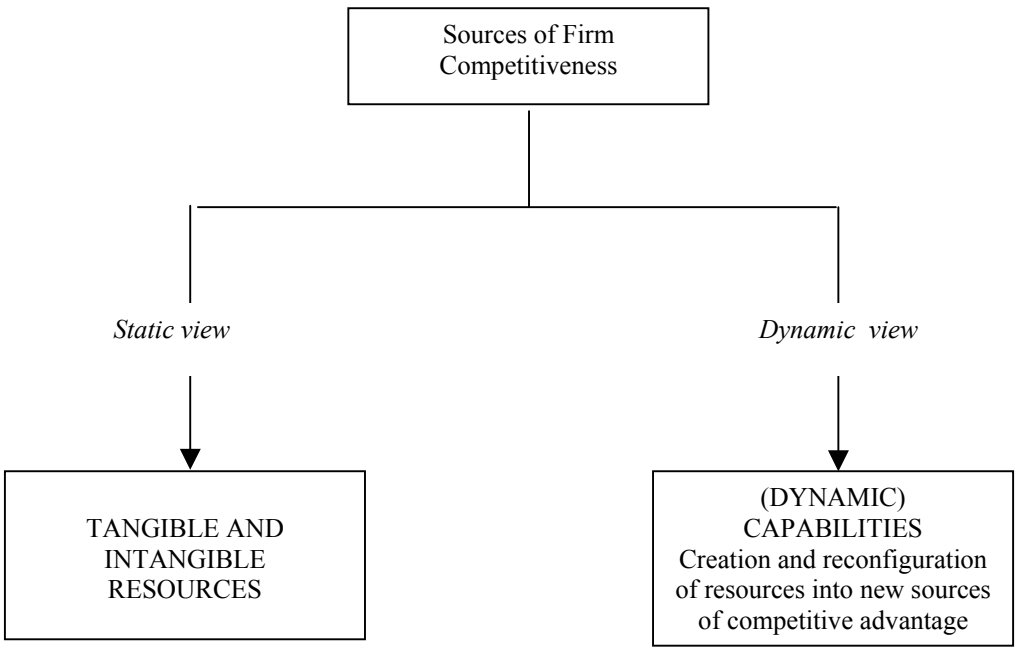


On the other hand, external industry-related sources include all the variables related to the industry structure and competition, such as for example weak bargaining power of suppliers and buyers, low rivalry among existing firms in the industry and low threats of substitution and new entrants (Porter, 1980).

Finally, external national-economy-related sources encompass variables representing the characteristics of the national economy.

Internal sources of competitive advantage can be looked at by either a static or a dynamic approach: the first one focuses on the resources and assets at the basis of a firm's competitiveness; resource based view studies fall within this domain. The second one refers to management processes that transform and deploy those assets so as to achieve performance. Specifically, the competence-based approach emphasizes the dynamic component of the competitiveness construct. Whereas resources are the basis of firms' capabilities, capabilities represent the way firms unfold their resources. Specifically, dynamic capabilities (Teece, Pisano, Shuen, 1997) are those which transform resources into new sources of competitive advantage as they are processes that enable firms to obtain new resource configurations and generate new and innovative forms of competitive advantage (Fig. 2).

Fig. 2 Sources of firm competitiveness



The distinction between a static and a dynamic approach can be understood by referring to the distinction between the competitive advantage as a firm's position within an industry and the competitive advantage as a firm's actions and abilities to work more effectively and efficiently than its competitors. Such distinction recalls Ma's (2000) dichotomy of "positional" and "kinetical" advantages: positional advantage derives from ownership or access-based resources, while kinetical advantage derives from a firm's knowledge, expertise and competence or capabilities. Several classification of firm's capabilities are possible as for example entrepreneurial, technical, managerial, etc.

Firm positioning within a industry can be defined in terms of different aspects, which typically recall the relationship between the firm and the main competitive forces like customers, suppliers, competitors, and other stakeholders like government and partners. For example, a better access or exclusive control of inputs and productive factors is related to the position with suppliers. Assets like greater brand recognition and customer loyalty are related to the interaction between the firm and its customers. Network resources involve the relationship with partners and better access to distribution channels has to do with positions with distributors.

Competitiveness as an outcome

In the lower side of the matrix in fig. 1, research works about a firm's performance measurement are positioned. Superior economic or market performance are generally considered an indicator of competitive advantages. Profitability is generally considered the most important measure of competitive success. Economic performance in the short term can be measured through profitability ratios. The most commonly used financial performance indicators are ROA, ROS, ROI, Value added per employee. Costs and productivity are good signals of competitiveness especially in case the industry is characterized by homogenous products.

Nonfinancial performance indicators could be, for example, market share, percentage of loyal customers, percentage of loyal suppliers, turnover of staff. However, a single explanatory factor of firm performance is not an adequate indicator of competitiveness. For example, market share can be an indicator of competitiveness unless the firm is sacrificing profits so as to pursue market share for its own sake.

Therefore, competitiveness can be considered a multidimensional construct as a number of variables should be jointly adopted to measure it. The factors affecting such construct may

have different weights which generally vary from firm to firm as well as from industry to industry.

Moreover, indicators cannot rely on a single period measurement as competitiveness is a time-based construct. For example, the concept of profitability itself may be ambiguous as it requires the definition of a period of time over which the measures are carried out. Profitability could be referred to the short term or long period. More generally, any measure of a firm's competitiveness should take into account a long rather than a limited period of time. A dynamic analysis emphasizes the trends of competitiveness indicators over time rather than single-period measures.

However, if we look just at performance indicators (whatever they are), we have an idea of past and present competitiveness but we cannot fully evaluate whether and to which extent the firm will be competitive in the future. In fact, even if past performance signals the presence of competitive advantage, it does not provide enough information about the sustainability of those advantages. Therefore, we need to adopt a number of indicators related to a firm's prospective competitiveness.

Another element to take into account is the spatial dimension. The measure of competitiveness implies that we define the context to which such measure it referred as well as the level of analysis. In the case of diversified firms business level competitiveness and corporate level competitiveness may diverge. Similarly, if we look at foreign markets, competitiveness may diverge from country to country even if increasing globalization tends to make competition homogeneous worldwide (see next section).

4. Disentangling the concept of international competitiveness

Which considerations should we add to our reasoning when dealing with *international* competitiveness?

The topic of international competitiveness raises new issues and makes it necessary to take into account more variables. In broad terms, international competitiveness can be defined as a firm's capability to achieve higher performance than its competitors in foreign markets and preserve the conditions that sustain its higher performance also in the future. Such definition takes into consideration both the spatial and time dimension of the construct. Especially for those firms that mostly compete against foreign competitors, the basic characteristics of the nation (i.e. national economy) like domestic demand conditions, domestic factor conditions,

related and supporting industries within the economy, and domestic rivalry (Porter, 1990) play a significant role in the competitive processes.

A firm's international competitiveness may diverge from its competitiveness in the home country. In fact, a firm might be profitable in its country with a large domestic market share but it might show low international competitiveness in case the domestic market is protected by barriers to international trade. In this case the present competitiveness would be compromised if domestic market were opened to trade. In addition, some firms may sacrifice competitiveness in the home market for a greater penetration in foreign markets.

Export market share is frequently used as international performance measure at the firm level. However, such measure is not satisfactory in case market share is maintained through significant price cutting and, consequently, profitability decrease (Buckley et al., 1988). As a result, the growth of foreign sales is achieved at the expense of profitability and prospective competitiveness.

On the basis of these considerations, we maintain that, in order to analyze a firm's international competitiveness, it is necessary to move from the distinction between internationalization and international competitiveness.

In our view, international competitiveness is a broader construct than the degree of internationalization. A higher degree of internationalization, for example in terms of foreign sales, cannot fully capture a firm's competitiveness abroad if such information is not integrated by information about how a foreign expansion affects a firm's profitability and about the factors which drive such expansion.

In other terms, the degree of internationalization expresses the firm's presence abroad, while competitiveness refers to how such presence is gained and sustained.

Buckley et al. (1988) propose a framework for the analysis of international competitiveness based on three groups of variables: competitiveness *performance*, competitiveness *potential* and management *processes*.

Performance is the outcome of past or present competitiveness. As Buckley at al. (1988: 184) argue, performance measures "provide a historical perspective, and are all characterized by their inability to provide insights into the sustainability of such performance. Using only these measures leaves too many questions unanswered". Economic and market performance achieved by a firm in its internationalization processes derives from past choices and initiatives but does not allow to make a complete evaluation of the firm's capacity to preserve and regenerate that performance over time. Consequently, it is necessary to focus not only on performance but also on competitive potential, intended as a firm's capability to defend and

renovate its sources of competitive advantage. So, performance is mainly related to past and present competitiveness while competitive potential is related to a firm's future competitiveness. On the other hand, a competitive potential is not necessarily turned into higher performance: there can be the case of competitive potential which remains unrealized or not adequately exploited. Therefore, beyond performance and competitive potential, the analysis of firm competitiveness should take into account a third group of variables concerning the management processes of the firm. i.e. management practices and organizational mechanisms and systems. Such analysis helps explain how a competitive potential can turn into positive performance. As Buckley et al (1988: 179) point out, "when statistical measures have been used to show, for example, that one firm performs better in the market place than its competitors, and has generated and sustained more competitive potential, the qualitative information derived from researching management processes helps to explain the reasons for success".

The model by Buckley et al. (1988) has been substantially validated by a few empirical research works, based on the analysis of the most relevant factors of firm competitiveness in the perception of managers (Buckley et al., 1990a; Buckley et al., 1990b; Coviello et al., 1998). These studies also provide evidence of the contingent nature of the construct of competitiveness: industry factors and variables related to firms' international strategies affect managers' perceptions of competitiveness.

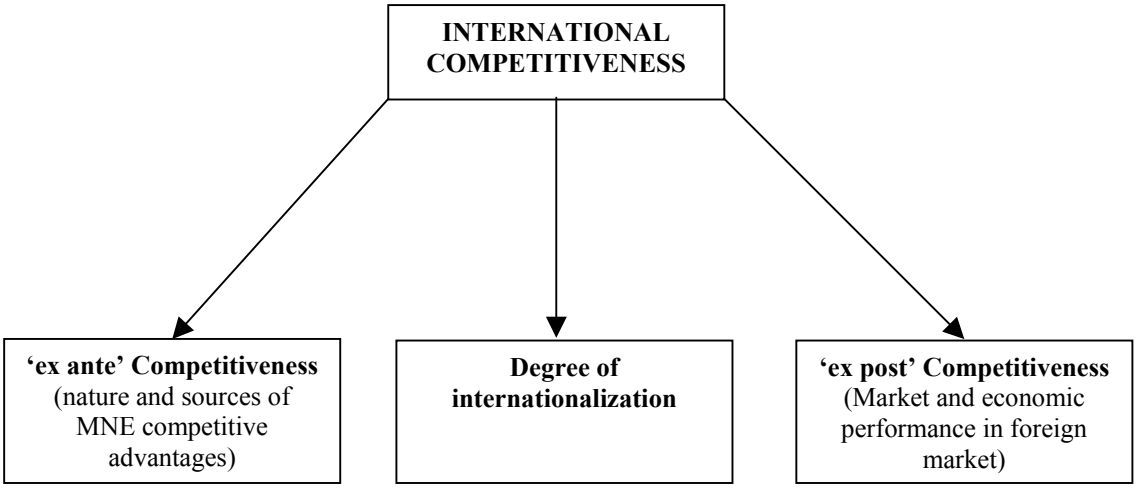
Following the framework presented above, performance can be considered as competitiveness 'ex post', while competitive potential represents competitiveness 'ex ante', i.e the competitive position that could be achieved in the future. The link between competitive potential (prospective competitive position) and (actual) competitive position is competitive strategy, which encompasses choices, behaviours and processes that facilitate transition from competitive potential and competitive position.

Extending and revising Buckely et al. (1988) classification and building on the distinction between competitiveness ex ante and competitiveness ex post, we maintain that the analysis of firm's competitiveness should be disentangled into three different but related aspects (Fig. 3):

- nature and sources of an MNE's competitive advantages (competitiveness ex ante or competitive potential)
- degree of internationalization, which summarizes the extent to which a firm is present in the international competitive arena;

- MNE's market and economic performance in foreign markets (competitiveness ex post).

Fig. 3 The Disentangle of International Competitiveness



In the following sections we discuss each of these three points and propose a set of variables/measures which jointly could be useful to "operationalize" the construct of international competitiveness.

5. Internationalization and performance

The measurement of the degree of internationalization and the relationship between degree of internationalization and performance are key issues in international business research (Sullivan, 1994). A large number of empirical research works has explored the relationship between degree of internationalization and performance.

There are several dimensions of internationalization. Typical uni-dimensional measures are ratio of foreign sales to total sales, share of foreign employees, number of countries in which a firm owns activities. Specifically, the ratio between foreign sales and total sales is the most commonly used measure of internationalization in the studies which focus on the impact of internationalization on firm performance. Other measures of internationalization could be:

- geographic scope[1];

[1] As Goerzen and Beamish (2003) argue, rather than a unidimensional concept, geographical scope can be unpacked into the two separate elements of *international asset dispersion* (the extent to which the MNE's assets are spread across foreign countries) and *country environment diversity* (the range in political, economic, and cultural differences among the MNE's foreign operations).

- foreign sourcing;
- foreign production abroad over total production;
- number of international partnerships;
- international merger & acquisitions activities;
- foreign sourcing of capital (both stocks and debt)

Beyond one-dimensional measure, several aggregate indexes have been proposed so as to improve the validity of the measurement and, consequently, the quality of empirical research. Examples of such aggregate multidimensional indexes are Sullivan's (1994) degree of internationalization scale (DOI), Transnationality Index (TNi), published by UNCTAD, the Transationality Spread Index (TSi), introduced by Ietto-Gilles (1998).[2]

Hassel et al. (2003) argue that internationalization of firms does not only take place in the area of production, but there is also a corporate governance dimension of internationalization which focuses on the type of investors firms look at. Therefore, internationalization should be evaluated also in financial terms, rather than just real, by looking at the extent to which a company internationalizes its financing or ownership structure by approaching international investors. Hassel et al. (2003) identify three measures of internationalization from a financial point of view:

-foreign owners as percentage of total ownership, to estimate the extent of foreign shareholders of companies and, as a result, the openness to international capital markets;

- the number of listings in foreign stock exchange, which signal the firm's attempts to attract foreign shareholders;

- the adoption of international accounting standards rather than uniquely accounting rules derived from national legislation; such indicator shows the firm's need to communicate effectively with international investors.

Drawing on data from a sample of the 100 largest German companies, the authors show that real and financial dimension do not co-vary. Financial internationalization and real internationalization do not follow the same reasons. Their research would suggest that a combination of real and financial components in one index in order to have a global measure of internationalization would distort the measurement of internationalization itself.

Several studies in international business research explore the relationship between internationalization and performance and show inconsistent results (Lu and Beamish, 2004).

[2] An analysis of validity and limitations of such measures goes beyond this paper. For a detailed discussion of measures of internationalization see Hassel et al. (2003), Sullivan (1994), Ramaswamy et al. (1996).

A number of studies have found empirical support for the hypotheses of a linear positive relationship between internationalization and performance (Vernon, 1971; Errunza and Senbet, 1984; Grant, 1987; Grant et al., 1988); other studies have found no significant relationship (Morck and Yeung, 1991) or provided evidence of a negative relationship (Denis, Denis, and Ypost, 2002). More recent works show that the relationship between internationalization and performance is not linear but curvilinear: specifically some studies (Hitt et al., 1997; Geringer et al.,1989) found support for an inverted U-shaped relationship, suggesting that geographical expansion would increase firm performance up to a point beyond which coordination costs and complexity associated with a highly internationalized organization outweigh the benefits of international growth. On the other hand, in their study on a sample of 164 Japanese SMEs, Lu and Beamish (2001) find evidence of a U-shaped relationship. They highlight that firms face a liability of foreignness: in the early stages of internationalization, when firms begin FDI activities, profitability declines, but greater levels of FDI are associated with higher performance.

Those results have been theoretically justified by referring to a number of potential advantages and disadvantages related to international expansion. In international business research, the traditional explanation of a firm's internationalization relies on the opportunity of an exploitation of firm-specific assets, especially intangible ones (Buckley and Casson, 1976). In recent years learning processes have received greater attention in the analysis of an international firm's competitiveness (Barkema and Vermeulen, 1998). Moreover, host country-specific advantages may increase a firm's overall competitiveness.

Typical advantages of going international are economies of scale and scope (Caves, 1971, Hymer, 1976; Teece, 1980) and greater market power and operational flexibility (Kogut, 1985; Rugman, 1979).

On the other hand, multinational enterprises are more complex organizations than domestic firms (Caves, 1982) and may suffer of the lack of adequate management capabilities. Governance costs and the difficulties associated to coordinating geographical dispersed activities negatively affect a MNE's performance. A newly established subsidiary has a liability of foreignness which reduces its competitiveness compared to an already established firm in the local market. Other problems come from cultural diversity (Hofstede, 1980) and from the difficulties of transferring intangible assets across countries.

Lu and Beamish (2004: 599) argue that conflicting results in the literature between internationalization and performance "could be an outcome of incomplete theorization about

the full range of benefits and costs, and about the changes in these benefits and costs over the time it takes to fully implement an internationalization strategy".

6. Nature and sources of an MNE's competitive advantages ('ex ante' competitiveness)

From a theoretical point of view, the analysis of the MNE's paths of development of competitive advantages (what we have defined as 'ex ante competitiveness') can largely draw on the resource-based view.

The MNE's competitive advantage relies on its capability to accumulate, exploit, recombine and innovate its set of firm-specific resources as well as transfer such resources among the different nodes of its extended network. These resources include: parent-company-specific resources; subsidiary-specific resources; easy-to-transfer resources and capabilities that can be ascribed to the MNE as a whole

Particularly, intangible and knowledge-based resources are largely acknowledged as the most important determinants of a firm's competitiveness as they fit better such condition of imperfect mobility which resource-based view has identified as a potential source of competitive advantage (Peteraf, 1993).

The explanation of a firm's international expansion decision is based on the analysis of firm-specific and location-specific advantages (Dunning, 1980). FDI theories show that a firm exploits its firm-specific advantages by transferring them to host countries. Specifically, international business literature has proved that firm-specific advantages such as R&D intensity, product differentiation, size and experience push towards higher equity investment modes (Argawal and Ramaswami, 1992; Gatinon and Anderson, 1987; Stopford and Wells, 1972). In addition, FDI theories suggest that firms will invest more in those countries where they benefit from greater location-specific advantages. As Erramilli et al. (1997) point out, "though it has been known that both firm- and location-specific advantages separately and jointly influence the parent firms' ownership preferences for foreign subsidiaries, recent theoretical developments have expanded the role of location-specific advantages by suggesting that firm-specific advantages may be tied to a location" (p. 736).

In the analysis of the firm-specific advantages that originate international competitiveness, the two following considerations become particularly meaningful:

1) The degree of transferability of resources and, consequently, of competitive advantages across the MNE is a key issue. Concerning the nature of an MNE's competitive advantages,

the first basic distinction is between location bound and nonlocation bound competitive advantage (Rugman and Verbeke, 1992, 2001). Resource-based view studies provide some useful insights for further analysis of the concept of "nonlocation-bound" and "location-bound" MNE specific advantages.

A competitive advantage can be defined as nonlocation-bound to the extent that the resources which originate it are easy to transfer across different nodes of the MNE's network. If we assume that MNEs can extract rents from their set of resources which exceed those achieved by individual firms operating in different countries, we also imply that a somewhat nonlocation-bound firm-specific advantage (and, therefore, also a nonlocation-bound firm-specific resource) is a building block of the MNE. In fact, any MNE shows a set of shared resources and capabilities across the different nodes of its network. Such common platform is the antecedent of the integration of MNE strategy and of the pursuit of competitive advantage on an international basis. In fact, a global strategy relies on the MNE's capability of transferring nonlocation-bound resources across the subsidiaries (Tallman and Yip, 2001).

In terms of transferability, resources can be positioned along a *continuum*. The extremes of such *continuum* are, on one hand, physical resources which are located within a specific context and, on the other hand, financial resources, which are by definition unspecialized and transferable within the MNE. Along this continuum we find intangible resources and capabilities, which may show a different degree and attitude to be transferred. For example, MNE reputation, brand and technological innovations may represent the building block of nonlocation-bound firm-specific advantages, while transferability may prove more difficult for organizational culture and practices.

The value of location-bound resources is by definition limited to the country or the business units in which they have been originally developed; so, though important for subsidiary-specific advantages, their impact on the MNE as a whole is limited. Access to local customers and suppliers, distinctive distribution channels, local customer loyalty, capability to management relationships with local stakeholders are all examples of capabilities held at subsidiary-level and, consequently, out of the control of the parent company.

In general, the evolution of the MNEs over the last two decades can be summarized as a shift from a prevalence of parent company firm-specific advantages to a mix of location-bound and nonlocation-bound firm-specific advantages across the MNE network (Rugman and Verbeke, 2001). In fact, importance sources of competitive advantages which are relevant for an MNE as whole are accumulated at subsidiary level. That means that the parent company is no longer the centre where the MNE's competitive advantages are developed and from which

they spread to the whole MNE's network. Rather, recent theoretical perspectives point out that, far from being a centralized hierarchy, MNE is an interorganizational network (Ghosal and Barlett, 1990) of loosely coupled nodes, characterized by their own unique resource and capability profile. In this approach the configuration of the MNE moves from an hierarchical perspective, in which all the strategic activities fall into the business domain of the parent company, towards a configuration which recognizes the existence of centres of excellence (Holm and Pedersen, 2000) and specialized knowledge in multiple nodes of the MNE, linked to one another by flexible governance mechanisms.

2) MNEs firm-specific advantages are not absolute or universal, but contingent upon both home- and host-country factors (Erramilli et al., 1997). Home and host countries location factors affect the nature of firm-specific advantages. In Porter's (1990) view competitive advantages result from the combination of firm-specific factors and home-country environment in terms of resource endowment, demand conditions and industry characteristics. For example, it is largely acknowledged that MNEs from advanced countries are driven by different specific-advantages from both third world MNEs and newly industrializing countries (NIC) MNEs as a result of differences in the nature of their domestic environment. For example, especially in the first stages of their competition in industries dominated by developed-country MNEs with a strong brand recognition, NIC MNEs have traditionally focused on the pursuit of low-cost advantages rather then investing in advertising in order to create brand identities (Porter, 1990).

At the same time, MNE's firm-specific advantages are not independent from the characteristics of host country locations (Dunning, 1980, 1988, 1995; Buckley, 1990).

Building on an approach based on the concept of 'double' diamond of competitive advantage, which extends Porter's (1990) diamond, Alan Rugman and other scholars (Rugman, 1993; Rugman et al., 1995) argue that, given the high integration of the world economy, MNEs tend to derive an increasing share of their core assets from outside their national boundaries. Therefore, the analysis of the geographical sources of MNEs competitive advantage must rely on the diamonds of other countries, rather than just the home country. In a survey of the world's 500 largest corporations Dunning and Lundan (1998) provide empirical evidence of such hypothesis, showing the increasing cross-border width of the geographical sources of MNEs' competitiveness.

In addition, not all host country locations allow an equal exploitation of firm-specific advantage (Itaki, 1991; Nohria and Garcia-Pont, 1991). Specifically, more-developed and less-developed countries differently affect the nature of firm-specific advantages.

In their study on Korean MNCs, Erramilli et al. (1997) examine the influence of three firm-specific advantages, namely technology intensity, product differentiation, and capital intensity, on the level of subsidiary ownership chosen by the Korean MNCs. Their empirical evidence show that the influence of firm-specific advantages on the level of ownership is contingent upon the location of the investment in the sense that "NIC MNCs characterized by high technological intensity, low advertising intensity, and low capital intensity exert greater control over their investments in less-developed countries. On the other hand, NIC MNCs characterized by low technological intensity, high advertising intensity, and high capital intensity exert greater control over their investments in more-developed countries" (Erramilli, 1997: 752-753).

In today's global context characterized by deep changes as a result of the growth of emerging economies, a huge amount of FDI activity is taking place towards newly industrializing countries, especially in Asia. The aim of employing cheaper resources and capturing the market shares of these high-growth countries are the main drivers of such choices. As it has been noted by previous studies, "the fact that this phenomenon will create numerous types of host- and home-country combinations raises the potential for complex interactions of firm-specific and location-specific factors" (Erramilli et al., 1997: 753).

Particularly, the reconfiguration of value-chain on an international basis is becoming a key issue in the global economic scenario. Firms enjoy greater opportunities to re-define their business model for example through the search of the new sources of productive factors or the localization of production activities abroad. Location choices are assuming greater importance. About this point, Dunning (1998: 60) points out:

> "I believe more attention needs to be given to the importance of location per se as variable affecting the global competitiveness of firms. That is to say, the location configuration of a firm's activities may itself be an O[ownership]-specific advantage, as well as affect the modality by which it augments, or exploits, its existing O advantages. With the gradual geographical dispersion of created assets, and as firms becoming more multinational by deepening or widening their cross-border value chains, then, both from the viewpoint of harnessing new competitive advantages and more efficiently deploying their home-based assets, the structure and content of the location portfolio of firm becomes more critical to their global competitive positions".

The choice for a specific international plant configuration is the result of a combination of industry-specific and firm-specific factors, from one hand, and locational factors pulling the firm to invest in a particular region (Belderbos and Sleuwaegen, 2005), from the other hand. The analysis of location decisions for plants in specific host country or region has been

widely explored (Mayer and Mucchielli, 2002; Hennart and Park, 1994; Chung and Alcacer, 2002; Chang, 1995).

In a more recent work, Belderson and Sleuwaegen (2005) examine the conditions under which a specific global and regional manufacturing strategy is chosen by Japanese multinational firms. Their study provides evidence that the choice for a specific spatial configuration of plants is not only determined by locational characteristics, but is also affected by firm and industry characteristics. They argue that "the location of foreign direct investments is of major importance not only from an efficiency perspective but also as an integral part of the competitive strategy of multinational firms, with important repercussions on performance" (Belderson and Sleuwaegen: 588).

Localization decisions and their impact on firm competitiveness are related to two aspects:
- the competitive advantages that a firm can acquire thanks to its localisation in a given area;
- the transferability of such advantages from the operating unit localized in that area to the other operating units within the multinational corporation.

The strategic problem is not so much "in which country to localize", but how to reconfigure the firm's value chain on an international basis. Therefore, the key issues are: In which country should the firm localize specific functions or activities? Which resources does a firm need to implement the localization choices successfully? And which additional resources could a firm leverage as a result of that choice?

7. How do we measure international competitiveness?

In this section, following the framework discussed above, we propose a number of indicators that could prove useful to measure the concept of international competitiveness. Given the dynamic nature of such concept, all the proposed parameters should be considered in the medium-long term.

International performance ('ex post' competitiveness) could be measures through the following indicators:

- *International market share*: such parameter however does not have an absolute value. In fact, a rapid growth in the international market share could be achieved at the expense of the firm's profitability. In order to jointly consider profitability and market share, Buckely et al. (1988) suggest the adoption of 'profitable market share' as an indicator of international performance. Through the concept of profitable market

share, they argue that we should consider market share "whilst sustaining at least the industry norm of profitability (Buckley et al., 1988: 197);

- *Rate of growth of the ratio 'foreign sales/total sales'* (given a non decreasing trend of a firm's total sales);
- *Return on foreign investments:* such variables could be measured through ratios like ROI or ROA, calculated on foreign investments

On the other hand, the measure of 'ex ante' competitiveness could rely on the following factors:

- *Quality of international customers:* such indicator could be measured in terms of dimension, notoriety, reputation and rate of fidelity of foreign customers;
- *Brand recognition in international markets*: such indicator measures an intangible resource which is increasingly considered as a key determinant of a firm's competitive potential;
- *Listing in foreign stock exchange*: such parameter is a proxy of the capability of attracting financial resources at the international level;
- *Number of international patents and trademarks*.

Both qualitative and quantitative variables are necessary to define and measure international competitiveness at firm level. However, qualitative factors raise some operationalization problems as they largely respond to managers' perceptions rather than to objective parameters. Further qualitative indicators that could measure international competitiveness are:

- *Capacity of attracting skilled human resources at the international level*;
- *Imitation attempts by competitors;*
- *Quality of international partners;*
- *Quality of management staff involved in international activities.*

8. Concluding remarks

Our analysis builds on the largely accepted view in management research that a firm's competitiveness is related to the existence of sustainable competitive advantages, i.e. to a firm's capacity to build and defend some factors of superiority against competitors. In this paper we argue that international competitiveness is a broader and more complex construct

than performance (Buckley et al., 1988). A review of international business research as well as the observation of firms' recent behaviours suggest the opportunity to ground the analysis of international competitiveness at the firm level on the following assumptions:
- competitiveness is a multidimensional construct: in order to define such construct it is necessary to take into account a number of variables (both quantitative and qualitative); single measures of competitiveness do not capture all the elements of the concept.
- competitiveness is a dynamic concept; to be competitive means that a firm has sustainable competitive advantages. The issue of sustainability makes it necessary to analyze those advantages as ongoing processes rather than as a static process;
- competitiveness cannot be evaluated abstractly; firm-specific, industry-specific, and country-specific factors affect the dimensions of competitiveness and are to be analyzed in a more systematic way than previous research did so far. As a result, a contingency-based approach could provide better results.

In our framework, the construct of international competitiveness can be disentangled into three components:

- degree of internationalization, which measures the firm's presence abroad;
- international economic and market performance, which measures the results associated with that presence;
- the nature and sources of competitive advantages, which provide information about the sustainability of competitive positions over time and, consequently, about a firm's capability to augment or preserve its performance and competitive position in the future.

This paper could represent a starting point of a wider research activity. Today as a result of the changes in world economic system related to the increasing importance of emerging economies (particularly, China and South-Est Asia) there is a considerable debate about the factors affecting firms' their international competitiveness. These recent changes in the international competitive contexts raise the need to rethink the traditional theoretical models and measures of competitiveness or at least to check their actual validity more deeply.
As discussed above, most variables generally accepted as competitiveness measures are hard to "operationalize". The measures proposed in the paper could be a basis for further refinements aimed at defining a set of items which reasonably approximate the theoretical concepts. Such items could be validated (and further integrated) from an empirical point of

view, for example, through a survey of managers of multinational firms. In this case, the respondents would be requested to answer to questions in the form of agreement/disagreement with a number of statements which represent the items identified and to evaluate a number of parameters/indicators on a Likert scale on the extent to which they represent effective measures of the firms' international competitiveness. Empirical data could then be submitted to statistical analysis to (such as factor analysis) in order to group items into homogeneous indicators of competitiveness, moving from the distinction between competitiveness *drivers*, i.e. factors which are hypothesized to increase competitiveness, and competitiveness *outcomes*, which are perceived as results of higher competitiveness.

References

Anderson, E. and Gatignon, H. (1986). Modes of foreign entry: A transaction cost analysis and propositions, *Journal of International Business Studies*, 17(3), 1-26.

Bain, J.S. (1956). *Barriers to New Competition: Their Character and Consequences in Manufacturing Industries*. Cambridge: Harvard University Press.

Barkema, H.G. and Vermeulen, F. (1998). International expansion through start-up or acquisition: A learning perspective, *Academy of Management Journal*, 41(1), 7-26.

Barlett, C.A. and Ghosal, S. (1989). *Managing Across Borders: The Transnational Solution*. Boston: Harvard Business School Press.

Barney, J. (1997). *Gaining and Sustaining Competitive Advantage*. Reading: Addison-Wesley.

Barney, J.B. (1991). Firm resources and sustained competitive advantage, *Journal of Management*, 17, 99-120.

Belderbos, R. and Sleuwaegen, L. (2005). Competitive drivers and international plant configuration strategies: A product-level test, *Strategic Management Journal*, 26(6), 577-593.

Brewer, H.L. (1981). Investor benefits from corporate international diversification, *Journal of Financial and Quantitative Analysis*, 16, 113-126.

Buckley, P.J. (1988). The limits of explanations: Testing the internalization theory, *Journal of International Business Studies*, 19(2), 181-194.

Buckley, P.J. (1990). Problems and developments in the core theory of international business, *Journal of International Business Studies*, 21(4), 657-66.

Buckley, P.J. and Casson, M. (1976). *The Future of Multinational Enterprise*, London: Holmes &Meier.

Buckley, P.J., Pass, C.L. and Prescott, K. (1988). Measure of International Competitiveness: A Critical Survey, *Journal of Marketing Management*, 4(2), 175-200.

Buckley, P.J., Pass, C.L. and Prescott, K. (1990a). Measure of International Competitiveness: Empirical Findings from British Manufacturing Companies, *Journal of Marketing Management*, 6(1), 1-13.

Buckley, P.J., Pass, C.L. and Prescott, K. (1990b). The Implementation of an International Market Servicing Strategy in UK Manufacturing Firms, *British Journal of Management*, 1, 127-136.

Cater, T. (2005). How the Sources of Competitive Advantage Shape Firm Performance: The Case of Slovenian Firms, Paper presented at the 5th European Academy of Management Conference, Munich, 4-7 May.

Caves, R.E. (1971). International corporations: The industrial economics of foreign investment, *Economica*, 38, 1-27.

Caves, R.E. (1982). *Multinational enterprise and Economic Analysis*, Cambridge (MA): Cambridge University Press.

Caves, R.E. (1998). Research on International Business: problems and prospects, *Journal of International Business Studies*, 30, 297-316.

Chang, SJ. (1995). International expansion strategy of Japanese firms: capability building through sequential entry, *Academy of Management Journal*, 38: 383-407.

Chung, W. and Alcacer, J. (2002). Knowledge seeking and location choice of foreign direct investment in the United States, *Management Science*, 48(12), 1534-1555.

Collis, D.J. (1994). How Valuable are Organizational Capabilities?, *Strategic Management Journal*, 15 (Winter Special Issue), 143-152.

Coviello, N.E., Ghauri, P.N. and Martin, K. (1998). International Competitiveness: Empirical Findings from SME Service Firms, *Journal of Marketing Management*, 6(2), 8-27.

Coviello, N.E. and McAuley, A. (1999). Internationalisation and the Smaller Firm: A Review of Contemporary Empirical Research, *Management International Review*, 39(3), 223–256.

Coviello, N.E. and Munro, H.J. (1995). Growing the Entrepreneurial Firm: Network for International Market Development, *European Journal of Marketing*, 29(7), 49-61.

Denis, D.J., Denis, D.K. and Yost K. (2002). Global diversification, industrial diversification, and firm value, *Journal of Finance*, 57, 1951-1979.

Dunning, J.H. (1980). Towards an eclectiv theory of international production: Some empirical tests, *Journal of International Business Studies*, 11(1), 9-31.

Dunning, J.H. (1981). *International Production and the Multinational Enterprise*, London: Allen & Unwin.

Dunning, J.H. (1988). The ecletic paradigm of international production: a restatement and some possible extensions, *Journal of International Business Studies*, 19(1), 1-31.

Dunning, J.H. (1995). Reappraising the eclectic paradigm in an age of alliance capitalism, *Journal of International Business Studies*, 26(3), 461-492.

Dunning, J.H. (1998). Location and the Multinational Enterprise: A Neglected Factor?, *Journal of International Business Studies*, 29(1), 45-66.

Dunning, J.H. and Lundan, S.M. (1998). The geographical sources of competitiveness of multinational enterprises: an econometric analysis, *International Business Review*, 7, 115-133.

Eisenhardt, K.M. and Martin, J.A. (2000). Dynamic Capabilities: What Are They?, *Strategic Management Journal*, 21(10-11), 1105-1121.

Erramilli, M.K., Agarwal, S. and Kim, S.-S. (1997). Are Firm-Specific Advantages Location-Specific Too?, *Journal of International Business Studies*, 28(4), 735-757.

Errunza, V.R. and Senbet, L.W. (1984). International corporate diversification, market valuation, and size-adjusted evidence, *Journal of Finance*, 39, 727-743.

Ferguson, C.R. and Dickenson, R. (1982). Critical success factors for directors in the eighties, *Business Horizons*, May-June.

Gatignon, H. and Anderson, E. (1988). The multinational corporations' degree of control over foreign subsidiaries: An empirical test of a transaction cost explanation, *Journal of Law, Economics, and Organization*, 4(2), 305-336.

Geringer, J.M., Beamish, P.W. and daCosta, R.C. (1989). Diversification strategy and internationalization, *Strategic Management Journal*, 109-119.

Ghemawat, P. (1986). Sustainable advantage, *Harvard Business Review*, 64, 53-58.

Ghosal, S. and Barlett, C.A. (1990). The multinational corporation as an interorganizational network, *Academy of Management Review*, 15(4), 603-625.

Goerzen A. and Beamish, P.W. (2003). Geographic Scope and Multination Enterprise Performance, *Strategic Management Journal*, 24, 1289-1306.

Grant, R.M. (1987). Multinationality and performance among British manufacturing companies, *Journal of International Business Studies*, 18(3), 79-89.

Grant, R.M. and Jammine, A.P. (1988). Performance differences between Wrigley/Rumelt strategic categories, *Strategic Management Journal*, 9(4), 333-346.

Hansen, G.S. and Wernerfelt, B. (1989). Determinants of Firm Performance: The Relative Importanceof Economic anad Organizational Factors, *Strategic Management Journal*, 10(05), 399-411.

Hassel, A., Höpner, M., Kurdelbusch, A., Rehder, B., and Zugehöret R. (2003). Two Dimensions of the Internationalization of Firms, *Journal of Management Studies*, 40(3), 705-723.

Hennart, J.-F. and Park Y.-R. (1994). Location, governance, and strategic determinants of Japanese manufacturing investments in the United States, *Strategic Management Journal*, 15(6), 419-436.

Hitt, M.A., Hoskisson, R.E. and Kim, H. (1997). International diversification: Effects on innovation and firm performance in product-diversified firms, *Academy of Management Journal*, 40(4), 767-768.

Hitt, M.A. and Ireland, D.R. (1985). Corporate Distinctive Competence, Strategy, Industry, and Performance, *Strategic Management Journal*, 6(3), 273-293.

Hofstede, G.H. (1980). *Culture Consequences: International Differences in Work-related Values*, Beverly Hills: Sage Publications.

Holm, U. and Pedersen, T. (2000) (eds.). *The Emergence and the Impact of MNC Centres of Excellence*, London: MacMillan.

Hymer, S.H. (1976). *The International Operations of National Firms: A Study of Direct Foreign Investment*, Cambridge (MA): MIT Press.

Ietto-Gillies, G. (1998). Different conceptual frameworks for the assessment of the degree of internationalization: an empirical analysis of the various indices for the top 100 transnational corporations, *Transnational Corporations*, 7(1), 17–39.

Inkpen, A.C. (1998). Learning and Knowledge Acquisition through International Strategic Alliances, *Academy of Management Executive*, 12(4), 69-80.

Itaki, M. (1991). A critical assessment of the eclectic theory of the multinational enterprise, *Journal of International Business Studies*, 22(3), 445-460.

Kogut, B. (1985). "Designing global strategies: Comparative and competitive value-added chains", *Sloan Management Review*, Fall, 27-38.

Lado, A.A., Boyd, N.G. and Wright, P. (1992). A Competency-Based Model of Sustainable Competitive Advantage: Toward a Conceptual Integration, *Journal of Management*, 18(1), 77-91.

Leonard-Burton, D. (1992). Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development, *Strategic Management Journal*, 13 (Summer Special Issue), 111-125.

Lu J.W. and Beamish P.W. (2001). The Internationalisation and Performance of SMEs, *Strategic Management Journal*, 22 (Special Issue Strategic Entrepreneurship: Entrepreneurial Strategies for Wealth Creation), 565-586.

Lu J.W. and Beamish P.W. (2004). International diversification and firm performance: the S-Curve Hypothesis, *Academy of Management Journal*, 47(4), 598-609.

Ma, H. (2000). Of Competitive Advantage: Kinetic and Positional, *Business Horizons*, 43(1), 53-64.

Mason, E.S. (1939). Price and Production Policies of Large-Scale Enterprises, *American Economic Review*, 29(3), 61-74.

Mayer, T. and Mucchielli, J.-L. (2002). Hierarchical location choice and multinational firms'strategy: a nested logit model applied to Japanese investment in Europe. In J. Dunning and J.L. Mucchielli (eds.). *Multinational Firms: The Global and Local Dilemma*, London: Routledge, 133-158.

McGahan, A.M. and Porter, M.E. (1997). How Much Does Industry Matter, Really?, *Strategic Management Journal*, 18 (Summer Special Issue), 15-30.

Morck, R. and Yeung, B. (1991). Why investors value multinationality, *Journal of Business*, 64(2), 165-187.

Nohria, N. and Garcia-Pont, C. (1991). Global strategic linkages and industry structure, *Strategic Management Journal*, 12 (Summer), 105-124.

Nonaka, I. and Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford: Oxford University Press.

Peteraf, M.A. (1993). The cornerstones of competitive advantage: a resource-based view, *Strategic Management Journal*, 14(3), 179-191.

Porter, M.E. (1980). *Competitive Strategy*, New York: Free Press.

Porter, M.E. (1985). *Competitive Advantage*, New York: Free Press.

Porter, M.E. (1990). *Competitive Advantage of Nations*, New York: The Free Press.

Prahalad, C.K. and Hamel, G. (1990). The core competence of the corporation, *Harvard Business Review*, 68, 79-91.

Ramaswamy, K., Kroeck, G.K. and Renfort, W. (1996). Measuring the degree of internationalization of a firm: a comment, *Journal of International Business Studies*, 27(1), 167-177.

Rugman, A.M. (1981). *Inside the Multinationals: The Economics of Internal Markets*, New York: Columbia University Press.

Rugman, A.M., van den Broeck, J. and Verbeke, A. (eds.) (1995). *Beyond the diamond: research in global strategic management* (Vol. 5), Greenwich, Conn.: JAI Press.

Rugman, A.M. and Verbeke, A. (2001). Subsidiary-specific advantages in multinational enterprises, *Strategic Management Journal*, 22(3), 237-250.

Rugman, A.M. (ed.) (1993), [Special Edition on Michael Porter's Diamond of Competitive Advantage], *Management International Review*, 33(2).

Rugman, A.M., Verbeke, A. (1992). A Note on the Transnational Solution and the Transaction Cost Theory of Multinational Strategic Management, *Journal of International Business Studies*, 23(4), 761-771.

Rumelt, R.P. (1991). How Much Does Industry Matter?, *Strategic Management Journal*, 12(3), 167-185.

Schmalensee, R. (1985). Do markets differ much?, *American Economic Review*, 75, 341-351.

Snow, C.C. and Hrebiniak, L.G. (1980). Strategy, Distinctive Competence, and Organizational Performance, *Administrative Science Quarterly*, 25(2), 317-336.

Stopford, J.M. and Wells, L.T. (1972). *Managing the multinational enterprise: Organization of the firm and ownership of the subsidiaries*, New York: Basic Books.

Sullivan, D. (1994). Measuring the degree of internationalization of a firm, *Journal of International Business Studies*, 25(2), 325-342.

Teece, D.J. (1980). Economies of scope and the scope of the enterprise, *Journal of Economic Behavior and Organization*, 1, 223-247.

Teece, D.J., Pisano, G. and Shuen, A. (1997). Dynamic Capabilities and Strategic Management, *Strategic Management Journal*, 18(7), 509-533.

Vermeulen, F. and Barkema, H.G. (2002). Pace, rhythm and scope: Process dependence in building a profitable multinational, *Strategic Management Journal*, 23(7), 637-653.

Vernon, R. (1971). *Sovereignty at Bay: The Multinational Spread of US Enterprises*, New York: Basic Books.

Werner, S. (2002). Recent developments in International Management Research: A Review of 20 Top Management Journals, *Journal of Management*, 28(3), 277-305.

Wernerfelt, B. (1984). A resource-based view of the firm, Strategic Management Journal, 5(2), 171-180.

Wernerfelt, B. and Montgomery, C.A. (1988). "Tobin's *q* and the importance of focus in firm performance, *American Economic Review*, 78(1), 246-250.

Williamson, O.E. (1975). *Markets and Hierarchies*, New York: Free Press.

Zack, M.H.(1999). Developing a Knowledge Strategy, *California Management Review*, 41(3), 125-145.

Zahra, S.A., Ireland, R.D. and Hitt, M.A. (2000). International expansion by new venture firms: international diversity, mode of market entry, technological learning, and performance, *Academy of Management Journal*, 43(5), 925-950.