The Effects of Transaction Costs on the Performance of Foreign Direct Investments

An empirical investigation

by

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Abstract

The Effects of Transaction Costs on the Performance of Foreign Direct Investments – An Empirical Investigation

The multinational companies' (MNCs) use of foreign direct investments as a governance mechanism in the globalization of businesses has a cost. Together with expenses linked to production processes, additional costs are also generated in the governance of the foreign subsidiaries. These costs, defined as transaction costs in this study, are in many cases underestimated, unclear, or to a certain extent ignored by the companies before entering a foreign market. Unfortunately, studying the effects of these costs have also, to a certain extent, been neglected in former empirical research. Hence, as a response to the shortcomings, this study has investigated the transaction costs effects on foreign subsidiary performance. In addition, the moderating role of two different modes of entry on this transaction cost – performance relationship has been examined.

By using a transaction cost economics (TCE) approach, four different types of *ex post* transaction costs are identified and measured within a setting of 160 Norwegian MNCs and one of their foreign subsidiaries. In addition, subsidiary performance are identified and measured in various ways. The foreign subsidiaries were established as either greenfield operations or as acquisitions.

The construct validity of the different measures was examined in LISREL. Excellent fit indices, as well as satisfactory reliability measures are observed. The main effects were tested by using multiple regression analysis, and the findings provide support to three out of four hypotheses. There is a significant and negative relationship between bargaining costs and subsidiary performance, as well as between monitoring costs and performance, and maladaptation costs and performance. Moreover, this study also shows that different entry modes create different transaction costs effects on subsidiary performance. It is also worth emphasizing that this study shows that transaction costs play a significant role in explaining the performance of foreign subsidiaries. According to the findings, close to 35 percent of the variation in performance can be attributed to such costs. This is an important observation and strengthens the idea that there is a strong relationship between transaction costs and performance, and that reducing such costs must be important for the management of MNCs.

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1 Introduction

The use of foreign direct investments (FDIs) as a governance mechanism in the globalization of businesses has been a striking move during the last decades, and the importance of the multinational enterprise (MNE)[1] in the world economy has thereby increased dramatically.[2] However, going abroad through FDIs has a cost. Together with expenses linked to staffing, housing, land, machinery, etc., more subtle costs are generated in the daily management of the subsidiary. Before entering a foreign market, these costs, call them governance costs for the present, are in many cases underestimated, unclear, or to a certain extent ignored by the companies. However, when the structure is set and the day-to-day foreign business develops, these costs become more manifest and probably play a significant role when the MNE is evaluating its subsidiary's performance. Hence, an analysis of the relationship between the governance costs created when managing these foreign affiliates and the resulting performance of the same investments should be of major importance for both research and business communities.

To better understand this relationship, two important issues have to be in place: these governance costs are to be identified and measured in a proper way, and the understanding of subsidiary performance and its antecedents have to be developed. The first has been done, to some extent, within the framework of transaction cost economics (TCE) (Dahlstrom and Nygaard, 1999; Masten, Meehan, and Snyder, 1991; Rindfleisch and Heide, 1997; Walker and Poppo, 1991; Williamson, 1985). Regarding the latter, many of the classical MNE studies[3] as well as the most recognized entry mode

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[1] Multinational enterprise (MNE) and multinational corporation (MNC) are used as synonymous expressions throughout the thesis.

[2] Particularly distinct has this trend been in the United States, Japan, and Western Europe, and, according to United Nations Conference on Trade and Development UNCTAD (2001), these regions (with some question marks on Japan) will remain the major host regions in terms of foreign direct investments despite the growing attractiveness of developing economies. The single most important region for FDI inflows and outflows in 2000 was EU with respectively 617 billion US dollars in inflows and 773 billion US dollars in outflows. The same trend of FDI flows in and out of Norway seems to follow approximately the same pattern (Norges Bank, 2002).

[3] See Buckley and Casson (1976), Caves (1982), Dunning (1988), Hennart (1982), Hymer (1960), and Vernon (1966).

studies[4] (whether it is entry mode studies in general or FDI studies in particular), may help us a bit towards a more profound understanding of the factors that have an effect on foreign subsidiary performance. However, a conception of subsidiary performance based on these works will be rather superficial since the majority of the studies do not explicitly examine the performance of these investments (Chen, 1999; Osland and Çavusgil, 1996; Pan, Li, and Tse, 1999; Woodcock, Beamish, and Makino, 1994). In fact, performance issues within international business research rarely enter into the core of a study, be it theoretical or empirical; they remain implicit or as part of the general backdrop.

Thus, this lack of empirical and theoretical knowledge about foreign subsidiary performance has obviously encourage researchers to dig more deeply into the area, and during recent years a growing number of studies have been concerned in various ways (both empirically and theoretically) about the issue (Aulakh and Kotabe, 1997; Barkema and Vermeulen, 1997; Chowdhury, 1992; Glaister and Buckley, 1998; Larimo, 1993; Li, 1995; Makino and Beamish, 1998; Pan, Li, and Tse, 1999). Conceptualizations of performance, measurement issues, how and why performance varies, as well as identification of important drivers behind performance, are all issues that have been touched upon. Even though the understanding of these issues is still rather sketchy and unsystematic, these former studies indicate that there are numerous variables that affect subsidiary performance, they are often intertwined and they also keep evolving over time, which makes it futile to present a complete picture of drivers behind the performance of a foreign subsidiary in one single study.

Despite this complex picture, few would deny that subsidiary performance by and large is a result of human behavior, which is shaped by the institutional, economic, and social contexts within which it takes place. In international business, contexts are usually a combination of three different components: ownership, location and internalization issues as described in the OLI framework (Dunning, 1977; 1981; 1988). Hence, the performance of international business activities could be expressed as a function of OLI factors:

$$P = f \ [O, L, I] \qquad\qquad (1.1)$$

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[4] See for instance Anderson and Coughlan (1987), Anderson and Gatignon (1986) Benito and Gripsrud (1992), Erramilli and Rao, (1993), and Hill, Hwang, and Kim (1990).

where *O*, *L*, and *I* can be conceived as vectors consisting of a range of ownership, location, and internalization advantage elements, respectively. The theoretical building blocks of the OLI framework, which in many respects comprise the resource-based approach (O factor), the product life cycle model (L factor), economies of scale and scope (L and I factors), and internalization and transaction cost approaches (I factor), give important contributions, though with different points of departure, on the various elements in equation (1.1). For example, the resource-based perspective claims that successful firms create rents due to their ownership and/or access to heterogeneous and unique resources, which can be used to develop and implement different successful and sustained strategies (Barney, 1986; Rumelt, 1984; Wernerfelt, 1984). Traditional economic reasoning concerning production and location issues focuses on the revenues and costs of different locations and production technologies. The transaction cost approach (or the internalization approach), mainly emphasizes the costs of organizing economic activities in various governance structures, and define these governance costs as transaction costs (Buckley and Casson, 1976; Hennart, 1982; Williamson, 1975; 1985).[5]

Therefore, going from a relative all-embracing definition of performance (*P*) to focusing temporally on only economic performance (*Π*), equation (1.1) could be expressed as a compound of revenues (*R*) and costs, where the cost element of the equation can be split into production costs (*PC*) and transaction costs (*TC*). For a given foreign operation *j*, the performance relationship can then be written as:

$$\Pi_j = R_j - (PC_j + TC_j) \qquad (1.2)$$

The main focus of the present study will be on the relationship between performance and the governance costs, or the transaction costs (*TC*) component of equation (1.2). Hence, it is reasonable, at the outset, to lean on the transaction cost framework when developing a more detailed understanding of these costs as well as when testing the relationship between these costs and performance. Nevertheless, due to the needs for a more thorough understanding of firm performance in general and subsidiary

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[5] According to Rugman (1986), internalization theory can be considered to be the transaction cost theory of the multinational corporation. In its original form, the theory relies on three basic postulates: (1) Firms maximize profit in a world of imperfect markets; (2) there is an incentive to bypass imperfect markets for intermediates by creating internal markets. These activities, which are linked by the market, are controlled and owned by the same firm; (3) internalization of markets across national boundaries generates multinational companies (see also Buckley and Casson (1976) for a further elaboration).

performance and its antecedents in particular, a more comprehensive assessment, with a broader theory perspective, will also be conducted in the literature review.

The decision to use the transaction cost approach as the principal theoretical basis for the present empirical work has been made despite of, but also because of, some important gaps in the theory.

First, according to TCE, the normative, and well accepted, *ex ante* solution when a market for intermediates is highly imperfect, has been to internalize this market so that transaction costs are kept at a minimum level (i.e. internalizing the transactions creates less transaction costs than executing the transactions across markets) (Williamson, 1975; 1985). Furthermore, as indicated in equation (1.2), there is a presumption that transaction costs may have an effect on firm performance, which also is clearly assumed in TCE with its normative orientation. Some researchers actually use transaction costs as a performance measure in itself (Dahlstrom and Nygaard, 1999). However, with some few exceptions,[6] the relationship between transaction costs and performance seems to be almost neglected in empirical studies within the TCE paradigm. Therefore, the lack of knowledge about an important assumption within TCE needs to be reduced, both on empirical and theoretical grounds. The present research is therefore a direct response to those who encourage researchers to examine this relationship more in detail (Benito and Tomassen, 2003; Masten, 1993; Rindfleisch and Heide, 1997). Hence, in that respect, there is no need, nor any intentions, to test all of the performance implications that will be raised through the literature review.

Second, most of the empirical and conceptual works within this tradition have been concerned about the transaction costs that occur through inter-organizational relationships.[7] Studies assessing the costs associated with internal organization are scarce even though this should be of great interest when the *ex post* (i.e. after the structure is set) evaluation of such organizational forms takes place (Rindfleisch and Heide, 1997). Because of the lack of focus on internally generated transaction costs, there should be

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[6] Nygaard (1992) tested the relationships between a set of transaction costs and performance, where performance was defined as efficiency and effectiveness. Based on partly the same data, Dahlstrom and Nygaard (1999) used a set of ex post transaction costs as a performance measure in itself. The same did Noordewier, John, and Nevin (1990).

[7] A review of many empirical transaction costs analysis studies is presented in Rindfleisch and Heide (1997, pp. 32-40).

reasons for shrinking this theoretical gap by explicitly studying those transaction costs that are generated within hierarchical solutions.

Third, few studies have tried to measure transaction costs directly, instead the prevalence of transaction costs has been related to observable characteristics of the transaction, and based on those observable feature, organizational forms have been predicted (Masten, Meehan, and Snyder, 1991). Hence, the paramount research theme within the TCE tradition has so far been the prediction of governance structures based upon transaction costs assumptions. Williamson (1985, p. 22) claims that the problem with quantifying transaction costs is somewhat mitigated due to the fact that they "always are assessed in a comparative institutional way". It is the difference between these costs, rather than the absolute magnitude that is of interest. Still it is of major importance to understand and measure these costs (Milgrom and Roberts, 1992). How can institutional arrangements be compared if the understanding and the measurement of these costs are vague? And how can the effect towards performance be evaluated if the measurement of these costs is neglected in empirical research?

Foreign direct investment – a brief clarification

Foreign direct investment (FDI) entails the use of resources abroad, either by transfer or purchase of such resources as plants and equipment, where operational control over the resources is vested within the parent company in the home country.[8] Such investments can take a number of different forms including the establishment of a new enterprise (organized as a subsidiary or as a branch), the expansion of already existing subsidiaries, or the acquisition of an overseas company and its assets. In addition, these FDIs can be part of a wholly owned operation, where the parent firm owns 100 percent of the stock, or part of an international joint venture where firms, two or more, bring together elements of their resources in one common organization with the purpose of entering or developing a foreign market (Hennart, 1988; Kogut and Singh, 1988). Only majority controlled[9] (i.e. >50 percent equity stake by one single MNE) start-ups and acquisitions will be

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[8] There is an important difference between foreign direct investments (FDIs) and foreign portfolio investments (FPIs), where the latter consist of investments by individuals, companies, or governmental organizations in foreign financial instruments, without their taking any substantial equity stake in a foreign business unit (Hill, 1998). FPIs will not be considered as FDIs in this study.

[9] The most obvious reason for this choice is the increasing complexity in research design if two or more firms should be asked to evaluate the performance of their subsidiary and identify the transaction costs between headquarters and subsidiary.

focused on in the present research. A further elaboration on the two types of FDIs will be developed later in this research, but briefly looking into the two operation methods, distinct differences are certainly observed.

A number of firms choose to accomplish greenfield investments with the intention to grow from low to high commitment. These start-ups (or greenfields) are usually established by using expatriates (alone, or together with a partner with knowledge about local institutions and business practice) who are responsible for the hiring of employees and for the development of the business. Often, this is done to make use of firm-specific advantages that are difficult to separate from the rest of the organization (Hennart and Park, 1993). By hiring and training the new workforce by themselves it is often much easier to integrate firm-specific capabilities from the beginning. However, gradually building up a new subsidiary through recruiting and training new employees, building new business relationships with stakeholders, and establishing the legitimacy of the subsidiary can have substantial costs in foreign markets with additional challenges along cultural, political and economic dimensions (Hymer, 1960). Therefore, other firms have a tendency to commit themselves, initially, significantly more. They implement entry strategies in radical ways, such as by acquisitions, often due to control, time, speed, availability of extra resources, and market power reasoning.

Obviously, managing these two types of foreign subsidiaries, especially during the first years after the founding, probably requires different management approaches and focuses throughout the value creating processes (Harzing, 2002). In addition, they may also have different levels of transaction costs, and probably create different types of transaction cost effects, which may have further implications for the management of these subsidiaries.

Contribution and research questions

At the outset, this study seeks to identify those transaction costs that occur in the relationship between parent company and foreign subsidiary, and this is done mainly for the following reasons: **First**, from a theoretical standpoint, the normative presumption in TCE postulates a strong relationship between transaction costs and performance. This has yet to be verified, and as such, this research is a respond to the demand for more research on this subject (Benito and Tomassen, 2003; Rindfleisch and Heide, 1997). An important side effect of this research problem is also the need for a thorough understanding of transaction costs and performance in general, and the development and operationalization of transaction costs and subsidiary

performance in particular. Therefore, valid and reliable measures of these constructs are to be further developed. **Second**, the gap in theory about internally generated transaction costs has to be filled in. And **third**, given that decision makers in MNEs intent to be rational, the two types of establishment modes[10] (i.e. greenfields and acquisitions) should not differ with regard to performance if everything else were the same (Masten, 1993).[11] However, one may wonder whether the two types of entry modes generate the same type of transaction cost effects towards performance, or whether they differ in that respect. The answer to this puzzle may have implications for theory as well as for the management of the subsidiaries.

Therefore, the present study will try to reduce the described lacks in knowledge by investigating the following research questions:

1. **Do transaction costs have an effect on subsidiary performance?**

2. **What effects do greenfields and acquisitions have on the relationship between transaction costs and subsidiary performance?**

These research problems can also be conceptualized through the following model:
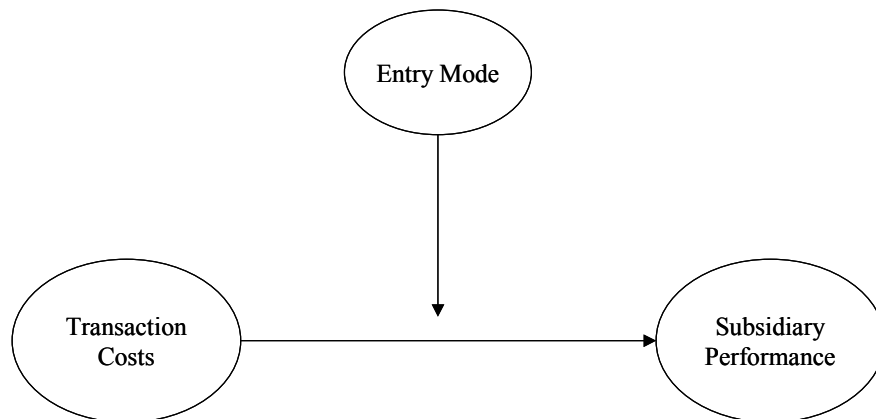
Figure 1-1: Conceptual research model

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[10] Entry mode, mode of entry, and establishment mode, are used as synonymous expressions throughout the thesis.

[11] If so, one certain type of operation method would always have been preferred in favor of others (Shaver, 1998).

Outline of the study

The remaining part of this study is divided into five chapters. Chapter two, the literature review, starts with an introduction to the multinational company, followed by a presentation and discussion of performance and performance antecedents. In addition, the TCE framework is reviewed, a review that also contains an elaboration on different types of transaction costs. At the end of the literature review, different performance measures are discussed, and some empirical works presented. The hypotheses are developed in chapter three. Chapter four contains a discussion of causality, a description of research setting, measurement issues, an outline of the most important statistical techniques used in the study, and a thorough test of the measurement model. The tests of the hypotheses are presented in chapter five, which also provides a test of a more inductive model. In chapter six, which is the concluding chapter, a discussion of the results with theoretical and managerial implications, is presented. Likewise, limitations and suggestions for future research are proposed.

2 Literature review

This section starts with a short introduction to the multinational corporation, followed by a brief review of literature that is concerned about different aspects of the multinational corporation. After that, a rather comprehensive examination of various aspects regarding subsidiary performance is presented. As a structural tool for the discussion, the OLI framework is used in an attempt to synthesize three different research approaches and to extract possible performance drivers. Then, the transaction cost approach is reviewed with the intention of identifying measurable transaction costs that can be used in the thereto-following sections that contain hypotheses, methodology, and analysis. Next, some possible ways of measuring performance are advanced, and at the end of this chapter, different empirical studies concerning firm/subsidiary performance are presented.

The multinational corporation

Usually, multinational corporations (MNCs) are defined as companies that establish income-generating assets in several countries, be it by market oriented activities and/or by supply oriented activities. Many MNCs are huge corporations with thousands of employees spread all over the world, but both size and organizational forms of the companies can vary enormously. The MNCs can be horizontally integrated in the way that they perform the same kind of value-added activities in each country, or they can be vertically integrated across geographical markets through a network of output producing facilities that serve as inputs for other facilities that the MNCs own (Jones, 1996). As already referred to in chapter one, the essence of being multinational is also that the companies control the income-generating entities, and as such, portfolio investments by a company is not regarded as sufficient to define the company as multinational (see footnote 8 on page 5). On the other hand, by establishing FDIs, the company both owns and controls the foreign entity; hence control is the key element when defining a firm as multinational. However, the degree of control before a foreign investment can be defined as a FDI is disputable,[12] so the most straightforward example of FDIs is majority-owned or wholly-owned subsidiaries, which can be established by acquiring part of a foreign firm, or

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[12] In the US a foreign investment is regarded as FDI when the company owns at least 10 percent of the equity. This figure is also valid for Japan. In the UK, however, the percentage is 20, and in Germany as high as 25 percent (Jones, 1996, p. 7). In Norway, official statistics define a FDI as 10 percent and more (Norges Bank, 2002).

the whole of a firm, or by building an entirely new organization from scratch (i.e. a greenfield investment)[13] in a foreign country. This research takes into consideration only majority owned greenfields and acquisitions defined as subsidiaries of one single MNC, but without going into details, there are in fact a whole range of intermediate and contractual agreements available. Joint ventures, non-equity arrangements such as licensing and franchise agreements, and strategic alliances, are all important aspects when discussing the MNC.

Greenfields or acquisitions?

When do MNCs prefer greenfields? Greenfields are often established gradually, and relative to an acquisition, it takes a substantial longer time before the subsidiary is competitive. It also intensifies local competition since such an entry just adds a new competitor to the market. Despite these drawbacks, many firms prefer to establish foreign greenfields rather than acquisitions. First, firms with highly idiosyncratic assets that are difficult to separate from the organization often find it difficult to exploit these assets in an acquired firm due to organizational mismatches. To fully utilize its capabilities, it must therefore "replicate" the parent organization in the foreign environment (Hennart and Park, 1993). And this is best done through greenfield investments where expatriates very often have a central role in selecting and hiring local employees, which also makes it possible to incorporate firm-specific advantages from the outset – a key advantage when non-separable idiosyncratic assets are to be exploited abroad (Barkema and Vermeulen, 1998). Second, differences in culture may also favor greenfields to acquisitions. Cultural differences may cause conflicts and hostility, which often lead to the obstruction of required changes, and in the worst cases – failure (Barkema, Bell, and Pennings, 1996; Datta, 1991; Hofstede, 1980). And third, there may be so much discrepancy between two firms with regard to for example technological capabilities, that the acquired firm have to learn completely new rules, and procedures, as well as organizational principles and strategies, which can be very costly and challenging due to organizational inertia in the acquired firm (Nelson and Winter, 1982).

Why then acquisitions? If the MNC does not possess knowledge about the local environment and such knowledge is difficult to obtain piecemeal due to high transaction costs, then acquisitions are preferred. Likewise, acquisitions are the right thing if the company lacks industry-specific knowledge, such as product technology for example, that is subjected to high transaction costs

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[13] Greenfield investments are also called "foreign start-ups" and "*de novo* entries" in the literature; see for example Barkema and Vermeulen (1998).

when bought bit by bit in the market (Hennart and Park, 1993). Market power is another reason. By acquiring a foreign competitor, competition may be reduced in the local market. Other reasons that favor acquisitions to greenfields, are speed and scale circumstances. When delayed entry creates large opportunity costs, such as in fast growing markets and in oligopolistic industries where the late entrants have to react on the threats from the first entrants to balance the competition in the industry, then acquisitions are preferred (Caves and Mehra, 1986; Knickerbocker, 1973; Wilson, 1980).[14] Similarly, if the competitive position of a firm in an industry is largely dependent on economies of scale, then increased capacity through greenfield investments is undesirable (Hennart and Park, 1993; Yip, 1982).[15] Finally, if the MNC is short of personnel (who can be used as expatriates) due to the size of the foreign investment compared to the parent (Caves and Mehra, 1986; Hennart and Park, 1993), or if the MNC is highly leveraged, then acquisitions are preferred (Chatterjee, 1990; Hennart and Park, 1993).

Theories of the multinational corporation

With Stephen Hymer's doctoral dissertation in 1960 (Hymer, 1960), the understanding of the MNC took a great leap forward. Until then, the overriding explanation of firm's cross-border activities through FDIs was rooted in the idea that the MNC was moving equity from country to country wherever the interest rate was beneficial. On the contrary, Hymer recognized that firms transferred a whole package of resources, not only finance, and thus, differences in interest rates between countries could only explain a small portion of the puzzle. Instead, Hymer asserted, the MNCs were "motivated to produce abroad by the expectation of earning an economic rent on the totality of their resources, including the way in which they were organized" (Dunning, 1993, p. 69). Furthermore, Hymer identified two major determinants of FDI: market power trough removal of competition and particular advantages that some firms possess in a specific activity. Hence, the *raison d'etre* of MNCs was based on market imperfections. Hymer further developed these arguments later by also bringing into the analysis the Coasian theory of the firm (Coase, 1937). By using the dynamic

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[14] However, contradictory to this assumption, Yip (1982) found support for the hypothesis that rapid market growth creates disequilibrium conditions and reduces the impact of barriers to entry, which favors de novo entry.

[15] Chatterjee (1990) found direct support for this assumption. However, neither Yip (1982), nor Hennart and Park (1993) found support for this hypothesis. However, the interaction effect between growth rate and concentration ratio in the industry is significant in Hennart and Park's study, which indicates "that a high concentration ratio leads to acquisition when not offset by demand growth" (p. 1067).

interaction between market structure and internalization of markets, Hymer tried to explain the rationale behind the MNC (Hymer, 1968).

Despite Hymer's emphasis on the firm's market position and its ability to create rents, he was hardly concerned about strategic and managerial issues, which really came into focus during the 1970s and 1980s. But until then, research on the phenomenon of MNCs followed, according to (Dunning, 2001b), four main paths. The first was concerned about testing the Hymer-type hypotheses (see for example Caves (1971; 1974a; 1974b)). The second developed Vernon's (1966) analysis of international investments and international trade in the light of the product cycle.[16] The third paid more attention to the strategic behavior of the firm (see for example Knickerbocker (1973)), and the fourth followed in an international finance direction, with for example Rugman's risk diversification hypothesis (Rugman, 1979).

After this period with a focus on the act of foreign direct investment, two streams of literature emerged: the internationalization literature and the internalization/transaction cost literature.

The internationalization literature was concerned about processes and dynamics in the internationalization of firms and had important contributions from Nordic researchers such as Johanson and Vahlne (1977), Johanson and Wiedersheim-Paul (1975), and Luostarinen (1979). Based on the behavioral theory of the firm (Cyert and March, 1963) and Penrose's (1959) theory of the growth of the firm, the internationalization literature suggested that market commitment and market knowledge were critical factors in the ability to carry out chosen international activities, and that the necessary knowledge could be acquired mainly through operations abroad. Hence, the MNC is mainly established and developed through a dynamic interaction between organizational capabilities and the search for new knowledge.

The internalization literature, which was more occupied with explaining the foreign production of firms as a market replacing activity, had its early antecedent in Coase's seminal work on the nature of the firm (Coase, 1937), but traces back to Hymer (1960; 1968) were also apparent. With a distinct focus on the MNC, McManus (1972), Buckley and Casson (1976), and Hennart (1977; 1982) were concerned about the reason why the market for

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[16] According to Vernon (1966) process and product innovations are best exploited in the home country during the initial phases of the product cycle. But at later stages, when the product is more mature and the competition is more intensive, production may shift to foreign locations.

intermediate goods and services very often were coordinated within the MNC rather through markets. And to solve this problem, it became important to identify and assess those market failures that did endorse foreign direct investments. In addition and parallel in time, a more general approach of the same puzzle was also developed, and this general approach (i.e. the transaction cost theory) to economic organizations could be summarized in four points:

> "(1) Markets and firms are alternative instruments for completing a related set of transactions; (2) whether a set of transactions ought to be executed across markets or within a firm depends on the relative efficiency of each mode; (3) the costs of writing and executing complex contracts across a market *vary with the characteristics of the human decision makers who are involved with the transaction on the one hand, and the objective properties of the market on the other*; (4) although the human and the environmental factors that impede exchanges between firms (across markets) manifest themselves somewhat differently within the firm, the same set of factors apply to both."

> (Williamson, 1975, p. 8).

Hence, human beings came into focus in a more explicit fashion than what had been expressed before in traditional economics. In addition to the characteristics of markets,[17] market failure due to human characteristics such as opportunism and bounded rationality were emphasized, and as such, the transaction cost theory was a serious try to explicitly bring the world of human beings into the world of economics. It is also worth emphasizing that Williamson concluded that there are no qualitative differences between those environmental and human factors that hamper transactions across markets compared to those that hamper transactions within organizations. They "only manifest themselves somewhat differently".

In addition to the internationalization and the internalization streams of literature, there is also another work worth mentioning, namely Stopford and Wells' book "Managing the Multinational Enterprise" (1972) from the early seventies. This work can probably be traced back to among others, Alfred Chandler's work on strategy and structure (Chandler, 1962). According to these two authors, firms that are expanding across borders through FDIs do it for various reasons. Some try to earn a greater return from their core

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[17] Those characteristics of markets that Williamson emphasized as problematic in his 1975 book were: uncertainty and small numbers exchange relations.

competencies, others try to realize location economies, greater experience curve economies, and or scale economies, to mention some distinct motives. And since such motives generally demand strong control over key resources, majority owned FDIs are in many cases an appropriate solution. However, these international activities are established and organized in various fashions by the MNCs. Some are tightly controlled by headquarters through centralized MNC configurations, while others live their own lives in a very independent way through decentralized control structures. Based on historical data about US MNCs, Stopford and Wells (1972) assert that many MNCs have followed mainly three paths of structural development. Initially they have grouped their international activity in one international division, which then was geographically organized. In this structure, the foreign subsidiaries have been either sales units for manufacturing firms that produce their goods at home, or production units serving the local markets. However, this way of organizing the international activity has a tendency to create conflicts and coordination problems between domestic and foreign operations. Therefore, to solve these problems, two major types of global structures emerged: (1) a worldwide product division structure, which eases the transfer of core competencies and makes it easier to realize location and experience curve economies (Hill, 1998); (2) an area division structure, which facilitates local responsiveness due to the fact that decision-making regarding key strategic issues (such as local marketing and business strategies), are decentralized to local management. Even though the authors did not find any positive relationship between structure and performance, they conclude that appropriate structures are more associated with better firm performance than those structures that are not suitable for the strategy. Hence, structural changes are, according to Stopford and Wells (1972, p. 84), "generally designed to eliminate the mismatch between strategy and structure".

In the following years, different theoretical approaches were used in the effort of explaining the existence and the growth of the MNC. Some approaches where in contrast with the prevailing explanations at the time, whereas others can be seen as an extension and improvement of existing theories. Despite of this, Dunning (2001b) accentuates the central position of which the transaction cost (or internalization) paradigm has had during the last two decades in explaining the growth of the firm. However, the same author also emphasizes the growing critiques towards the transaction cost explanation that have been advanced by, among others, economists and organization theorists.

Some trade economists try to explain FDIs by looking at macro determinants (i.e. the unit of analysis is the country) such as economic growth,

comparatively advantaged and disadvantaged industries, and access to resources (Kojima, 1978; Kojima and Ozawa, 1985; Ozawa, 1979). Local firm in developed economies have a tendency to relocate their less sophisticated technology to a country at an earlier stage of development, and the countries gain the most if this is done through FDIs. In addition, firms in countries with limited natural resources (for example Japan) have a tendency to invest abroad by locating machinery and factories close to the site of resource extraction, with the intention to supply their own domestic market (Cantwell, 2000).

While some economists have been focusing on the macro level, the resource-based view has had a distinct focus on the firm as the unit of analysis when explaining, among other things, the growth of the MNC. The resource-based view was developed along the ideas developed by Edith Penrose in the 1950s (Penrose, 1956; 1959), and according to this view, the MNC grows out of its ability to create and sustain unique advantages, such as superior technology. Hence the international company grows on its ability to create and replicate new knowledge, and the advantage towards other firms may lie in the MNC's ability to transfer the knowledge across markets more effectively than others. General knowledge can be imitated by other firms, or licensed to locals, but the transfer of unique knowledge is most often executed through FDIs, and in that sense, it is the transfer of new knowledge that primarily expresses the growth of the MNC (Kogut and Zander, 1993).

Without going into detail, and just mentioning a few of them, a number of other important contributions in understanding the multinational firm were developed during the 1980s and in the beginning of the 1990s. Hedlund (1986) for example, claimed that it is unlikely that all developments of and in MNCs can be grasped by conventional theories, some of the MNCs could rather be analyzed as heterarchies since the organizations are organized in a non-hierarchical way. From a strategic point of view, Bartlett and Ghoshal (1987; 1989) introduced an entirely new organizational form – the transnational, and according to these authors, the nature of the competitive game had fundamentally changed, requiring that companies simultaneously capture global-scale efficiency, respond to national markets, and cultivate a worldwide learning capability for driving continuous innovation across borders (i.e. efficiency – responsiveness – knowledge and competence). Researchers from the Uppsala School tradition were probably among the first to investigate firms' expansions into foreign markets by using a network approach (see for example Johanson and Mattsson (1988) and Forsgren and Johanson (1992)). The network perspective emphasized the often lifelong relationships between firms in industrial markets and how these networks influenced companies' foreign activities. Hence, the problem of power and

coordination in these networks also became of vital interest (Kogut, 2001). Another approach (albeit not fully developed) to the understanding of the MNC, is the real option perspective (Buckley and Tse, 1996; Chi, 2000; Kogut, 1991; Kogut and Kulatilaka, 1994). Real option theory is concerned about timing, learning and flexibility issues, and thereby adding a more dynamic perspective to the theory of the firm (Bowman and Hurry, 1993). The fundamental problem for firms, *ex ante*, is the decision whether to invest or not. However, subsequent questions of almost equal importance will occur simultaneously: What are the purposes of the FDI? In what sense will the investment open up for later flexibility or later lock-in situations? Is the investment capable of meeting future short-term strategic challenges and opportunities? The real option approach addresses several of these questions, and can probably deepen our understanding of what is going on *ex post* of the initial investment.

Parallel with the development of these different theoretical strands, some researchers made serious efforts to work out a more integrated approach. Especially, John Dunning has made important contributions in that direction by putting forward his eclectic paradigm to answer both "why" and "where", as well as "how" to carry out international production (Dunning, 1977; 1981; 1988; 2001a). The so-called OLI-framework is based upon three inter-related factors: The ownership advantages (O-factors), the locational advantages (L-factors), and the internalization advantages (I factors). The theoretical building blocks of the OLI framework in many respects comprise the resource-based approach (O factor), the product life cycle model and trade theory (L factor), economies of scale and scope (L and I factors), and internalization and transaction cost approaches (I factor) (Dunning, 2001b). And as such, this framework should be well suited for a more comprehensive understanding of the MNC, as well as the performance of the firm.

The performance of foreign subsidiaries[18]

Despite the focus on explaining FDIs, the OLI framework is probably also well applicable to frame a discussion about firm performance in general and subsidiary performance in particular. Performance issues are central in all the approaches that underlie the OLI framework, although in different ways, and taken together they provide the basic building blocks for understanding how international business settings work. Therefore, much of the following discussion about performance will be structured along the OLI framework. Hence, before the scope becomes narrow, the following sections will contain

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[18] Much of the text in the following chapter (pp. 16-24) is taken from Benito and Tomassen (2003, pp. 177-188).

a review of the main theoretical building blocks for the OLI framework in order to obtain a more detailed, albeit not all-embracing, depiction of the factors driving the performance of foreign operations.

Looking at individual firms i, equation (1.1) on page 2 can generally be interpreted as how the specific set of advantages being used by a given firm in the set of operations it conducts in various locations leads to a certain level of performance. Of course, simply taking a snapshot of a particular OLI-configuration disregards that OLI advantages seldom occur instantaneously; they take time to develop. At any given point in time t, an existing OLI-configuration could be thought of as being the stock of OLI advantages, which again reflects the outcomes of a myriad of actions and events that may have gone long back in time. Consequently, performance differences at the firm level can to some extent be attributed to differences between firms with regard to their OLI-configuration, i.e. to varying stocks of O, L, and I advantages.

While L advantages are predominantly exogenously given, stocks of O and I advantages are constantly under threat because they can be copied or surpassed by competitors. A principal reason for differences in performance between competing firms is therefore likely to be their ability to utilize, or mobilize, their OLI configurations at any point t. Such abilities, or capabilities, are dependent on prior OLI advantages within the firm, and there are obviously major differences in how the firms are capable of exploiting these advantages (Amit and Schoemaker, 1993; Madhok, 1997). Even if firms within the same industry have more or less equal access to technological and human resources, enjoy largely the same location advantages, and have organized their international activities in basically the same manner, substantial differences in performance are nevertheless observed. Firms' unique abilities, which we here denote as α, to take advantage of their OLI stock should therefore also be taken as a crucial part of their OLI configurations. For given firms, we hence have the following general performance function:

$$P_i = g\,[O_i,\, L_i,\, I_i,\, \alpha_i\,] \tag{2.1}$$

The degree to which the three OLI components are effectively utilized probably hinges on different abilities depending on the types of OLI advantage: for example, mobilizing ownership factors may require a different set of organizational routines and processes than those required to deal with location and/or internalization issues. Hence, α_i should be regarded as a set consisting of the various capabilities of a firm that are especially

suited for utilizing its O, L, and I advantages, $\{\alpha_i^O, \alpha_i^L, \alpha_i^I\}$. Hence we got the following equation:

$$P_i = g \, [O_i \, \alpha_i^O, \, L_i \, \alpha_i^L, \, I_i \, \alpha_i^I] \qquad\qquad (2.2)$$

Function (1.2) on page 3 can thus be re-written with the components of that function decomposed into the followings sets $R_j = \{R_j^O, \, R_j^L, \, R_j^I\}$, $PC_j = \{PC_j^O, \, PC_j^L, \, PC_j^I\}$, and $TC_j = \{TC_j^O, \, TC_j^L, \, TC_j^I\}$.

Ownership advantages and performance

According to the resource-based view (Barney, 1986; Penrose, 1959; Peteraf, 1993; Rumelt, 1984; Wernerfelt, 1984), resources are the fundamental determinants of a firm's performance. The concept of resources is broad as it has been proposed to comprise all those assets, capabilities, information and knowledge, organizational processes, competencies, firm characteristics, reputation, etc. that are controlled or owned by the firm and that improve its efficiency and effectiveness (Barney, 1991; Daft, 1983). Hence, the ability to generate revenues depends on the nature of firms' resources. When resources are difficult to imitate and trade and there are few substitutes, firms are in a better position to secure their revenues. In particular, resources of a tacit nature (such as, technology and know-how), and developed within the firm over a long time, are of special importance because they are so difficult to transfer, re-deploy, and imitate (Dierickx and Cool, 1989).

According to Peteraf (1993), it is possible under certain circumstances for a firm to create persistent above-normal rents, and these rents can be of both Ricardian type (Ricardo, 1817) and of monopoly type (Bain, 1956). Ricardian rents are created when superior productive assets are limited in supply, which can lead to firms with lower average costs than their competitors, and/or firms that are better able to meet customers' needs. Such resources include ownership of valuable land, patents, and copyrights. Monopoly rents result from restrictions of output, which lead to higher prices. Hence, monopoly profits are certainly created out of market power rather than obtained as a result of the firm's possession of unique resources.

In cross-border activities, central factors that disrupt the information symmetry between firms and markets are factors such as differences in language, culture, and political systems (Welch and Luostarinen, 1988). In a world where transfer of such knowledge is done at zero costs, more knowledge will always be better than less. However, in a world where

knowledge accumulation has a cost, it is far from obvious that this remains true. Frequently, there will be a trade-off between the costs of acquiring new knowledge and the benefit a firm will have by holding that specific knowledge. According to Kogut and Zander (1993) the multinational firm emerges not out of the failure of markets for the trading of knowledge, but out of its superior efficiency as an organizational instrument through which the transfer of knowledge can take place across borders. The dynamic processes of exploiting existing knowledge and exploring new knowledge are therefore a necessity in the accumulation and development of capabilities for firms venturing abroad.

Hymer (1960) sought to explain firms' internationalization as a function of their market power. Firms increased their domestic market power by mergers and acquisitions as well as by expansion of capacity. When few competitors are left in the local market, the profits earned by a high degree of monopoly power are invested abroad in order to develop the firm's position in foreign markets (Cantwell, 2000).

Industrial organization scholars have emphasized that internationalization not only is a consequence of market power and monopoly rents earned in a local market, but also a consequence of firms' wish to strengthen their bargaining power towards trade unions and various local governments (Cowling and Sugden, 1987). First, outsourcing of activities to several and smaller subcontractors reduces the power of formerly large trade unions within the company. Second, the ability to shift between different production locations increases the bargaining power vis-à-vis both local government and trade unions regarding wages and conditions of work (Cantwell, 2000). Hence, both the option to shift and the outsourcing effects may have effects on performance by their reduction of production costs.

The market power argument has been criticized for taking a one-sided and static view on firm behavior, especially in the case of internationally competitive industries. Venturing into foreign markets will almost invariably expose firms to a higher degree of competition. Given that at least some competitors exist somewhere, efficiency then becomes a prerequisite for survival for a firm. Ownership advantages that strengthen the efficiency of a firm, through for example patents, can lower unit costs and thereby increase the profit margin. Such advantages are hence obviously of major importance for future growth and survival (Cantwell, 2000). With few or no ownership advantages, its competitors will most likely conquer a firm in the long run. Monopoly rents created in one market – usually the home market – through

the use of market power, can seldom be sustained when the firm internationalizes its market activities.[19]

As mentioned earlier, performance-driving factors based upon ownership advantages have first and foremost been the domain of the resource-based perspective, but they are of course also reflected in the early preoccupation of industrial organizations with issues concerning market power and monopolistic advantages (Hymer, 1970). Important insights can also be found elsewhere, especially in transaction cost theory, which points out that certain kinds of ownership advantages should lead to higher revenues as well as lower costs. For example, using the terminology of transaction cost theory, resources such as knowledge and reputation would be termed as specific assets, which in most, albeit perhaps not all, cases are roughly equivalent to ownership advantages.

It must be emphasized that according to transaction cost theory the linkage between asset specificity and internalization is a symbiotic one. When the degree of asset specificity is low (for example when standard technology is used), the firm experiences a production cost penalty if it chooses to carry out business activities inside the firm instead of procuring them from external suppliers. An outside supplier can serve a larger number and a wider variety of customers using the same type of technology, and thereby achieve scale, scope, and learning economies more easily. Conversely, when assets are highly idiosyncratic, there are no longer any scope and/or scale incentives to externalize the transactions, and production can take place within the firm without a production cost punishment (Riordan and Williamson, 1985). In addition, transaction costs will be reduced due to better control with opportunism (Williamson, 1975; 1985). The rent potential created by a high degree of asset specificity can only be realized through internalization. Hence, to give an unambiguous answer on the real sources of rents in such cases is like answering, "who came first, the hen or the egg?"

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[19] The line of reasoning presented here echoes the qualifications to simple market power explanations provided by the product life cycle approach (Vernon, 1966; 1971). In later stages of the product life cycle, firms preserve their competitive position through scale economies as opposed to superior products and/or technologies, which were the basis for the above normal rents created in early stages of the product life cycle.

Location advantages and performance

Location advantages have always been at the core of economic approaches to internationalization; gains from trade between nations arise from differences across various locations with regard to cost and demand characteristics, which in turn reflect inter-country variation in terms of natural resource endowments and a wide range of socially created assets. Internationalization at the firm level can be explained in similar ways. For example, some firms move production abroad due to increased competition (and thereby also lower profit) in their home market. The size and growth of foreign markets are then important pull factors (Buckley and Casson, 1981). Some firms seek immobile assets such as labor, land, and infrastructure that particular countries can offer, being attracted by the quality, availability, and/or price of the resources that they depend upon.

A question that intrigued the early contributors to the theory of FDI was how a MNC could compete in a foreign market against local based companies (Caves, 1971; Horst, 1972; Hymer, 1960). They proposed that the possession of ownership advantages is a necessary condition for neutralizing their (initial) competitive disadvantage. Firms' ownership advantages, which are partly generated by investments in knowledge and R&D and internalized through the use of subsidiaries, and partly a result of large size per se (i.e. scale), usually reflect the market structure and resource availability in their home country. However, it is when they get combined with local resources (e.g., access to inputs, lower costs, access to distribution channels) that superior competitive advantage emerges. Hence, it is the combination of those two types of advantages that makes it possible for the MNCs to create rents by internationalizing. This was also noticed by Kindleberger (1969) who regarded the MNC as a product of monopolistic competition driving firms beyond the borders of their countries of origin.

Based on a well-known typology of FDI motives, Rugman and Verbeke (2001a) work out some important location factors contributing to firm performance (or competitiveness). For resource seeking FDI, it is of course particularly important to seek out those locations that have natural resources at the lowest real cost, although additional factors including effective institutions, proper legal frameworks, and high-quality transportation infrastructure are also important. For a market seeking FDI, host country market characteristics, trade barriers, investment climate, cost factors, etc. are important (Dunning, 1973). The efficiency seeking MNCs are searching for location advantages that are complementary to their own specific advantages such as appropriate infrastructure, appropriate levels of technology development, and supporting institutions. Also, plant-level scale economies are more easily achieved if MNCs have a network of units where

the various units specialize on the basis of the best possible matches between the resources available in the MNC's internal network and the specific advantages of the different locations (Rugman, 1990). Finally, FDIs motivated by strategic asset seeking would lead to searching for areas where research and development activities are highly developed (Dunning, 1996). While companies can, in principle, access global markets for a large range of tangible assets, the intangible assets that are critical to activities such as R&D, design and core manufacturing are typically embedded in local clusters (see for example Porter and Sölvell (1998)). Localizing in such areas may also provide spillover effects to the MNC through linkages with local innovation systems (Rugman and Verbeke, 2001b).

The last point is also touched upon from a competence-based approach (Cantwell, 1989). Cantwell argues that when firms reach a sufficient level of technological strength, they get more eager to locate their production in those areas where their major competitors originate. Such moves offer firms access to alternative sources of complementary innovations. Also, locating production to innovative areas in the industry, Silicon Valley being the typical example, firms may get access to resources that give them opportunities in directions that they would have difficulty in developing in their original locations (Cantwell, 2000). Such opportunities may create above normal rents through unique product innovations, but also through more efficient production technologies.

According to Hennart (2000), becoming a MNC, i.e. the extension of a firm's activities across borders, is dependent both on governance and location considerations. The location decision (i.e. choosing the best location) is based on the factors just mentioned regarding location and production economies: relative labor cost comparisons, transportation costs, resource availability, tariffs and non-tariffs barriers to trade, political risk, and so on (i.e. those factors that may reduce production costs). The governance decision, on the other hand, is largely driven by the potential transaction costs that occur by doing business in the local market. Well functioning legal institutions that effectively enforce various instruments established to protect property rights issues related to trademarks and patents, financial transactions, etc. as well as competitive markets, are location factors that help reduce transaction costs (Hennart, 2000).

Internalization advantages and performance
Transaction cost economics deals primarily with the economizing consequences of aligning different types of transactions to genuinely different governance structures, in particular the discrete structural

alternatives of markets, hybrids and hierarchies. The transaction cost literature seldom places explicit focus on the performance of the companies, but implicitly performance goes as a thread trough the whole logic of the theory. Depending on the framework, organizational forms differ with respect to their ability to solve adaptation problems of an external as well as internal nature, in the use of incentives and control mechanisms, and with respect to transaction costs (Hennart, 1982; Williamson, 1985). Since a basic contention of the theory is that the most efficient solutions are the ones that minimize transaction costs in the long run, there is obviously a need for a detailed description of such costs, which will be developed later in this chapter (see pp. 32-33).

Even though it is the minimization of transaction costs that is at the center of the stage, it must be recognized that additional elements need to be taken into account in order to get the proper picture of performance, i.e., revenue as well as production cost implications need also to be analyzed. First, there is the possibility that MNCs create welfare losses by maximizing profits through restriction of output of goods and services. Vertical integration can work as an instrument for creating barriers to entry, thereby creating monopoly profit at the expense of the customers in the final product market (Buckley, 1985). Second, vertical integration can make scale economies possible. The argument is that the cost of internalized operations will be easier to recover if large transactions are of a repetitive character. Hence, higher levels of transaction frequency provide an incentive for firms to employ hierarchical governance structures (Rindfleisch and Heide, 1997; Williamson, 1985).   Third, potential cross-border scope economies can be exploited more easily and cheaply (with regard to transaction costs) within the framework of an organization, i.e. an MNC (Galbraith and Kay, 1986).

According to the resource-based view, organizations have some key features that contribute to their performance. First, organizations are able to pursue so-called dynamic efficiency, which means that firms can create new options based on their superior technology and expand the scope of activities beyond those activities that are efficiently coordinated by the market (Moran and Ghoshal, 1996). The ability to impede market forces temporarily opens up possibilities to pursue innovative activities. Many of the activities that are associated with innovations occur within the firm, and since innovations often are faced with a poorly functioning price mechanism, missing markets, and high degrees of uncertainty and ambiguity, markets are not well suited to take care of these activities even though they may create rents for the firm at later stages. Second, a feeling of shared purpose makes organizations able to create an atmosphere that shapes the values and goals of their members. That, in turn, leads to the development of trust and commitment, which is of

major importance in reducing opportunism and transaction costs. Further, as already mentioned above, it is an efficient way of transferring knowledge across borders (Kogut and Zander, 1993).

As already touched upon above, industrial organization scholars argue that the use of O advantages through subsidiaries combined with the utilization of local resources lead both to increased revenues and reduced costs (production costs as well as transaction costs). The first is due to internalization of competition; the latter are due to less haggling (Caves, 1971; Hymer, 1960; Kindleberger, 1969), the use of internal transfer prices (Hymer, 1970), and the reduced market power of suppliers, including trade unions (Cantwell, 2000).

Preliminary conclusion
This rather all-embracing review of general factors that may influence subsidiary performance cannot be developed into detail in one comprehensive empirical study. Hence, to make the present study feasible, a more detailed and necessarily narrow focus is imperative. Although much is left to be done within all the theoretical strands, the underlying TCE assumption of transaction costs effects towards performance seems to be particularly little developed. This is also shown in the later presentation of empirical performance studies within international business. Therefore, the main analysis will be concentrated on the possible relationship between transaction costs and performance, which also calls for a more detailed review of the TCE-approach. However, the type and number of control variables taken into the analysis are to a certain extent marked by the preceding literature review, as well as by the empirical works presented later. (For an overview of the included control variables, see the pages 70-71 in chapter 4).

Transaction cost economics
FDIs have been studied profoundly in economics, strategy, and international business research, and there is no doubt about the influence transaction cost economics (TCE) (Coase, 1937; Williamson, 1975; 1985; 1996), and consequently also the internalization perspective (Buckley, 1985; Buckley and Casson, 1976; Hennart, 1982; Rugman, 1981), have had on the understanding of why we have firms and why firms establish hierarchies such as foreign subsidiaries when international markets are the object of attention (Dunning, 2001b). However, TCE-based research has paid less attention to the consequences of these choices (i.e. what happens after the choice has been made) irrespective of whether this relates to transaction costs consequences or performance effects.

TCE is in many ways an answer to some of the shortcomings in standard neoclassical theory. According to TCE, a firm is an independent legal entity, which enables it to seek court enforcement when there are disputes about contracts. However, although the legal aspect is important, it is only a fraction of what a firm actually is. A firm involves human and technological resources and information flows between these. There are organizational routines, knowledge transfer, organizational learning, conflicts, power, control, authority, and much more. A firm is a construction – created by human beings, which are self-seekers, sometimes also opportunists (Williamson, 1985), as well as "intendedly rational, but only boundedly so" (Simon, 1997, p. 88). Many important management decisions in firms have some kind of a transactional and contractual aspect and they are simultaneously social and economic. Economic questions about strategy, manufacturing, and finance are bound up with social questions about organizational phenomena as a combination of social and economic issues (Barney and Ouchi, 1986). Thus, the firm is described by Alchian and Demsetz (1972) as a nexus of implicit and/or explicit contracts among capital owners, managers, labor, and other stakeholders.

According to Hart (1989, p. 1757), "any discussion of theories about the firm must start with the neoclassical approach". However, neoclassical theory has a very simplistic image of the firm. The firm is often described as a variety of possible production plans, administered by a manager. The manager buys and sells goods in a spot market and chooses which production plans are able to maximize the owners' welfare, which is usually defined as profit, or by expected net present value of profit, or market value, if the environment is uncertain (Hart, 1989). Barney & Ouchi (1986) go as far as to assert that the firm, in the neoclassical definition, is purely defined as a production function and taken for given, and the relevance of inter- and intra-organizational processes is assumed away. It would be no exaggeration to maintain that the orthodox view of the firm is an evident misrepresentation of the modern firm of today. The theory does not at all explain why we have firms, why markets can replace firms, how production is organized within firms (Penrose, 1959), how conflicts of interest between firms' stakeholders are resolved, and, more generally, how to achieve profit maximization. The neoclassical theory of the firm lacks the firm, or the structure of the firm, so to say (Simon, 1997). Therefore, any further theoretical developments will omit the neoclassical approach.

Williamson (1985) distinguishes between two areas of transaction cost economics: the governance branch and the measurement branch. The governance branch is mainly occupied with the most efficient organizational alignment of transactions, and the measurement branch is occupied with

productivity and reward. However, these to approaches are not independent. One of the underlying assumptions is that there is an implicit coherence between governance structures, rewards, and productivity, given transaction cost presence and given the assumption that firms are profit-seeking entities. Hence, the profit maximization axiom is an important assumption within the TCE perspective. In many respect, performance is synonymous with both external and internal efficiency in the governance branch of TCE. However, efficiency is poorly operationalized in the general TCE framework. Most of the efficiency criteria are of a more conceptual character, such as if there are no other feasible solutions that give expected net gains, then the extant solution is presumed to be the most efficient one (Williamson, 1999). Aligning the most efficient contractual arrangement to a specific transaction is the recurrent theme, and the most efficient solution is the one that minimizes the transaction costs in the long run.

Further, according to Williamson (1975; 1985), the TCE framework relies on three suppositions about human behavior; *opportunism*, *bounded rationality*, and *risk neutrality*, and three dimensions of transactions; *asset specificity, uncertainty, and transaction frequency*.

Given the opportunity, some decision-makers will cheat, lye, and violate agreements some of the time. Moreover, it is difficult and costly for the principal to determine who are trustworthy and who are not, *ex ante*. The problem regarding opportunism occurs when a relationship is supported with the transactional dimension of specific assets – assets that have substantial less value outside the relationship. Hence, the effect of specific assets is a safeguarding problem because there is not a competitive market that can moderate the inclination of opportunistic behavior. The consequence of the safeguarding problem is often a use of governance in general and vertical (or horizontal) integration in particular to safeguard the idiosyncratic investments (Masten, 1984). Hence, the classical choice of hierarchies vs. markets could be portrayed as in Figure 2-1.
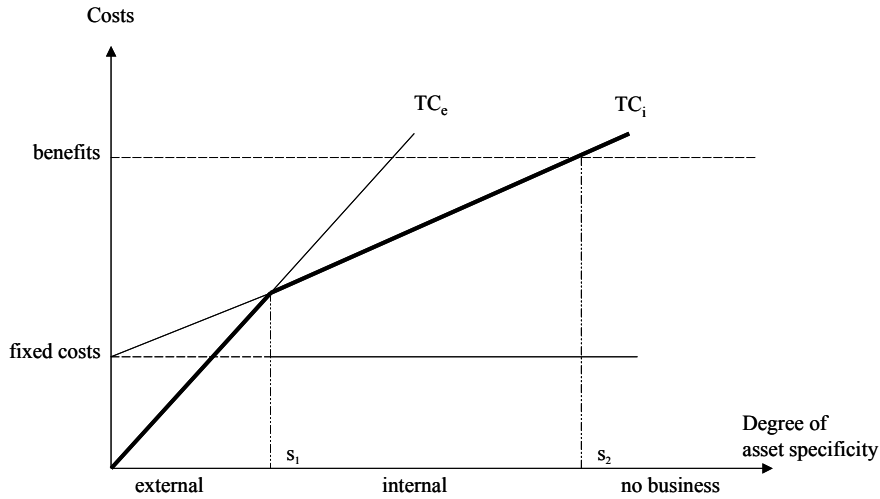
Figure 2-1: The internalization decision
Adapted from Meyer (1998).

According to Meyer (1998), both external and internal transaction costs (TC_i and TC_e) rise with increased level of asset specificity. In addition to the transaction costs, an internal organization generates also a certain level of fixed costs. The fixed costs that are required in an international context are the costs of setting up and running a foreign subsidiary. The bold line describes the different mode choices dependent on the transaction costs generated. With low specific assets, the transaction costs of a market solution are lower than the transaction costs of an internal solution. However, when TC_e exceeds TC_i in s_1 due to a relative high level of asset specificity, a FDI is preferred to a market solution. In s_2, the costs exceed the benefits and no business will take place, which also can be illustrated by going back to equation (1.2) and slightly change the notations:

$$\Pi_j = R_j - (PC_j + TC_{ij}) \tag{2.3}$$

hence no business will be executed if:

$$TC_{ij} > (R_j - PC_j) \tag{2.4}$$

Additionally, Williamson (1975) puts forward three kinds of advantages that internal organizations enjoy over market contracting where opportunism and small number conditions are coupled. First, the parties to an internal exchange are less capable of possessing subgroup gains at the expense of the whole organization, and the incentives to behave opportunistically are

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therefore reduced. In addition to lesser pre-emptive claims on their profit stream due to more restricted trading roles, internal divisions that trade with one another also have management that are more willing to cooperate. Second, internal organizations are more effectively monitored. Internally, the principal has the advantage to include both formal and informal ways of auditing, and often the auditor has the privilege to be seen as an insider – it is more acceptable to be controlled by one's own representatives, than by an outsider. Third, internal organizations have advantages in solving disagreements. Often, internal disputes are solved by fiat, instead of by bringing the conflict to court, which is a very cost-effective way of bringing the conflict to an end.

All forms of organizations are subject to risks of opportunism, but the nature and form are most probably different across types of organizations (Williamson, 1975). This also applies to the transactional dimension of specific assets.[20] First, do we see such investments in the internal relationships between headquarters and subsidiary in a MNC? There are a lot of reasons why the MNC wants to invest in the FDI, and some of these investments can be of specific character. It can be product or service investments that are tailor made to meet requirements of the foreign country. Specialized educational programs for different types of workers can be developed. Valuable technology can be transferred, and specialized facilities could be needed to market the product (Aulakh and Kotabe, 1997; Klein, Frazier, and Roth, 1990). Second, what are the consequences of such investments? From TCE reasoning, there is a need of monitoring the agent (here the FDI), given the assumption about possible opportunistic actors. Likewise, there is a need of exploiting the company's product/service technology in the local market, integrating the MNC's mission in the FDI, and often also integrating the company's business practices (Kogut and Zander, 1995). However, specific investments also create lock-in effects, which probably make the MNC less flexible with respect to both operations within the foreign country and between countries. Hence, the main forms of opportunism that internal organizations are faced with are those of bureaucracy and of autonomous maladaptation, which create at least control costs (which also are synonymous with those costs that later in this study are called monitoring costs).

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[20] Generally, specific assets can be categorized in six different ways: (1) site specificity; (2) physical asset specificity; (3) human asset specificity; (4) brand name capital; (5) dedicated assets; (6) temporal specificity (Williamson, 1991, p. 281).

According to TCE, the competencies to solve adaptation problems of both external and internal nature and in the use of incentives and control instruments are distinctive characteristics for different organizational solutions. The market solution in TCE is in accordance with so-called Hayekian adaptation (Hayek, 1945), which is in line with the neoclassical ideal for which prices serve as sufficient information. Any changes in supply and demand for a product are reflected in price changes, and producers and consumers adapt independently to changes in prices so as to maximize their utility and profit (Williamson, 1991). The analogy to hierarchical solutions in TCE is the Barnardian form of adaptation (Barnard, 1938), which refers to the efforts in crafting adaptative internal coordinating mechanisms within internal organizations. However, the consequence of cooperation requirements and the needs of low-conflict solutions to disputes in hierarchies is that internal incentives in organizations are less powerful than those within markets. Hence, changes in human effort rarely give an instant effect on reward, and vice versa. However, this is often balanced with added internal control and order – in accordance with what Williamson calls the "implicit contract law of forbearance" (Williamson, 1991, p. 274).

The supposition of bounded rationality in TCE maintains that human agents in the real world are "intendedly rational, but only boundedly so" (Simon, 1997, p. 88). Decision-makers are limited in knowledge, communication abilities, information processing, foresight, time, etc. These constraints become sticky when the environment is difficult to predict *ex ante* – i.e. environmental uncertainty, and when human performance is difficult to validate *ex post* – i.e. behavioral uncertainty. Hence, an advantage of internal organizations is that they permit the parties to deal with uncertainty and complexity in a more adaptive and sequential way. It is not so important, *ex ante*, to cover all eventualities through a complex contract. In addition, an internal organization promotes convergences with regard to different expectations about the future, while market contracts more frequently are marked by the expectations of a single party (Williamson, 1975).

Regarding risk neutrality, Williamson (1985) has put up three reasons for this behavioral assumption: (1) The emphasis in TCE is on intermediate product markets, which mainly are about transactions between firms rather than among individuals, and owners of firms can diversify their financial assets to a large extent; (2) related to the first reason, if the punishment for not having the capacity to bear risk is great, participants have a strong impetus to build structures with superior risk-bearing properties; (3) it helps to reveal core efficiency features that are overlooked when suppositions about risk aversion are incorporated in the analysis.

Since the present study has "assumed away" the discussion about hierarchies vs. markets by just looking at hierarchies, it seems adequate not to take the supposition of risk neutrality into consideration. In addition, the risk neutral assumption is not dealt with particularly well (if at all) in later TCE-based studies (Rindfleisch and Heide, 1997). Others suggest that a single risk preference is an oversimplification and that risk preferences for a firm vary from risk aversion through risk neutrality to risk seeking, depending on a set of contextual variables (Chiles and McMackin, 1996).

Transaction frequency is the third relevant dimension of the transaction. The argument is that the cost of internalized operations will be easier to recover if large transactions are of a recurrent character. Hence, "higher levels of transaction frequency provide an incentive for firms to employ hierarchical governance" (Rindfleisch and Heide, 1997). However, according to Williamson (1979), this rationale has to be connected to the characteristics of the investments. Consequently, if the investments are of non-specific character the only solution is to bring the transaction into the market. This dimension goes directly to the hierarchy vs. market discussion, and it seems adequate, therefore, not to take this dimension into further consideration.

Transaction costs [21]

As already touch upon above, TCE has a strong performance implication build into its logic. However, limited research within the TCE framework on this issue makes it difficult to fully evaluate its theoretical value and empirical validity. Hence, it has been recommended that future studies try to develop reliable and valid measures of transaction costs and investigate performance consequences of aligning governance problems and governance arrangements (Rindfleisch and Heide, 1997). Primarily, TCE is concerned with the economizing consequences of aligning different types of transactions to genuinely different governance structures and the discrete structural concepts of market, hybrid and hierarchy, which differ among other things with respect to the level of transaction costs. However, since less attention has been given to the internally generated transaction costs

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[21] Chiles and McMackin (1996, p. 76-77) maintain that there are two separate research streams within TCE: The managerial-choice approach adopted by Williamson (1975; 1985) and Walker and Weber (1984), and the so-called economic natural-selection approach represented by for example Hill (1990). The first views transaction costs as subjective, due to the fact that the choice of organizational form is based upon managers' different perceptions and evaluation of such costs in a world of uncertainty. The latter relies on costs as objective. According to the same authors, subjective costs and objective costs (measured by accounting data) will only be equal in general equilibrium.

(Masten, Meehan, and Snyder, 1991; Rindfleisch and Heide, 1997), this research is especially interested in the transaction costs that occur within hierarchical solutions after the initial entry mode choice. It is the transaction costs that take place after the MNC has established a start-up or an acquisition that are of specific concern.[22] The study will emphasize *ex post* transaction costs such as: (1) *bargaining costs*; (2) *monitoring cost*; (3) *maladaptation costs; and* (4) *bonding costs*, i.e. costs that are generated after a contract has been settled between two cooperative parties (Dahlman, 1979; Jensen and Meckling, 1976; Williamson, 1985).[23] There is no reasons to believe that the transaction costs that are generated in hierarchical solutions like FDIs are qualitative completely different from those generated in market transactions (Rindfleisch and Heide, 1997). "They only manifest themselves somewhat differently in different contexts" (Milgrom and Roberts, 1992, p. 29).

Even though there is a much better understanding of the transaction cost concept today than what was the case when these costs were conceptualized for the first time, few studies have been concerned about the measurement of transaction costs. The main objective has rather been to predict contractual arrangements based upon the transaction costs that are generated from observable characteristics of the transaction. This lack of interest in the measurement of transaction costs has probably something to do with the general belief that transaction costs are difficult to observe and measure (Masten, Meehan, and Snyder, 1991). Likewise, the idea that the problem of quantifying transaction costs is somewhat mitigated due to the fact that they "always are assessed in a comparative institutional way [..........] by employing rather primitive apparatus" (Williamson, 1985, p.22), certainly fortifies the absence of measurement of transaction costs in empirical research. However, the present research will maintain that this stand is a major obstacle when testing the normative guidelines in the theory. It is actually of vital importance to understand and measure these costs (Milgrom and Roberts, 1992). The comparison of attributes will be rather superficial if the understanding and the measurement of the transaction costs are vague. Likewise, transaction costs effects on performance will be difficult to grasp.

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[22] Demsetz (1993, pp. 161-162) prefers to use the word "transaction costs" when describing the costs of organizing resources across markets and "management costs" when organizing resources within firms. But for those that do not like this distinction, he suggests that the reader can substitute the two expressions with "governance costs". He also prefers a rather restricted definition of transaction costs when he proposes that they are the costs linked to negotiating (see note 5 on p. 176).

[23] In contrast, we have *ex ante* types of transaction costs such as: "the costs of drafting, negotiating, and safeguarding an agreement" (Williamson, 1985, p. 20).

Hence, according to the literature, the following facets of *ex post* transaction costs will be considered:

Bargaining costs is a general term for expenses related to negotiations between different parties, including costs incurred as a result of the needs to renegotiate due to unclear contract formulations or make changes to the contract. According to Milgrom and Roberts (1992, p. 301), such costs include time spent on bargaining, resources used during bargaining, and losses that occur as a result of failure in reaching efficient agreements.

Monitoring costs occur when resources are used to secure the fulfillment of contractual commitments (Dahlstrom and Nygaard, 1999; Jensen and Meckling, 1976). Such costs can manifest themselves as time spent on controlling delivered services from the foreign subsidiary, time and money spent on accounting issues, and extra travel expenses to control working effort.

Maladaptation costs basically arise from communication and coordination failures between contracting parties which in turn make them unable to react rapidly to changing conditions (Dahlstrom and Nygaard, 1999). Adaptation problems are the order of the day when the environment is uncertain. Appropriate responses to environmental changes require prompt and correct information, but typically much of the information received from, say, a foreign unit is incomplete, or too voluminous, or too poorly formulated to provide a proper basis for decision-making regarding adequate courses of action. Maladaptation costs are simply the opportunity costs of ineffective and inappropriate responses.

Bonding costs occur due to the necessity of completing secure commitments. Williamson (1985) is using the word "bonding costs" as one element of *ex post* transaction costs. However, bonding costs are conceptually poorly developed. Williamson (1985, pp. 21 and 388), for example, defines the concept as costs related to "effecting secure commitments", not more than that. Jensen and Meckling (1976, p. 308) barely mention the concept in a discussion about type of actions an agent can incur "to guarantee that he will not take certain actions which would harm the principal". Such activities could for example be auditing by a public accountant. This is also slightly amplified by Douma and Schreuder (1998, p. 107), by their linking of bonding costs to the bonding activity, which is defined as: "bonding means that the manager takes the initiative to bind himself and to be monitored". This is in contrast to monitoring: which they define as an activity initiated by an outsider. Intuitively, there seems to be a close relationship between bonding and monitoring, and that bonding in one sense of the word is an

activity that an agent incurs. Others have a slightly different opinion. Bonding could be all of those positive related activities that lead to commitments in a relationship. It includes such actions as developing personal ties between parties, developing common identities, building incentive systems, etc. (Heide and John, 1988). The present study will follow the latter approach in the understanding and definition of bonding costs.

This definition of *ex post* transaction costs is relative comprehensive. Hence, others have characterized transaction costs much narrower, and restrict the definition to the "costs of negotiating" (Demsetz, 1993, p. 176) (see also footnote 22 on page 31). And in line with this view, Walker and Poppo (1991) define transaction costs as the costs (i.e. bargaining costs measured by two indicators) that occur through bargaining about allocation of adjustment costs.[24] In addition, Buvik and John (2002) established a one-factorial definition (with four items) of *ex post* transaction costs based on the assumption that these costs were those bargaining costs and monitoring costs that occurred when the parties had to realign the terms of trade.

On the other hand, a study by Pilling, Crosby, and Jackson, Jr. (1994) supports the idea that transaction costs are multi dimensional. According to this study, transaction costs consist of three dimensions: the costs of developing and setting up an exchange relationship, monitoring costs, and the costs of dealing with opportunistic behavior. However, the study did not separate e*x ante* and *ex post* costs, and the items used to establish the three dimensions were not reported. In addition, Milgrom and Roberts (1992) describe transaction costs along two dimensions: (1) coordination costs and (2) motivation costs. The first consists of the costs of obtaining information and the costs of measurements, the second consists of the costs of motivating specialized agents to align their interests when information is incomplete and asymmetrically distributed, and the costs of imperfect commitment. Hence, much of the Milgrom and Roberts approach seems to be consistent with the present research when defining transaction costs.

A somewhat different method was taken by Masten, Meehan, and Snyder (1991, p. 13) when they proposed to measure transaction costs by measuring the costs of internal organization instead of the costs of market transactions. This due to the fact that organization costs "tend to occur in a more routine

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[24] "Adjustment costs in supply relationships represent the costs of adaptation directly and are a focal point of supplier-management practice because of price competition in the assembly division's product market" (Walker and Poppo, 1991, p. 72). These costs are measured by engineering changes and changes in the costs of raw material input.

fashion", which will ease the burden of "measurement or formulation of reasonable proxies" of organizational costs. Therefore, company officials in a large naval shipbuilding company were asked to report number of hours dedicated to planning, guiding, and supervising particular processes or components in a make or buy program (N_{make} = 43, N_{buy} = 31). To calculate the costs of these activities, the number of hours was multiplied by the average wage rate of the management. Hence, by doing so, Masten, Meehan, and Snyder (1991) were the first who really tried to measure transaction costs by monetary units. However, the definition of organizational costs in this study is quite different from the common understanding of transaction costs, and very specific to one particular firm, in a highly idiosyncratic business, which makes it difficult to generalize across organizational forms, firms, and industries. On the other hand, their reasoning about internally generated transaction costs seems to be appropriate.

Performance measures

"It must be possible for an empirical scientific system to be refuted by experience" (Popper, 1959, p. 41). Hence, falsifiability induces whether a theory is created so that empirical disproval is possible. Because variables and constructs are the building blocks of hypotheses and propositions, it is of critical importance for the researcher to investigate them first, before analyzing any relational properties of theories (Bacharach, 1989). The measurement of performance is therefore critical in enhancing the reliability and the validity of the study. However, the performance concept seems to be far from unambiguous, and a dependent variable that is difficult to understand and difficult to measure gives ambiguous and unreliable answers to the researcher.

There seems to be many and divergent views on the definition of firm performance (Barney, 1997; Venkatraman and Ramanujam, 1986). This divergence can obviously lead to measurement problems in the dependent variable. In addition, the structure of a modern multinational company seems to invite a more comprehensive definition, and it seems to be apt to introduce both financial and non-financial performance indicators, as well as subjective performance evaluation of the FDI.

The classical micro economic definition of economic performance is the firms' ability to satisfy the wants and needs of individual human beings (Milgrom and Roberts, 1992, p. 22). Consequently, it is necessary to ascribe preferences to individuals and thereby assume that each individual can measure their own utility function. Hence, the economic goal is to maximize each individual's utility function. However, according to Varian (1992), it is

almost impossible to measure this utility since it is not directly observable. In what ways can performance then be measured?

Generally, according to Dess and Robinson (1984), researchers studying organizational performance often have difficulties finding objective data. Assessing the performance of multi-industry firms is difficult because profitability will be influenced by industry-specific factors, and performance data must be accurately allocated across different business units. In addition, extra problems occur by trying to measure performance in privately held firms because owners are reluctant to release performance data. And if they do, data may not be comparable across firms because of different accounting procedures. In their study, Dess and Robinson (1984) suggest that when adequate objective performance data are not available for firms, subjective performance data may be used to supplement performance measurement. Based on a survey of chief executives and top managers from a sample of privately held firms in a single industry, objective data and subjective measures on return on assets, sales growth, and global performance were found to be highly correlated.

According to Barney (1997), business performance can be defined as a three-way classification based upon the relationship between expected economic value and actual economic value for the firm. When the value produced by the firm is equal to the owners' expectations, then the firm has normal performance. A below-normal performance is of course when the firm produces less than expected value, and vice versa with above-normal performance. This way of defining organizational performance is very much in accordance with microeconomic thinking. Still, the definition is far from obvious, and its fuzziness is for example evident in the way Barney (1997) suggests performance should be measured. He proposes four major approaches: (1) survival, (2) accounting measures, (3) stakeholder approaches, and (4) present-value approaches. All of these four approaches have advantages and disadvantages; hence, his advice is to apply multiple measures of performance. The difficulties with survival measures are for example that it is often difficult to decide when a firm no longer exists, and, in addition, the death of a firm can occur over a long period of time. Multiple stakeholder approaches, on the other hand, often create many definitions of organizational performance because each group may define performance in an idiosyncratic way (Barney, 1997). Further, relying only on present value estimation of the firm can probably create huge problems both with the measurement of net cash flow (what is the future cash flow for the FDI in highly volatile markets?) and the calculation of the discount rate (Barney, 1997).

In a transaction costs study about how specific assets in exchange relationships are safeguarded, Heide and John (1988) measured performance as a ratio between the costs of selling a particular product line and the commission income for the agency of that specific line. A similar approach (although based on the evolutionary economics and population ecology approaches) is also used by Anderson (1988a), in a study about selling efficiency and the choice between integrated or independent sales forces among U.S.-based firms in the electronic components industry.

Based on a transaction cost framework, Noordewier, John, and Nevin (1990) measured performance (i.e. purchasing performance) by measuring the transaction costs (i.e. indicators of possession costs and administrative costs[25]) that occurred in purchasing arrangements of ball and roller bearings. Hence, low possession costs and administrative costs indicate high performance (as such, transaction costs are acting as proxies for performance). By doing so, Noordewier, John, and Nevin (1990) will probably claim that performance actually is about the minimization of transaction costs, and it should therefore be unnecessary to use other types of performance measures, which also is the underlying assumption in the study by Masten, Meehan, and Snyder (1991) by their use of so-called organizational costs as a proxy for performance. The same type of reasoning can probably also be deduced from a study about organizational control and performance in franchise arrangements of a large Norwegian oil distributor (Dahlstrom and Nygaard, 1999). Channel performance is in this study synonymous with the minimization of transaction costs.

Other kinds of measurements that the literature suggests are: growth in sales and market shares (Morosini, Shane, and Singh, 1998), benchmarking, behavioral and perceived measurements (or by satisfaction according to the terminology used by Osland and Çavusgil (1996)). Ezzamel (1992) suggests, more in line with the present-value approach, that the use of discounted cash flow (DCF) offers a sound proxy for income and that it can be adapted to reflect the performance of sub-units and their managers. In addition to this measurement, both qualitative and quantitative non-financial measures such as statistics on factory safety, employee turnover, customer satisfaction, quality, delivery throughput, flexibility, industrial relations, etc. are proposed.

Intuitively, the use of financial and accounting indicators (such as, ROS, ROE, ROA, ROI, and parent company stock price) as measurements of

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[25] Or "acquisition costs", as the authors call it (Noordewier, John, and Nevin, 1990, p. 81).

performance, seems appealing (Chatterjee, et al., 1992; Woo, Willard, and Daellenbach, 1992). Hence, many studies have tried to use this approach. Goethals and Ooghe (1997) included ROI when they evaluated performance of foreign and national take-overs in Belgium. Busija, Hugh, and Zeithaml. (1997) used return on assets (ROA), return on equity (ROE), return on investment (ROI), and sales growth as measurements in their study about performance effects of strategy and entry mode. Their study, however, did not deal with international activities or operations. In addition, Gómez-Mejia and Palich (1997) used ROA and market-to-book value (MTB) when they studied cultural diversity and performance for Fortune 500 firms in the period 1985-1994. ROA (in addition to operational outcomes) was also used by Gomes and Ramaswamy (1999) when they studied the relationship between multinationality and performance among U.S. MNEs. In a study about the relationship between collaboration and performance in foreign markets among international new ventures, Shrader (2001) argues that since transaction costs have direct effects on both profitability and sales growth, it is highly relevant to use ROS (return on sales) and sales growth when measuring performance. All these studies are measuring performance at the corporate level.

The financial indicators are influenced by many factors that make meaningful interpretations quite difficult (Ramaswamy, 1992). First, accounting practices differ from country to country. Second, benefits from the foreign affiliate's activities will seldom be reflected as changes in the financial indicators for the multinational mother company. Finally, the success of the foreign affiliate will often go beyond short-term financial calculus – often the strategic rationale of the activity should be recognized; i.e. access to market, global diversification, competing with international competitors in their home market, etc. (Hill, Hwang, and Kim, 1990). In addition, using measures like ROS when comparing firms across industries is often meaningless since industries differ along a whole set of parameters, such as growth rate, the dynamics of competition, and structure.

In a study of channel integration in foreign markets, Aulakh and Kotabe (1997) use a more relative performance measure (close to a benchmarking approach) than the financial measurements presented above, when they define performance as the ability to increase sales and market share of the manufacturing firm's products as well as to maintain an adequate level of customer service support for these products. Out of this, they define two sets of measurement items: those relative to domestic performance (RTD) and those relative to competitors in the foreign country (RTFC).

Another approach is used by Woodcock, Beamish, and Makino (1994). By asking the companies how satisfied they are with the performance of the affiliate, they get a perceived evaluation of the performance of the FDI. This perception is measured on a three-level financial profitability rating scale. Financial data were used, but since the rating was done by the top managers involved in the survey, not by the researchers themselves, it would be correct to call this approach a perceived financial form of evaluation, in contrast to an objective measure of those financial indicators.

Following Geringer and Herbert (1991), Glaister and Buckley (1998) used both objective measures (survival, duration, and stability) and subjective measures (satisfaction of alliance performance, assessment of the foreign partner's measure of satisfaction, and assessment of the alliance management's measure of satisfaction) of performance in their study of international alliances.

An additional method to measure performance could be called the behavioral approach, which can be summarized as what an affiliate actually does over time after the entry. It could be changes in ownership shares, technology transfers, various forms of expansion, etc. For example, in a study of divestments of foreign production operations, Benito (1997) analyzed a list of Norwegian subsidiaries abroad and measured the survival of the affiliates after ten years. Li (1995) relied on the lists of entry data of FDIs in the U.S.A. compiled by the U.S. Department of Commerce, and thereby concluded exits when the affiliate was no longer listed in "Who Owns Whom". Barkema et al. (1997) used the notion "longevity" to evaluate whether an international joint venture was successful or not, and so did Hennart, Kim, and Zeng (1998) when they investigated 355 Japanese stakes in US manufacturing affiliates. Shaver (1997) used survival as a proxy for performance in 354 US investments undertaken by foreign firms in manufacturing industries.

Using survival as one proxy for business performance therefore also seems adequate. And the economic rationale behind this is quite simple: as long as the FDI is going, it generates at least normal economic value. It is also easy to use, and it does not require detailed information about the firms and/or the FDI's economic condition. It is not a perfect performance measure, but it is shown in former studies that it is a good estimate of managers' perception of the success (Geringer and Herbert, 1991) and it also correlates with financial performance (Barkema, et al., 1997) (Mitchell, Shaver, and Yeung, 1993) (Mitchell, Shaver, and Yeung, 1994). In that sense, the survival measurement can "merge" both subjective and objective measures of performance.

In a relative recently published article, Ariño (2003) evaluates the construct validity of different performance measures of strategic alliances in the perspective of one of the partners. Six different measures of performance: overall performance satisfaction, strategic goals fulfillment, net spillover effects, longevity, contractual changes, and survival, are taken into account to cover two main categories of strategic alliance performance (operational and organizational effectiveness). The study indicates that researchers have to consider both outcome and process performance since strategic goal fulfillment on the one hand and overall performance satisfaction and spillover effects on the other, measured different constructs. For example, when partners are asked to report the satisfaction with overall performance of the alliances, they may evaluate not only the outcome, but also the process. The results also indicate that longevity could be a problematic indicator to use. Neither in the equity, nor in the non-equity sub-sample did the indicator show acceptable discriminant validity. Even though this research explored alliance performance, there are many points of resemblance with subsidiary performance; hence, this study is far from irrelevant for the present problem.

Finally, based on Finnish manufacturing FDIs in OECD, Larimo (1993) provides a thorough discussion of FDI performance and various FDI performance measurements. The latter is also part of the focus for Glaister and Buckley (1999) when they studied the relationship between subjective and objective measures of performance and both *ex ante* and *ex post* independent variables among 73 joint ventures operated by UK parents. Both Larimo and Glaister and Buckley claim, with solid support from former research, that even though the measure of organizational performance has been a subject for serious debate for a long time, there are still much to do.

Hence, since this debate is far from concluded, it has been a necessity for the present research to present the varieties of approaches that are observed in empirical works when measurement of performance is discussed. Likewise, it is also a necessity to present a few studies that empirically have studied different effects on firm performance. However, this presentation is limited to research within the field of international business.

Effects on firm performance – empirical studies

There are no former studies of the relationship between transaction costs and performance in an intra-organizational setting such as between headquarters

and subsidiary in a MNC.[26] The effect of entry mode on the relationship between transaction costs and performance also remains uninvestigated. Even though the generic entry mode choice has been studied profoundly in international business research, there is less research focusing on acquisition vs. greenfield operations. In addition, those focusing on the latter question are very much concentrated on the *ex ante* choice, not *ex post* effects of the choice (Barkema and Vermeulen, 1998; Brouthers and Brouthers, 2000; Buckley and Casson, 1998; Hennart and Park, 1993; Zejan, 1990). Still, there have been a growing number of studies that have dealt with performance in various ways and from different theoretical perspectives.

Li and Guisinger (1991), examined the relationship between foreign control and performance by comparing foreign owned and foreign controlled firms with domestically owned firms in the United States. The study used different theoretical perspectives (Dunning, 1988; Freeman, Carroll, and Hannan, 1983; Hofstede, 1980), and the results indicated that foreign-controlled firms failed less frequently than domestically owned firms. New US subsidiaries owned by foreign companies had a higher failure rate than more established subsidiaries. They seemed to suffer the liability of newness to a greater extent than new US firms. Modes of entry, forms of foreign ownership, and national culture were found to have affect on the failures of foreign-controlled firms in the US.

Chowdhury (1992) investigated the performance of international joint ventures (IJV) and wholly owned subsidiaries (WOS) made by U.S.-based multinational companies. Six criteria were used to assess the effectiveness of these two ownership options: Exit rate, longevity, stability of ownership status, integration with the parent system, export sales, and factor usage. Based on data drawn from the Harvard Multinational Enterprise Project, the study concluded that the chosen mode of ownership was linked with the behavior and performance of overseas subsidiaries.

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[26] Arne Nygaard (1992) studied, among other things, the relationship between transaction costs and performance in a setting of one oil company with its sales managers and a number of gas stations in a national setting. The gas stations had three different modes of ownership: independent dealers, contract dealers, and company owned and company operated stations. Nygaard got support for three hypotheses regarding the relationship between transaction costs (TC) and effectiveness, but no support for the relationships between TC and efficiency. Nygaard used two kinds of measures on performance: (1) effectiveness (three perceptual measures of the degree of success with marketing activities, training and courses, and management and control); (2) efficiency (measured by net operating income on gross sales revenue).

Woodcock, Beamish, and Makino (1994) examined 321 Japanese manufacturing subsidiaries in North America and the relationship between ownership entry modes and performance among these firms. Using an eclectic theory approach, a theoretical relationship based on contingency characteristics (resource requirements and organizational control factors) was developed. The researchers assumed that different entry modes had different levels of performance outcomes based upon their resource and organizational control demands. The hypotheses, which were supported, suggested that new ventures outperformed joint ventures, and joint ventures outperformed acquisitions. However, if this conclusion were true, why do firms still choose entry modes that clearly are bad for performance? Their theoretical model also suggested that contingency factors modify the transaction costs that occur when appropriate resources are obtained and in controlling the new subsidiary.

Li (1995) investigated effective strategies that could reduce the risk of failure in international expansion by examining the entry and survival of foreign subsidiaries in the US computer and pharmaceutical industries. The results show a higher exit rate for foreign acquisitions and joint ventures than for subsidiaries established through greenfield investments. The results also indicate a higher exit rate for subsidiaries that diversify than for those that stay in the parent firm's main product area. As an extension of this work, Mata and Portugal (2000) studied two different ways of exiting from foreign markets, i.e. closure and divestment. Being a greenfield entry, there is a higher likelihood of closure, compare to an acquisition, but a greenfield is less likely to be sold. Wholly owned subsidiaries are more often divested than majority joint ventures. Further, there is a significant negative relationship between the size of the firm (measured by the logarithm of the number of employees) and closure. Likewise, both minimum efficient scale and entry rate in the industry affect the survival of the firm, and, at last, experience[27] decreases the probability of closure.

From an organizational learning theory perspective, Barkema et al. (1997) studied the longevity of international joint ventures based upon Dutch firms' prior experience with international joint ventures, domestic joint ventures, and international wholly owned subsidiaries. The results showed that experience with domestic joint ventures and with international wholly owned subsidiaries contributed to the longevity of international joint ventures, but prior experience with international joint ventures did not.

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[27] This variable is an outcome of the competing risk model that is used in the study. The model measures the probability of exit over time since the baseline hazard parameters are obtained at each time period.

Benito (1997) analyzed divestments among Norwegian manufacturing FDIs. The study shows that more than 50 percent of these FDIs were divested within the 10 years period from 1982 to 1992. Foreign divestments were inversely related to economic growth in the host country, and the propensity to divest was considerably higher for acquired subsidiaries than for start-ups.

Shaver, Mitchell, and Yeung (1997) examined the effect of own-firm and other-firm experience on FDI survival to 1992 in the United States among 354 US investments undertaken by foreign firms in manufacturing industries during 1987. They argue that foreign MNCs operating in a host country generate information spillovers that have potential value for later FDIs. They find support for the following hypotheses: (1) FDIs made by firm with former experience in the host country are more likely to survive than FDIs made by first entrant firms. (2) If the foreign presence in the target industry is great at the moment of entry, then FDIs are more likely to survive. However, this is true only if the firm already has former experience in the host country. As a contrast to the latter, a positive association between national cultural distance on cross-border acquisition performance for 52 (mostly European) acquisitions was found in a study by Morosini, Shane, and Singh (1998).

From the eclectic approach, Aulakh and Kotabe (1997) examine the performance consequences of channel integration among Fortune 500 firms and their subsidiaries in a foreign country. The results suggest that, although the degree of channel integration does not have a direct influence on channel performance, a contingency model based on the fit between the contextual factors and the actual channel choice is significantly related to performance in foreign markets.

Using more or less the same data material as Shaver, Mitchell, and Yeung (1997), Shaver (1998) is discussing the problem of endogeneity and self-selection in performance research. The author claims that since the choice of entry mode into a foreign country is endogenous because the choice is based on firms' characteristics and industry circumstances, researchers that do not take this into account may conclude on false premises. This assertion, which of course can be generalized to more general strategic choices, is tested among 213 entries into the US. By running three sets of regressions, with and without a control for endogeneity, the results show that the effect of acquisition entry on survival is significant and negative when not controlling

for self-selection.[28] In contrast, when the control is included, there is no proof that entry mode has an effect on survival of the foreign subsidiary. The last result is generally in accordance with normal rational behavior – if one kind of entry (and any thing else equal) had been better than all other in an industry, firms would have chosen this consistently (Shaver, 1998). Hence, it gives little sense to use entry mode as a predictive variable for subsidiary performance.[29]

Performance and performance measures – a conclusion

The many different approaches to performance and performance measurements imply that a study about subsidiary performance most ideally needs a multidimensional approach to the measurement of performance. Using both financial and non-financial measurements, as well as objective and subjective measurements strengthens the falsification criterion in the study. In addition, several studies have been using transaction costs as measurement of performance implying that there is an equality between transaction costs and performance, but according to the literature review, performance could both be "a lot of things and different things to different actors" (Benito and Tomassen, 2003, p. 194). Hence, one of the purposes with this research is actually to test the relationship between transaction costs and performance. Several of the performance studies have indicated that there are direct effects from entry mode towards performance (Li and Guisinger, 1991; Woodcock, Beamish, and Makino, 1994). This may be in conflict with rational economic behavior since the firm always would choose the best alternative and thereby rush towards the best performing operation method (Masten, 1993). Hence, this relationship may be modeled differently.

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[28] A result that is consistent with Li and Guisinger (1991), Woodcock, Beamish, and Makino (1994), and Li (1995), but misspecified and wrong, according to Shaver (1998, p. 582).

[29] The problem with endogeneity, which in many cases can lead to biased coefficient estimates (the error term is correlated with both left-hand and right-hand side variables) and thereby to wrong conclusions about hypothesized relationships, is discussed thoroughly in a recent published article by Hamilton and Nickerson (2003).

3 Hypotheses

The following chapter contains the development of the five hypotheses for this research, as well as a presentation of the final research model.

Transaction costs and foreign subsidiary performance

At the outset, it seems adequate to assume that there is a negative relationship between transaction costs and subsidiary performance since the transaction costs are the costs related to the governance of a relationship, be it an inter- or intra organizational relationship, and the most efficient organizational solution is the one that minimizes the transaction costs in the long run (Williamson, 1985).

Monitoring costs occur due to performance evaluation problems, which then stem from behavioral uncertainty. If the principal has a problem with the evaluation of the performance of the agent, then direct measurement costs incur. Hence, it is reasonable to expect a negative relationship between monitoring costs and subsidiary performance.

Likewise, maladaptation costs, which stem from problems in the communication between headquarter and subsidiary, most probably increase costs at the expenses of performance. Incomplete, or poorly formulated information is produced in the subsidiary, which may lead to wrong decisions and increased costs through sub optimizations.

Due to the needs of renegotiations and changes of contracts and agreements between headquarter and subsidiary, bargaining costs occur. With complete contracts and agreements, such costs should be unnecessary. Hence, a clear assumption about the negative effect of these costs on performance is reasonable to propose.

However, the effects of transaction costs on performance may differ in time, power, and direction. For example, given a subsidiary with poor results due to a high degree of opportunism among the employees, a higher level of monitoring costs incurred by the principal (here the MNC headquarter) may improve the subsidiary performance substantially in the long run (Jensen and Meckling, 1976). Likewise, since bonding costs are those costs associated with the rather essential organizational apparatus needed to establish a subsidiary, one may anticipate that these costs also have a positive effect on performance in some situations. Nevertheless, in an ideal world, neither

monitoring nor bonding should be necessary. Zero costs linked to bonding activities are therefore usually better than positive costs, but at certain points in time positive costs could be better than no costs since incurred bonding costs my be necessary to improve the value and wealth of a firm (Jensen and Meckling, 1976).

It is also likely that bargaining costs "behave" in a similar manner in some situations. However, since bargaining costs are generated from negotiations between parties in a relationship when contracts and agreements have to be realigned to former agreements, increased bargaining costs in the long run most probably have a negative relationship with the performance of the subsidiary.

Saying so, it must also be admitted that trade-offs between different types of transaction costs may be present, but also difficult to anticipate (Nygaard, 1992). Bonding activities, for example may produce lower bargaining costs due to the fact that the subsidiary most probably is more in line with the parent company. It is also possible that proactive bonding activities necessitate increased monitoring activities to ensure that the bonding activities have effects. It is also reasonable to presume that increased maladaptation costs create both a higher level of monitoring costs and bargaining costs. When there are problems with the information flow from parent company to subsidiary, and vice versa, common meetings become inefficient, and mutual trust declines, many companies will routinely increase the monitoring mechanisms. However, intensive monitoring may produce unintended behavior, such as increased opportunism, in the subsidiary, which creates an even higher level of transaction costs in the next phase (Moran and Ghoshal, 1996).

Despite the above reflections, in general a TCE based explanation of the relationship between transaction costs and performance will most probably conclude that, *ceteris paribus*, the relationship will be negative in the long run. Hence, the following hypotheses are stated:

H_1:   *The higher the level of bargaining costs that occur in the relationship between the MNC headquarters and the foreign subsidiary, the lower the level of subsidiary performance.*

H_2:   *The higher the level of monitoring costs that occur in the relationship between the MNC headquarters and the foreign subsidiary, the lower the level of subsidiary performance.*

H₃: *The higher the level of maladaptation costs that occur in the relationship between the MNC headquarters and the foreign subsidiary, the lower the level of subsidiary performance.*

H₄: *The higher the level of bonding costs that occur in the relationship between the MNC headquarters and the foreign subsidiary, the lower the level of subsidiary performance.*

The moderator effect of entry modes

According to Masten (1993), *ceteris paribus,* different operation methods cannot differ with regard to performance, but create differences in transaction costs and transaction costs effects towards performance. If this were not so, every rational manager would always have chosen the one that outperformed all the other forms of foreign operation methods. Therefore, the generic choice of foreign operation method could in many respects be explained by economizing on *ex ante* transaction costs and anticipated *ex post* transaction costs. However, this choice is not solely affected by transaction cost rationales, it is also affected by the overall international strategy of the MNC (Hill, Hwang, and Kim, 1990), which then also affects the management of the subsidiary. It is therefore also likely that the headquarters–subsidiary relationship differs between entry modes in general and between greenfields and acquisitions in special (Harzing, 2002). In some respects, the headquarters-subsidiary relationship can be seen as a typical control problem much like a principal-agent relationship (Bergen, Dutta, and Walker, 1992; Eisenhardt, 1989; Jensen and Meckling, 1976). Since the principal (i.e. the headquarters) cannot take all decisions on behalf of the subsidiary due to limited resources or knowledge about local conditions, they must ensure in different ways that the agent (i.e. the subsidiary) is in line with the overall goals and standards set by the MNC. To ensure this, the MNC has many different options. It can use expatriates at various levels in the subsidiary. Strategic decision-making can be centralized at headquarters, and direct supervision on behalf of the subsidiary is possible in many cases. Standardized operational procedures can be formalized and implemented, and continuous evaluation of the results in the subsidiary are perhaps necessary, as well as implementation of detailed planning, goal setting, and budgeting systems. Building strong corporate cultures by sharing some important values may also be important. Likewise, a high degree of formal (through common project groups, committees, and task forces) and informal communication may help the MNC to ensure that the subsidiary is "on the

right track" (Harzing, 2002, pp. 226-227).[30] Do we then expect differences between greenfields and acquisitions regarding the relationship between control costs and subsidiary performance?

According to a transaction cost reasoning, different operation methods create differences in transaction costs.[31] Firms that invest abroad combine firm-specific advantages, developed at home and exploited in a foreign country at low marginal costs, with assets available abroad. It is the level of specific assets the MNC is exploiting abroad that determines whether greenfields are preferred to acquisitions or vice versa (Hennart and Park, 1993). When firm specific advantages such as superior organizational abilities and/or technical skills are easy to separate from the organization, an acquisition may be preferred. On the other hand, if the advantages are so deeply embedded in the organization that it is difficult to combine them with a takeover candidate, the foreign investment will most probably be a greenfield operation. Hence, greenfields make it easier for the MNC to leverage its resources into the entered market because the greenfield most often is more compatible with the parent with respect to culture, systems, and routines. This may on the one hand reduce some of the efforts of binding the subsidiary to the headquarters, but probably increase some of the control precautions because of the type of specific assets that is exploited in the greenfield. On the contrary, an acquired firm has its own history, knowledge, reputation, and workforce (Jemison and Sitkin, 1986), which very often could lead to *ex post* information asymmetry and thereby also to "moral hazard" (Knight, 1921 p. 249; Williamson, 1985), especially if the take-over is a hostile one, which also requires substantial monitoring costs.

A subject that may distort this picture is a possible mismatch between the intended mode of operation and the realized entry mode, which of course is highly possible. In many cases, a firm that goes abroad has limited alternative ways of establishing a subsidiary unit. Perhaps no potentially buy-ups are available, host governance restrictions on either acquisitions or greenfields can be present, and financial resources for acquiring a local firm can be constrained. In such situations, one may anticipate that increased resources will be used to bring an acquired firm closer to the initial intentions with the foreign expansion. This may increase the headquarters' control over the subsidiary, and lead to a decrease in local responsiveness

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[30] As such, this description of control precautions can also supplement the former interpretation of monitoring costs. See also Martinez and Jarillo (1991).

[31] However, it is also likely that these differences become less visible over time. Comparing acquisitions with greenfields that were established several decades ago, and are still operating, could be of little value.

(Harzing, 2002). Therefore, increased control in a non-intended entry structure may blur the overall assumption of relationship differences between transaction costs and performance across foreign operation method.

In addition to the possible differences in control precautions, the companies very often use more resources in a greenfield than in an acquisition before the subsidiary is fully operative. The workforce has to be recruited and supervised, and some of these recruitments fail. Organizational procedures and routines are to be developed and implemented. Agreements with sub-contractors have to be negotiated and renegotiated due to mismatches and failures, and cultural differences may increase the propensity to fail. Hence, the management has to use substantial resources in learning about and acquainting himself with the local business environment. On the other hand, cultural differences may also create severe problems in acquired firms, and several studies have found that cultural differences increase the propensity to fail (Barkema, Bell, and Pennings, 1996; Chatterjee, et al., 1992; Hofstede, 1980; 1983). In all, one should expect that the relationship between maladaptation costs and performance as well as the relationship between bargaining costs and performance would differ between the two types of operation mode.

Whatever motives lie behind the choice of operation mode, when the subsidiary becomes operative, this choice will have its own consequences on the daily management of the subsidiary. Hence, differences in the relationship between *ex post* transaction costs and subsidiary performance are likely across different modes. The following hypothesis is therefore stated:

H_5:   T*he relationship between ex post transaction costs and foreign subsidiary performance depend on whether the subsidiary is established as a greenfield or as an acquisition.*

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Research model

The research model, which is a more detailed version of the conceptual model presented in chapter one, is showed in Figure 3-1. The research model suggests four negative direct effects between the independent variables (i.e. bargaining costs, monitoring costs, maladaptation costs, and bonding costs) and the dependent variable "performance" (i.e. subsidiary performance). In addition, the model also proposes that the entry mode will have no direct effect on performance, per se. Instead, entry mode moderates the relationship between the four types of transaction costs and subsidiary performance.
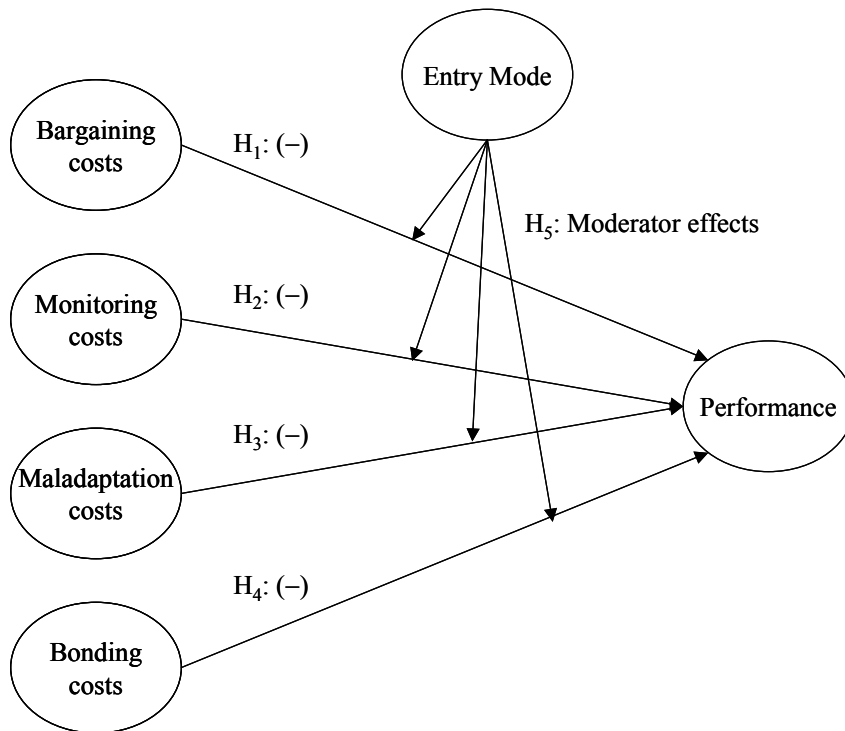
Figure 3-1: Research model with hypotheses

4 Methodology

This chapter includes both a theoretical discussion about research design as well as an empirical testing of a measurement model. At the beginning, the concept of causation is discussed, followed by a presentation of the statistical tools and the estimation method chosen for this research. All constructs and variables, as well as empirical context and data collection strategy are presented in separate sections. Reliability and validity issues are also discussed.

Research design

Research design can be classified in three broad categories: exploratory, descriptive, and causal, and which of these is most suitable depends very much on the research problem. The overall research model and the hypothesis in this study indicate relationships between independent and dependent variables that are of a causal nature (i.e. there are arrows indicating causes and effects), but choosing a true casual design imply some methodological challenges that are unattainable in an empirical context and with hypotheses like in this study. Yet, causality and the nature of causation are rather indistinct (Bollen, 1989b), which clearly becomes visible in the different views on the phenomenon.[32] Hence, the view of causality in this research, which to a great extent follows the approach in Bollen (1989b), does not cover more than a fraction of all the issues that are raised in former literature regarding causation. There is nevertheless, reason to believe that the most important issues are covered in the following chapter since the presentation is based on three general concepts of causation.

The nature of causation

In general, the connotation of true causality is build upon the presence of three indispensable components: the variables must be non-spurious (i.e. the effect on one variable cannot be explained by another variable outside the causal relationship), the variables have to be correlated, and the cause must take place before the effect. Bollen (1989b, p. 41) characterizes these three components respectively as (1) isolation, (2) association, and (3) the

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[32] See for example Cook and Campbell (1979, pp. 9-36) for an overview and a short discussion about the epistemology of causation. For particularly interested readers, a book edited by Myles Brand (1976) provides a more detailed presentation of the phenomenon.

direction of influence. In addition, there must also be a theoretical foundation for the relationship (Hair, et al., 1998).

Isolation requires that all other influences except from one variable's influence on another are isolated. Unless the variables exist in a vacuum, it is impossible to fulfill this requirement in such an empirical context that this study focuses on. For example, firms' performance in a foreign marketplace are based on exceedingly complex relationships depending on both past and present causal connections, as well as human predictions about future circumstances, which certainly violate the requirement about isolation. Therefore, perfect isolation must be replaced by some kind of pseudo-isolation. Technically, this can be done by adding a disturbance term into the relationship (equations) between the variables. This disturbance term is a composite of all omitted determinants and is in addition assumed to be uncorrelated with the independent variable. Though, since the disturbance term is unobserved, it is reasonable to assume that the independent variable has an expected influence on the dependent variable and that the values of the dependent variable are distributed around a *prediction* of the variable. In addition to a disturbance term, other predictive variables have to be included in the equation, which also requires a rather homogenous population and a thorough literature review.

Still, without going into detail, the violations of pseudo-isolation can be numerous. Serious threats are for example present when intervening variables and/or common causes of the explanatory and the dependent variables are left out, and likewise, when true relationships between variables are omitted. Hazards occur as well when the presumed dependent variable also affects an assumed exogenous variable (i.e. "feedback" or "reciprocal causation"). In addition, a wrong specification of the functional form between two variables (for example when a linear form is specified while it is a curvilinear relationship that exists) leads to serious problems if the variables are not transformed so that the relationship between the transformed variables becomes linear. Non-random samples and correlated errors (e.g. autocorrelation or heteroscedasticity) also undermine the assumption of pseudo-isolation. Some of these problems can be solved through technical procedures, but the only way to really deal with many of these obstacles is trough a proper design. However, it must be recognized that even the most proper design cannot conclusively claim true isolation between variables (Bollen, 1989b).

A bivariate **association** is not a sufficient condition for a causal relationship, neither a necessity, which at first sight seems a bit strange. Certainly, given a simple relationship with one explanatory variable and an uncorrelated

disturbance term, and all other influential variables isolated, then two associated variables are enough to establish the causal relationship. However, an observed variable can be driven by different underlying latent variables and in such cases a bivariate correlation is not a necessary condition. On the other hand, the partial correlation coefficient corresponding to the relationship between indicator and latent variable and the bundle of other latent variables, must be nonzero if causality is to be observed (Bollen, 1989b, p. 57-58).

What problems can occur and violate the association requirement? Heteroscedasticity and autocorrelation, as well as multicollinearity are problematic conditions, and it is therefore important to test for, and correct such conditions.[33] Ideally, replication should also be conducted to check whether an association between variables (be it observed or latent variable) is only a coincidence or a more durable relationship. In addition, a sufficient variance in the independent variables has to be established through the choice of empirical setting.

Direction of influence is established when effect follows the cause in time (Hume, 1969 (1739-1740)). Establishing this requirement can be done through an appropriate research design (for example an experimental design), but even in the simplest relationship, crucial questions like when to measure the effect, and how long should the time lag between cause and effect be, must be addressed. The solutions to these puzzles are often not that simple. In complex social settings, the effect on one variable will be affected through a compound set of mechanisms, which complicates the detection of temporal precedence since the time lag between cause and effect could be either unknown or relatively extensive, which also opens up the possibilities of intervening variables. In addition, it is also possible that the relationship between to variables is of a reciprocal nature, especially if the observation period exceeds the causal lag.[34] The determination of causal relationship between latent variables and observable indicators in confirmatory factor analysis is also problematic. It is far from obvious whether the indicator causes the latent variable or *vice versa*.

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[33] Corrections for heteroscedasticity or autocorrelated disturbances are not well developed in models with latent variables (Bollen, 1989b, p. 58).

[34] During a long time, through several causal lags, the relationship between transaction costs and performance will certainly be of a reciprocal character, as many other relationships.

These problems can probably not be solved just by choosing an adequate design; therefore, the directionality has to be established by logic and by prior theoretical and empirical works (Bollen, 1989b; Hoyle, 1995).

Choice of design

There is no design that can solve all the above problems in one simple fashion; there will always be trade-offs between research dilemmas such as precision versus generalizability, and reliability versus validity (McGrath, 1982). Since the strong requirements of causality cannot be met, the most proper design will be a correlation design, but since reliability and validity issues in general are highly associated with the three requirements of true causality, it is also necessary to deal with these issues in a correlation study. Hence, to strengthen the isolation requirement in the present study, a thorough theory review has been conducted. This was done mainly for two reasons: first, to reveal possible control variables, and second, to establish a sound theoretical foundation of the relationship between transaction costs and performance. To meet the assumption about association, a rather heterogeneous population has been chosen, even though it must be admitted that the need for variance in the population has been weighted against homogeneity, which is reflected in the choice of research setting that is a least common multiple between these two requirements. This choice is certainly also limited by resource constrains (i.e. time and money).

A cross-sectional study has been conducted, which of course makes it unfeasible to meet the condition of time order occurrence. However, since the chosen design does not meet the strict requirements of directionality, the theory review was also essential in establishing temporal precedence between independent latent variables (i.e. transaction costs) and the dependent latent variable (i.e. performance). Hence, it is still possible to test the structural models in a rigorous manner even though the study does not meet the strict assumptions of causality.

A more detailed description of validity and reliability problems, and how this particular study has coped with these and additional methodological pitfalls, will be presented in the following sections.

Statistical tools

Since all of the latent variables in this study are reflected by observed indicators, and since the research model indicates some correlation relationships, it seems plausible to use structural equation modeling (SEM) as the main statistical approach to the research problem. SEM examines a

series of dependence relationships simultaneously, and, according to Hair et al. (1998), it is very useful when one or more dependent variables become independent variables in subsequent dependence relationships. By explicitly modeling measurement error, researchers seek to derive unbiased estimates for the relations between latent constructs.

According to Hughes et al. (1986), there are two major strengths in the latent variable method of analysis – one technical and one conceptual. Regarding the first, they are methods of estimating structural relationships among unobservable constructs and a help in judging whether these constructs really are measured or not. With respect to the latter, "the use of these models entails a mode of thinking about theory construction, measurement problems, and data analysis that is helpful in stating theory more exactly, testing theory more precisely and yielding a more thorough understanding of the data." (Hughes, Price, and Marrs, 1986, p. 128). Among the models developed in order to manage such problems is LISREL (Jöreskog, 1973; Jöreskog and Sörbom, 1993a).

Path analysis is a very common method to analyze systems of structural equations. The path diagram is a picture of the whole system of simultaneous equation connected to the relationships that are presumed to be true. A SEM model implies a structure of the correlation matrix or the covariance matrix of the measures. Once the parameters of the model have been estimated, the resulting model-implied covariance or correlation matrix can be compared to an empirical or data based matrix. If the two matrices are consistent with one another, then the structural equation model can be considered a plausible explanation for relations between the measures. In addition, three types of effects are distinguished in the path analysis: direct, indirect, and total effects. The first is the influence of one variable on another with no other mediator (i.e. other variables in the model). The indirect effects are effects that are mediated by at least one intervening variable, and the total effect will be the sum of the two (Bollen, 1989b). See Figure 4-1 for an example of a path diagram.
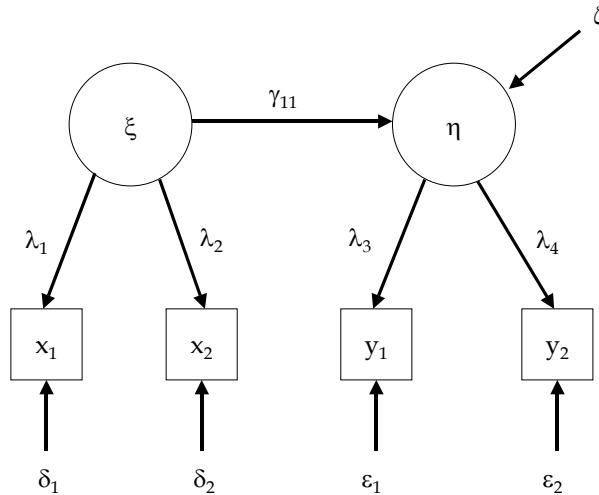
55

Figure 4-1: An example of a path diagram
From Bollen (1989b, p. 33)

The latent exogenous variable (ξ) and the endogenous latent variable (η) are described as circles, and the boxes represent measurable, or observed, variables (the *x* and the *y*). Arrows illustrate the relationships (λ and γ are measurement parameters) between the variables. The disturbance terms are characterized as unenclosed variables (here the δ, the ε, and the ζ), Thus, the path diagram is equal to the following simultaneous system of equations:

$$\eta = \gamma_{11}\, \xi + \zeta \qquad \text{structural model}$$

$$
\left.
\begin{aligned}
x_1 &= \lambda_1\, \xi + \delta_1 \\
x_2 &= \lambda_2\, \xi + \delta_2 \\
y_1 &= \lambda_3\, \eta + \varepsilon_1 \\
y_2 &= \lambda_4\, \eta + \varepsilon_2
\end{aligned}
\right\} \quad
\begin{aligned}
&\text{measurement} \\
&\text{model}
\end{aligned}
$$

Estimation of the measurement model is often the first step of a two-step process[35] in SEM, and is equal to a confirmatory factor analysis (CFA). The major interests are to clearly define the theoretical construct, provide operational definitions of them, and linking the observed variables to the unobserved theoretical construct. According to Hughes et al. (1986), this

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[35] This procedure is not always necessary because researchers are also faced with models that possess a strong theoretical rationale and highly reliable measures. In these situations a single-step procedure with simultaneous estimation of both models is preferred (Hair, et al., 1998).

involves an assessment of the dimensionality of the constructs, and an estimation of the reliabilities of the observed indicator variables. The main point by estimation of the measurement model is that the multiple indicators of each latent variable should converge to measure one single construct. Therefore, testing for convergent and discriminant validity is one of the major tasks when evaluating the measurement model. The LISREL algorithm provides several statistics that can be used in this first stage. Hence, the measurement model is finally tested by using LISREL 8.53 (Jöreskog and Sörbom, 1993b) (see also the chapter: "Validation of measurements" from page 87 for a further elaboration).

In the second stage, when the model is fixed, the structural model is tested due to possible interaction between the measurement model and the structural model (Anderson and Gerbing, 1988). This can be done in many ways, but using a LISREL approach is often to be preferred due to the fact that the variables in the structural equation are unobservable variables (i.e. variables with measurement errors) (Goldberger, 1973). However, it is also possible to execute an ordinary least squares (OLS) regression, a two-stage least squares (2SLS) approach, or a number of other solutions depending on variable relations, the measurement level of the variables, the sample size, and whether there are any interaction effects, or hypothesized moderators in the study.

Because the present study executes a formal test of moderator effects, which leads to relative small sample sizes in the respective sub-groups, this research relies primarily on OLS-regressions when testing the structural model (i.e. testing the hypotheses).[36] Different OLS-regressions with latent variable scores are conducted when the direct effects, the control variables and the moderator effects are tested. However, in addition to the above deductive model testing, a more exploratory model without moderator effects is presented and tested by using a LISREL approach.

Estimation method

The general hypothesis in SEM is that the population covariance matrix (Σ) is equal to the covariance matrix estimated from the parameters in the model $\Sigma(\theta)$. In covariance-based SEM, (as well as in correlation-based SEM) a maximum likelihood (ML) function is normally used in the effort to minimize the difference between the sample covariances, and those

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[36] See page 105 in the chapter "Test of hypotheses" for additional explanations of this choice.

predicted by the theoretical model (i.e. Σ - Σ(θ)). [37] Cudeck (1989) assesses that ML probably estimates standard error and χ^2 goodness-of-fit incorrectly when covariance structure models are applied to correlation matrices (i.e. if you input a correlation matrix as if it were a covariance matrix, and "fool" the software, you will almost certainly get wrong standard errors). However, according to Pindyck and Rubinfeld (1991), ML estimation procedure has many desirable statistical properties: First, the parameters are consistent and efficient asymptotically[38] so that among consistent estimators, none has a smaller asymptotic variance. Second, all parameter estimators are asymptotically normally distributed as sample size increase so that the analog of the t-test can be applied. In addition, the estimator is quite robust against non-normality and variation in sample sizes (Olsson, et al., 2000). Comparing ML with WLS and unweighted least squares (ULS), Ogasawara (2003) concludes that when the variances of observed variables are equal, the estimation methods give almost identical parameter estimates. However, according to the same author, it is not recommended to use ULS estimation when the difference of the variances increases. In comparison with generalized least squares (GLS) and weighted least squares (WLS), on non-normal data, the same authors concluded that: "ML tends in general not only to be more stable, but also demonstrates higher accuracy in terms of empirical and theoretical fit compared to the other estimators" (Olsson, et al., 2000, p. 578). Hence, for the structural equation modeling (i.e. the measurement model and the alternative exploratory structural model), ML estimation has been chosen. [39]

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[37] $F_{ML} = \log|\Sigma(\theta)| + tr\left(S \, \Sigma^{-1}(\theta)\right) - \log|S| - (p+q)$

S is the sample covariance matrix, *tr* is the trace (or the sum of the elements on the main diagonal in a square matrix), *p* and *q* are the observed number of indicators (*x*s and *y*s) of the latent variables (*η* and *ξ*). See Bollen (1989b, pp. 107-111) for a detailed description.

[38] Asymptotic means "when n is large," or more precisely: "An asymptotic distribution is a distribution that is used to approximate the true finite sample distribution of a random variable" (Greene, 2003, p. 914)

[39] If the model is well specified, there should be relative small differences with respect to parameter estimates when using GLS and ML (no differences are expected in correct specified models with multinormal observations and large sample sizes (Browne, 1984)). Due to triangulation reasons, the measurement model was therefore also estimated by GLS (Olsson, et al., 2000). Rather small differences between estimates are observed, which indicates that the model is well specified (see Table 4-10 on page 99). Unfortunately, there are no formal tests available that can verify whether these parameter estimates deviate too much, or whether the differences are within acceptable limits.

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On the other hand, the OLS estimation method is chosen for the test of the hypotheses. This is due to a simple logic, when the assumptions for linear regression are satisfied (i.e. normality, homoscedasticity, and linearity), the OLS method is both unbiased and consistent so there is no gain in switching to other methods (Norušis and SPSS, 1999).

Development of measures

The measures were developed more or less in accordance with the procedures for unidimensional multi-item measures recommended by Gerbing and Anderson (1988) and Churchill (1979, pp. 66-69). To specify the domain of the constructs and to generate a sample of items, an extensive review of both conceptual and empirical literature covering the phenomenon under investigation was conducted. To strengthen the understanding of how the concepts were manifest in the empirical setting and to further generate possible items, three managing directors, who were responsible for their firm's foreign operations, were interviewed. On the basis of the literature review and the interviews, a preliminary questionnaire was developed. The scales that measure the items are partly taken from existing literature and adapted to the empirical setting, and partly self-developed.

The preliminary instrument was then tested on six key informants who were all responsible for one or more foreign subsidiaries (both acquisitions and greenfields). The test was executed with the author present so it was possible to observe how the informant went through the questionnaire. Afterwards, problems regarding terminology, instructions, relevance of questions and scales, and volume, were discussed. Likewise, the same procedure was conducted among three research experts. In addition, a research committee went through the preliminary number of items on each variable. Overall, these procedures led to some minor corrections in the questionnaire, such as strengthening the initial instruction, adding a few new items on some of the constructs, and adding some more control variables. This last and final questionnaire was tested on four representative persons. No further problems turned up regarding the scales. The test group used approximately 30 minutes (26-31 minutes) to complete the questionnaire.

Ninety-seven questions were developed, but only 28 of them were directly linked to the theoretical model. The remaining questions concern underlying assumptions (such as opportunism and uncertainty), possible control and classification issues, demographic variables, and accounting and financial matters. The questions and the initial introduction to the respondents were distributed on four pages (A-4 pamphlet), and printed in two colors (see appendix 9 for a detailed presentation of the questionnaire).

To reduce possible consistency effects,[40] the ordering of the questions followed the recommendations given by Salancik and Pfeffer (1977 p. 448-449); the questions representing the dependent variable were presented after the independent variables in the questionnaire and with different other questions in between. In addition, to take care of potential common method variance problems the anchors for some of the scales varied (i.e. between independent variables and dependent variable, and some of the underlying variables). Some items were also reversed (Aulakh and Kotabe, 1997).

Since the survey was conducted in Norway, with Norwegian-speaking informants, the whole questionnaire was written in Norwegian. However, since many of the indicators are taken from existing literature written in English, all indicators were translated into Norwegian, and then back into English. A person, fluent in English and with Norwegian as mother tongue, went through the translations. Minor flaws were addressed and corrected.

Operationalization of the scales

An underlying assumption in structural equation modeling (SEM) as well as in ordinary confirmatory factor analysis is that the indicators measuring the latent variables are reflective, not formative in their nature (Blalock, 1964; Bollen and Lennox, 1991). For all constructs in the theoretical model, the study has used reflective multi-item scales (see also Figure 4-2), which generally imply that the latent variable (η_1) affect the observable indicators (y_i) in the following manner (on a general form):

$$y_i = \lambda_{i1}\eta_1 + \varepsilon_i$$

where ε_i is the measurement error for the ith indicator ($i = 1, 2, ..., n$) and λ_{i1} is the coefficient for the expected effect of η_1 on y_i. It is important to underscore that the latent variable determines its indicators. Hence, changes in the latent variable are reflected in changes in the observable variables. Relative high correlation is therefore expected between the observable indicators.

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[40] Consistency effects refer to the phenomenon that individuals have a tendency to respond to the present questions in accordance with the answers given on the past questions (Salancik and Pfeffer, 1977).
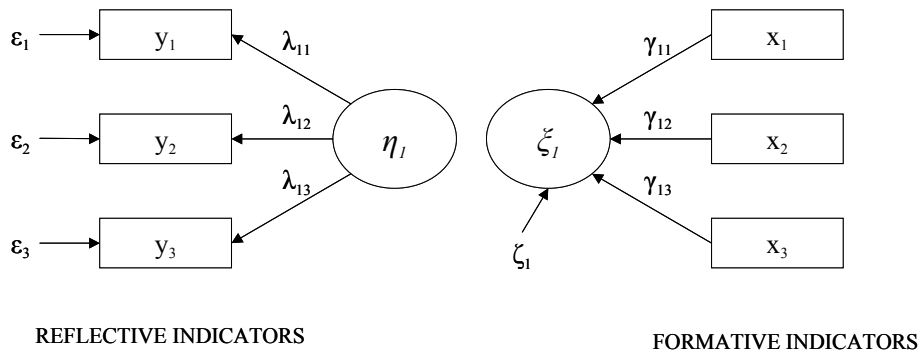
$\varepsilon_1 \rightarrow y_1 \quad \lambda_{11}$

$\varepsilon_2 \rightarrow y_2 \quad \lambda_{12} \quad \eta_1$

$\varepsilon_3 \rightarrow y_3 \quad \lambda_{13}$

$\gamma_{11} \quad x_1$

$\xi_1 \quad \gamma_{12} \quad x_2$

γ_{13}

$\zeta_1 \quad x_3$

REFLECTIVE INDICATORS

FORMATIVE INDICATORS

Figure 4-2: Reflective and formative scales
(From Bollen and Lennox (1991, p. 306) and slightly adjusted)

Contrary, formative scales are measured in the following way (on a general form):

$$\xi_1 = \gamma_{11}x_1 + \gamma_{12}x_2 + \ldots\ldots\ldots + \gamma_{1q}x_q + \zeta_1$$

where ζ_1 is a disturbance term and γ_i is the expected effect of x_i on ξ_1. Changes in the observable indicators determine changes in the latent variable, and the latent construct is thereby a total score of rather independent observable indicators. Since a possible correlation between the indicators are explained by factors outside the model, positive, negative, or zero correlation can be observed (Bollen and Lennox, 1991). Hence, an inclusion of formative measures in SEM can lead to major problems because the underlying assumption about covariance among measurements may be violated. This can lead to identification problems, implied covariances of zero among several indicators, and/or the existence of corresponding models. All these troubles can probably be managed, but according to MacCallum and Browne (1993), this would also include a possible change in the original model in terms of both meaning and simplicity, which is undesirable since there is a strong theoretical foundation for the model presented in this study. None of the indicators used in this study are of a formative nature.

Level of measurement and input matrix

Seven-point Likert-scales (Likert, 1932) with anchors like "very bad description" (1) and "very good description" (7) and "very dissatisfied" (1) and "very satisfied" (7) have been used to measure the items. Such scales

have no real constant unit of measurements, nor any arbitrary or absolute zero point, and are therefore of an ordinal nature.[41] Measuring an item in this fashion gives rise to some comments about the assumption of normality and about the estimation methods used in the study.

Ordinal scales are commonly used in well accepted studies within the field of international business, as well as in marketing and strategy (Aulakh and Kotabe, 1997; Dahlstrom and Nygaard, 1999; Klein, Frazier, and Roth, 1990; Luo, 2002). However, a possible consequence of using ordinal variables is the violation of a covariance structure among the variables in the model, which may lead to inconsistent parameter estimators (the standardized coefficient estimates) of the true parameter vector. In addition, the measurement model for a set of normally distributed, unobserved and continuous indicators cannot be applied to the observed ordinal indicators of the same variables. This is particularly true if the number of categories is small (two or three), with seven or more categories, this problem becomes less severe (Bollen, 1989b). At last, the variance of ordinal variables may differ substantially from the variance in a continuous variable. Often, ordinal variables are both heavily skewed and peaked, which for example, affects the chi-square and z-statistics from maximum likelihood (ML) estimation negatively.

Generally, when the scales are measured on a metric level and the variables are normally distributed, LISREL uses either a variance-covariance matrix or a Pearson product–moment correlation matrix (produced by PRELIS) as input. Normally, a covariance matrix is most suitable and also the preferred matrix input in LISREL. Covariances have an advantage when different samples or populations are compared, and when it is important to explain total variance of a construct (as in theory testing). On the other hand, it is more difficult to interpret the results because the units of measure of the constructs differ, which favors a correlation matrix since the coefficients obtained from correlations are standardized.

In this study, there is no need for standardization since all the indicators are measured on the same type of scale, but since the variables do not have an origin or unit of measurement, the only meaningful moment matrices are correlation matrices (Jöreskog and Sörbom, 1996b). Furthermore, ordinal data with three or more categories may require a so-called polychoric[42]

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[41] Even though Bagozzi (1994, p. 14) describes Likert-scales as "approximately interval in character", strictly speaking, such scales are of an ordinal nature.

[42] If the variables are dichotomous, then tetrachoric correlation is used (Bollen, 1989b, p. 441).

correlation matrix (Olsson, 1979). This means that; for each ordinal variable that is observed (x or y) it is assumed that there is an underlying unobserved continuous variable (x^* or y^*) that has a range from $-\infty$ to $+\infty$. Hence, the polychoric correlation is the correlation between the unobserved continuous variables, not the ordinal observed variables (Bollen, 1989b). The polychoric correlation compensates for possible skewness and kurtosis in the data, but require the weighted least square (WLS) estimation technique to compute the parameter estimates. Unfortunately, this procedure requires very large samples. Some simulation studies claim sample sizes as large as several thousand before the WLS estimation performs well (Jöreskog and Sörbom, 1996a; Olsson, et al., 2000). With a sample size of 160 in this study, a polychoric correlation matrix is inadequate. Hence, given that the variables in the data material are relative normally distributed, they can be treated as if they were continuous, and thereby a Pearson product-moment correlation (PPMC) matrix can be applied as an input matrix (Jöreskog and Sörbom, 1996b). As later analysis shows, the level of skewness and kurtosis are well within the limits given by Hair et al. (1998) and by Olsson et al. (2000) (see for example Table 4-3 on page 81 in their study). Therefore, a PPMC matrix is used as input.[43]

Operationalization of constructs in the model

The measurements of the overall research model are presented in the following section. In addition, the measurements representing underlying assumptions and control variables are also introduced.

Performance

The development of the items used to capture the notion of performance was inspired by different studies. Most of all by Geringer and Herbert (1991), but ideas have also been taken from Ezzamel (1992), Ramaswamy (1992), Woodcock, Beamish, and Makino (1994), and Aulakh and Kotabe (1997). According to Ariño (2003, p. 69), this way of measuring performance is in accordance with so-called "organizational effectiveness measures".

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[43] To check whether there were any dissimilarities between using a correlation matrix or a covariance matrix as input, the analysis was also conducted with a covariance matrix. No differences regarding fit and parameter estimates were observed. This result is also in line with what Dillon, Kumar, and Mulani (1987, p. 131) claim: "parameter estimates obtained using correlation input are consistent with those obtained using covariance input because maximum likelihood estimation is 'scale free', that is, parameter estimates for the covariance matrix can be obtained from the corresponding estimates for the correlation matrix by appropriate scale transformation". See also Bollen (1989b, p. 267).

Seven items were developed to represent the latent variable – performance (i.e. the *satisfaction* with the performance). They are all measured on a 7-point scale, anchored by "very dissatisfied" and "very satisfied". A "*" indicates items that are removed.

1. How satisfied are you with your market share in the specific market.
2. * How satisfied are you with your sales growth in the specific market.
3. How satisfied are you with your profitability in the specific market.
4. How satisfied are you with your current distribution arrangement in the specific market.
5. * How satisfied are you with your cost level in the specific market.
6. How satisfied are you with your access to the specific market.
7. * How satisfied are you with the customers' satisfaction for the local subsidiary.

Additional performance measures

Due to the recommendation of measuring performance in multiple ways, both self-reported financial figures, and self-reported information about some other key performance variables, such as growth/decline in employees in the foreign subsidiary, are collected. In detail, the following information was reported through the questionnaire:

1. Sales and profit for the year 2000 (Return on sales (ROS) can then be calculated)
2. Sales growth/decline as a mean for the years 1998-2000 (three years).
3. Profit growth/decline as a mean for the years 1998-2000 (three years)
4. Number of employees for year 2000 and growth/decline in employees as a mean for the period 1998-2000.

All these figures were also checked trough archival data, most often through the Amadeus database, but also by calling the firms.

Bargaining costs

Bargaining costs are expenses related to negotiations between or among different parties. According to Milgrom and Roberts (1992), these costs are such as: time spent on bargaining, resources used during bargaining, and losses that occur as a result of failure in reaching efficient agreements. The first two items on bargaining costs are self-developed, but the idea is taken from Rindfleisch and Heide (1997). The reason for taking these into the definition of bargaining costs is the need of describing both "quality and quantity" of the construct. These items describe the "quantity". The next three items describe the "quality". Item 3 and 4 are taken from Dahlstrom and Nygaard (1999) and slightly changed to fit the research setting. Item 5 is taken from Buvik and John (2000) and adapted to the research setting. The

items are measured on a 7-point scale, anchored by "very bad description" and "very good description". A "*" indicates items that are removed.

1. * We spend a lot of time in renegotiating agreements made with our foreign subsidiary.
2. * We spend a lot of time in coordinating activities with our foreign subsidiary.
3. Our meetings with employees from our foreign subsidiary are very effective and systematic (reversed).
4. Both parties are always well prepared in the meetings so that decisions can be made (reversed).
5. * The coordination of the relation with our foreign subsidiary is too costly compared to the outcome of these interactions.

Monitoring costs

Monitoring costs are expenditures that occur when the principal needs to control whether the contractual agreements between parties are fulfilled. The first three items are taken from Dahlstrom and Nygaard (1999) and slightly changed to fit the research setting. The next three are self-developed, but somewhat inspired by Martinez and Jarillo (1991). The items are measured on a 7-point scale, anchored by "very bad description" and "very good description". A "*" indicates items that are removed.

1. We use a lot of time to control the delivered services from the foreign subsidiary.
2. We spend a lot of time on accounting issues related to the foreign subsidiary.
3. We spend a lot of time to control deliveries of important input resources to the foreign subsidiary.
4. * We spend considerable resources to control the working effort in the foreign subsidiary.
5. * We visit the foreign subsidiary very often to ensure that the general development of the company is in line with our expectations.
6. * Employees from the foreign subsidiary have to visit headquarters very often to ensure that they are in line with our strategic goals.

Maladaptation costs

The opportunity costs of maladaptation have their origin in the communication and coordination failures between parties in a relationship (Dahlstrom and Nygaard, 1999). When the environment is uncertain, and when the information needed from the foreign subsidiary is incomplete, too voluminous, or poorly formulated, then there are great risks for adaptation problems. The opportunity costs of not being able to respond effectively to changes in the environment are what we can define as the maladaptation

costs. The items representing this construct are taken from Dahlstrom and Nygaard (1999), but the original item with incompleteness and voluminousness is divided into two separate items because incompleteness and voluminousness are most probably two different aspects of the construct. The items are measured on a 7-point scale, anchored by "very bad description" and "very good description". A "*" indicates items that are removed.

1. Information from the foreign subsidiary is often incomplete and therefore difficult to understand.
2. Information from the foreign subsidiary is often too voluminous and therefore difficult to understand.
3. * Information from the foreign subsidiary is often poorly formulated and difficult to understand.
4. Important information from the foreign subsidiary seldom comes at the right time.

Bonding costs
Bonding costs occur due to the necessity of completing secure commitments. Bonding includes a variety of activities that are believed to contribute positively to increased commitments in a relationship: for example, developing personal ties between parties, developing common company cultures, building incentive systems, time spent together to solve third party problems, and developing of career possibilities within the MNC (Heide and John, 1988). Bonding costs have not been operationalized in former studies before as far as we can understand. All items on bonding costs are therefore self-developed. The items are measured on a 7-point scale, anchored by "very bad description" and "very good description". A "*" indicates items that are removed.

1. We spend a lot of time in communicating with our foreign subsidiary.
2. We spend a lot of time in developing personal ties between headquarter and the foreign subsidiary.
3. We spend a lot of time in developing a common company culture
4. We spend a lot of time together with our foreign subsidiary in order to solve conflicts with third parties.
5. * We spend a lot of time in designing and developing career possibilities within our company for employees in the foreign subsidiary.
6. * We have developed a lot of incentive systems (like bonuses and stock options) for our employees in the foreign subsidiary.

Operation mode
The dichotomous variable of operation mode is represented by two categories – "acquisition" and "greenfield".

Underlying assumptions

The underlying assumptions presented in the following section are not part of the research model, but to legitimate the theoretical foundation of the research model, there must be at least some variation in these variables, and also a positive (or negative) relationship between the underlying assumption and the respective transaction costs.

Behavioral uncertainty

Behavioral uncertainty occurs from the problems related to the monitoring of relational parties' performance (Williamson, 1985). When operationalizing the construct, many former TCE studies have leaned on the study of Anderson (1985), which considers behavioral uncertainty as synonymous with the difficulties of evaluating performance (in her study, it was sales force performance). The four items representing the construct are taken from Stump and Heide (1996)(see appendix p. 440). However, the scales are anchored differently since we ask about the informant's perception of the problem. All items are slightly changed and adapted to the present research setting (measured on a 7-point scale, anchored by "very bad description" and "very good description").

1. Precise standards by which a foreign company's performance can be assessed are not readily available.
2. Evaluating our foreign company's performance is a highly subjective process.
3. The foreign company is performing so many different tasks that it is difficult to ascertain whether a good job is being done.
4. It is difficult to determine whether our foreign company adheres to quality standards and specifications that we are agreed upon.

Opportunism

Opportunism is an underlying assumption about human nature in this study, but as explained in the literature review, opportunism is not always present. However, a MNC has to take into consideration the possible problems this type of behavior can create. Likewise, this type of behavior can generate substantial transaction costs for the MNC in the relationship with the foreign subsidiary. The first two items are taken from Dahlstrom and Nygaard (1999) and slightly changed for the purpose of this study. The next two are taken from Gulbrandsen (1998), and slightly changed to fit the empirical setting. The four items that define the construct are measured on a 7-point scale, anchored by "very bad description" and "very good description"):

1. We have reason to believe that employees in the foreign subsidiary hide important information from us.

2. Local management in the foreign subsidiary has not kept the promises made when the subsidiary was established.
3. Occasionally, local management in the foreign subsidiary alters information in order to carry out things their own way.
4. Sometimes the local management in the foreign subsidiary promises to do things without actually doing them later.

Environmental uncertainty

Klein, Frazier, and Roth (1990) argue that environmental uncertainty is a multiple-dimensional construct, which also Rindfleisch and Heide (1997) seem to agree upon because they argue that using a multi-dimensional construct is perhaps wise if the research has its focus in an international context (in contrast to domestic). "Volatility refers to the extent to which the environment changes rapidly and allows a firm to be caught by surprise" (p. 200). See also Leblebici and Salancik (1981). "Diversity reflects the extent to which there are multiple sources of uncertainty in the environment" (p. 200). See also Aldrich (1979). Perceived country risk, among the management, will probably also be part of the environmental uncertainty construct. The items on country risk are taken from Aulakh and Kotabe (1997), but item 2 is slightly changed to export regulations instead of tariff/non-tariff barriers. The volatility and diversity items are measured on a 7-point scale, anchored by "very good description" and "very bad description". The five items that describe country risk are measured on a 7-point scale, anchored by "very small extent" and "very great extent".

Volatility:
1. We are often surprised by the actions of suppliers and distributors in the foreign market.
2. We are often surprised by the actions of our competitors in the foreign market.
3. We are often surprised by customer reaction in the foreign market.

Diversity:
1. There are many end users of this product in this market.
2. There are many competitors for this product/service in this market.
3. We have only a few immediate customers for this product/service in this market (reversed).

Country risk:
1. Changes in import regulations in this foreign country are very unpredictable.
2. Changes in export regulations in this foreign country are very unpredictable.

3. Changes in foreign exchange control in this foreign country are very unpredictable.
4. Changes in foreign business tax laws in this foreign country are very unpredictable.
5. Changes in remittances and repatriation regulations in this foreign country are very unpredictable.

Asset specificity

This construct refers to what extent the supported assets in the relation are transferable across other relationships. Such assets can be described as sunk costs due to its substantial lesser value outside the relationship. In the literature, six asset specificity distinctions have been recognized (Williamson, 1991). However, mainly three of these are adequate for this study: site specificity, physical asset specificity, and human asset specificity. Site specificity refers to the needs of investments related to the specific localization of the foreign subsidiary. Physical asset specificity refers to the investments in specialized facilities, and human asset specificity reflects how much a salesperson has to learn about the product in order to do a good job. Item 1 and 2 are taken from Klein, Frazier, and Roth (1990). Item 3 and 4 are from Aulakh and Kotabe (1997). The rest is self-developed, but item 6 is inspired by Altenborg (1997). The last five items are taken into the construct definition because they have a specific international focus and a focus on the relationship between MNC and the foreign subsidiary. The items are measured on a 7-point scale, anchored by "very bad description" and "very good description". A "*" indicates items that are removed.

1. * It takes a lot of time for our salespersons to learn about this product/service thoroughly.
2. Specialized facilities are needed to market this product/service.
3. Our firm has made significant investments that are specific to the needs of this foreign country.
4. * Our product/services are tailored to meet the requirements of this foreign country.
5. * Our most valuable technology/know-how is transferred to the foreign subsidiary.
6. * Many of the operations in our foreign subsidiary demand close supervision and coordination.
7. Our firm has made significant investments that are specific to the needs of the foreign subsidiary.

Control variables

The literature review revealed a whole set of factors and variables that could influence the performance of a company, but since the intention of this study is limited to the relative narrow scope of inspecting transaction cost effects, many of the variables will be omitted in the further analysis. The included variables have been chosen due to mainly two reasons: (1) the variables can strengthen the isolation requirement; (2) variables that may have a substantial effect on subsidiary performance and thereby outshine the transaction costs effects.

Firm size

In line with prior studies, firm size has probably an effect on subsidiary performance. The size of the firm often reflects its ability to absorb costs for the entry (Agarwal and Ramaswami, 1992). Firm size may also influence the resources available for the foreign subsidiary, and the strategy they follow (Shrader and Simon, 1997). Freeman, Carroll, and Hannan (1983) showed that firm size had an effect (negative) on exit rate. The same result is shown in a study by Mitchell (1994). Firm size is measured by:

1. Annual sales.
2. Annual profit.
3. Number of employees.

Former experience

Prior studies also indicate that former international experience and experience with the host country increase the probability for survival (Barkema, Bell, and Pennings, 1996; Li, 1995).

To capture the MNCs former experience with the host country, the following statement is made in the questionnaire (measured on a 7-point scale, anchored by "very bad description" and "very good description"):

1. Our firm had substantial experience in the host country before we established this foreign subsidiary.

In addition, a question is also asked about how much international sales the MNC has, compared to total sales. This is done to capture the overall international experience of the MNCs.

Industry growth

Li (1995) showed that industry growth had a positive effect on the survival of the company, which may also indicate that this will have a positive effect

on subsidiary performance. Hence, perceived growth rate in the industry is taken into the study as a control variable (measured on a 7-point scale anchored by "very low" and "very high").

Cultural distance
Cultural distance may have an effect on both performance and transaction costs, both directly and indirectly, and as such it may also mask the effect of transaction costs on subsidiary performance. To capture perceived cultural distance the following statement is made (measured on a 7-point scale, anchored by "very bad description" and "very good description")

1. There are considerable cultural differences (i.e. with regard to norms, values, customs,, and relationships with people) between Norway and the host country of our foreign company.

This control variable is inspired by the study of Bell (1996), but slightly adapted to the present study.

Age of subsidiary
Since all of the subsidiaries are alive in year 2000, it is reasonable to infer that while the subsidiaries become older and more efficiently fitted to the environment and to the MNC, their performance will be better, and as such, age can disturb the effect of transaction costs. The age of the subsidiary is measured by year since start-up (i.e. 1990-1997). Hence, all subsidiaries are at least three years old.

Empirical context and data collection strategy

The empirical context for this study is Norwegian owned multinational companies with majority owned (>50 percent of equity) foreign affiliates. This population was chosen due to the need for variance in the independent variables (ref. the association requirement), and due to the wish of external generalization. However, the need for external validity must very often be traded against the isolation requirement, which implies high internal validity. A strict homogenous setting would most certainly have increased the possibility of identifying significant relationships between cause and effect since homogeneity in the empirical context decreases the number of possible other explanatory variables. Thus, a more homogenous research setting should probably have been chosen to better fulfill the requirement of internal validity. On the other hand, the generalizability of the study would then have been reduced since replication studies within different settings have not been accomplished due to constraints of time and money.

To solve some of the possible problems that come with a heterogeneous setting, the focal population was narrowed quite a lot. First, FDIs were only greenfields and acquisitions established during the period 1990-1997 and still active at the end of 2000.[44] However, due to the size of the population, no geographically restriction was introduced regarding place of establishment. The foreign subsidiaries are therefore at the outset spread all over the world. There is no restriction regarding industry, either. Manufacturing firms, as well as service and retailing firms are represented in the population. Second, the foreign affiliates were restricted to ongoing businesses with the most important business activities (such as marketing, finance, and sales) well established. Third, control variables that may correlate with both the independent and dependent variables as well as those probably correlated with the dependent variable alone were included in the second step of the analysis (Cook and Campbell, 1979).

To avert problems regarding generalizability, only one foreign subsidiary per each multinational was chosen in order to reduce parent company biases. Hence, the number of MNCs and the number of foreign subsidiaries is equal. Further, to make it possible to observe any differences in transaction costs between acquisitions and greenfields, it would be inappropriate having a too long period between the measurement of those variables and the time the company established the foreign subsidiary. Therefore, the population was limited to those MNCs that had established foreign subsidiaries after the end of 1989. On the other hand, a very short time span between the set-up of the foreign affiliate and the measurement of transaction costs and especially performance will probably lead to too much measurement disturbance caused by the time factor, and not caused by the generic differences between the two modes of operation. Therefore, transaction costs and performance are measured three years after the latest subsidiary formation (i.e. at the end of 2000).[45]

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[44] To achieve more variance, it would have been desirable with both survived and wound-up affiliates in the database. Unfortunately, this design was very difficult to accomplish due to the lack of information about the annual establishment of foreign subsidiaries in official Norwegian statistics. This study had to take as its point of departure a database of Norwegian firms with still active majority-owned foreign subsidiaries registered in the year 1999.

[45] As discussed above, measuring cause and effect at the same time ruins the assumption of directionality. Hence, this relationship is based on theoretical grounds.

Data collection strategy

Information about the variables was collected through a structured questionnaire, which was mailed to one key informant in the MNC. In addition, the information about financial and accounting issues, as well as demographic information, was double checked through archival sources, mainly the Amadeus database[46] (Bureau van Dijk Electronic Publishing), but also from annual reports and other informants in the companies.

Even though the data collecting strategy chosen in this research is quite common in the social sciences, especially in business studies (Ghauri and Grønhaug, 2002), the strategy of relying on a mailed survey with one single individual as an information source needs some more amplification. First, let us consider the survey technique.

Structured surveys are quite appropriate for large-scaled studies. All informants are replying to the same question, it is quite simple to administer, and it is relative easy to tabulate and analyze (Churchill, 1999). However, major weaknesses are also recognized: problems concerning interpretation of the questions, terms used in the instrument could be misunderstood by the informants, wrong persons are answering the questionnaire, and the response rate is often rather low (Ghauri and Grønhaug, 2002). Although these are important weaknesses, it is possible to reduce these problems by executing a proper design, especially upfront of the study. In addition, the alternatives to a mailed questionnaire were few and with major limitations. The reason for not using archival data was simple; they did not contain the information needed for measuring subsidiary performance and transaction costs. In addition, very little information about the underlying variables was available. On the other hand, interviewing would have been too time-consuming and too expensive to carry out.

Generally, the key informant approach is a technique of collecting data about a social setting through interviewing or asking a selection of people that are in favor of special competencies about a certain research problem (Seidler, 1974). Hence, the informants are not randomly chosen. Further, these individuals are asked to answer on behalf of an aggregated unit, often an organization or a relationship between organizations. However, relying on a single key informant in an organization can be problematic in different ways. First, asking key informants to assess highly complex issues on behalf of an organization may increase the random measurement errors just because of

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[46] The Amadeus database contains detailed financial, ownership, and descriptive information, on 4.6 million European companies. An additional 0.9 million European companies are summarized.

the difficulties of answering such questions (Phillips, 1981). Second, systematic error may occur due to reasons such as inadequate knowledge, ignorance, and/or lack of interest in the survey topic attributed to the key informants (Phillips, 1981). Third, it is impossible to detect whether the error variance in measurements is due to systematic sources of error, or whether it is generated due to random errors (Bagozzi, 1980). Fourth, it excludes a rigorous evaluation of discriminant and convergent validity because variation in measurements due to method factors cannot be modeled (see also footnote 48 for a short elaboration) (Campbell and Fiske, 1959; Phillips, 1981). Fifth, the problem of common method variance can be extensive (Campbell and Fiske, 1959; Podsakoff and Organ, 1986). Because the measures of two or more hypothesized correlated variables (i.e. "traits" in Campbell and Fiske's terminology) come from the same single source (i.e. "method"), any defect in this source may ruin the measures on all variables. Likewise, an observed correlation between some variables (e.g. A and B) and no observed correlation between others (e.g. A and C) can be caused by the fact that A and B are measured by the same method and that C is measured by another.

In order to improve the quality of the collected data, care needs to be taken both before and after the data collection. Especially, precautions regarding the selection of key informants are important upfront (as well as the design of the questionnaire. Therefore, collecting information from both sides of the dyad (i.e. through one key informant in the headquarters and one key informant in the foreign subsidiary) could probably solve some of the above problems (Bagozzi, Yi, and Phillips, 1991; Phillips, 1981). However, this research is occupied with the principal's view of the transaction costs that occur in the transactions between the headquarters and the affiliates, and likewise, the principal's assessment of the performance of the affiliate. Hence, collecting equivalent data from an informant in the foreign subsidiary would have been illogical and irrelevant and certainly not increase the possibility of validating the data. Moreover, if it had been necessary to collect dyadic data in this way, only one single key informant is still representing each part of the organization. One represents the principal and one the agent, who in many cases may also have divergent, and/or conflicting interests, even though they per definition belong to the same organization. Instead, choosing a sample of multiple informants from all possible informants[47] in the headquarters of each MNC may increase the validity of the study (Seidler, 1974). However, such a design is extremely

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[47] Such a sample should not be a representative sample of a universe of informants in the MNC. It should rather be a convenient sample of "perceptions and expertise" about the problem under investigation (Seidler, 1974, p. 817).

resource demanding and increases the possibility of getting non-response biases, and biases related to ignorance and knowledge differences among the informants (Golden, 1992; Kumar, Stern, and Anderson, 1993).

A multiple informant approach also raises questions regarding statistical procedures. If each individual report was to included in the research model (for example as reflective indicators in a multitrait-multimethod matrix (MTMM)[48] (Campbell and Fiske, 1959; Jöreskog, 1974)), the number of parameters to estimate would have increased substantially, which then often has a consequence regarding the number of observations needed in the study. The lower the relative proportion is between number of observations and number of parameters estimated in the model, the more likely it is to reach an improper solution. Remember that researchers often recommend a minimum relative proportion of 5:1 between number of observations and number of estimated parameters in the model (Hair, et al., 1998). Some researchers have tried to solve this problem by constructing an averaged organizational response scale. However, this is not as straightforward as it seems to be. By doing so, individual reports that are highly skewed from the mean will be moderated, and thereby hide possible reliability problems and increase the possibilities of achieving convergent validity due to a technical procedure (Phillips, 1981).

In accordance with the logic in a multiple informant approach, and before the decision about a single key informant strategy was taken, the present study tried to identify several persons in each MNC that could be targeted with the same questionnaire. The typical response from the MNCs was that they did not want to use so much resources on one single study, and that in many cases it was only one person (often the managing director) that really had the expertise to answer such questions.[49] Consequently, this study chose

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[48] A MTMM matrix is a correlation matrix that makes it possible for the researcher to evaluate convergent and discriminant validity at the same time by having at least two methods (forms of measurement) to measure two or more constructs (traits). Correlations between scores that reflect the same trait and the same method represent the reliability coefficients. Correlations between scores that reflect the same trait measured by different methods are convergent validity coefficients, and correlations between different traits measured by the same method are discriminant validity coefficients. In addition, there is a so-called nonsense coefficient that reflects the correlation between different traits measured by different methods (Hoyle, Judd, and Harris, 2002). Coefficients should be high for reliability and convergent validity, and low for discriminant validity and nonsense.

[49] This description was especially predominant within small companies, which also is in line with other studies (see for example John and Reve (1982, p. 519)).

a single key informant technique when collecting the data, and each single informant answered a structured questionnaire, which was sent to him or her by post – a strategy in line with what has been done in other studies where performance and/or transaction costs in various dimensions have been investigated. See for example Agarwal and Ramaswami (1992), Aulakh and Kotabe (1997), Davis et al. (1992), and Klein, Frazier, and Roth (1990).

Given the focus of this study, the key informants were those persons in the MNC that had appropriate knowledge about the research issue and were willing and able to "talk" about it by answering the questionnaire (Campbell, 1955, p. 340). In most cases, this person was the managing director, but division managers, finance directors, marketing directors, and owners of the MNCs were also among the key informants. The procedure to identify these persons was the following. First, all companies were called by phone with the intention to: a) detect whether the company with a respective foreign subsidiary met the criteria (see above for a detailed description of the criteria) for inclusion in the study, and b) identify a key informant in the company. The database from Dun & Bradstreet, contained names on both managing director and director of the board, hence these persons (or if these persons were difficult to come in contact with, it was asked for other responsible persons for the foreign operations in the MNC) were first contacted by telephone and asked some simple screening questions. If the company met the criteria, and when the key informant was identified, he or she was asked to participate in the survey. Based on the result of the telephone conversation, a package that contained a cover letter, a questionnaire, and a prepaid envelope was sent within a week to the key informants (see appendix 7 and 9). To improve the response rate, every informant that responded to the survey was promised to receive a report of the study. After approximately three weeks, a follow-up telephone call, and the one and only postal reminder (see appendix 8) was sent to the non-respondents.

Data screening
This chapter contains some basic data screening such as a further description of the sample, response rate, non-response biases, and normality tests. In addition, a presentation of the underlying variables' relationships to the independent variables in the model is included with the intention to justify a further empirical analysis of the relationships between transaction costs and performance. A short elaboration regarding sample size, and a brief presentation and discussion of the performance measurements in this research, close the chapter.

Sample description and response rate

The sampling frame was extracted from the Dun & Bradstreet database of Norwegian companies. No other database was available (except data stored in the Bank of Norway, which was impossible to get hold of). The original file contained 3082 Norwegian foreign subsidiaries established by approximately 1300 Norwegian MNCs. Going through the whole database, contacting (by telephone and e-mail) all the MNCs, and updating the information, the database was at the outset further reduced to 1652 foreign subsidiaries and 564 MNCs with one or more foreign subsidiaries established during the period 1990-1997. A second screening was conducted, where type of activities and ownership circumstances were focused on. After this screening, the sample frame was reduced to 370 MNCs, of which 346 MNCs were willing to participate. As far as what is known, this sample frame contains all the Norwegian MNCs that established one or more foreign subsidiaries between the beginning of 1990 and the end of 1997. Questionnaires were sent by mail to all these companies (i.e. 346).

A total of 171 questionnaires were returned, which is a response rate of 49.4 percent (the response rate is reduced to 46.2 percent if the non-willing companies are included, which probably is most correct). However, seven of these questionnaires had to be excluded due to foreign ownership of the MNC. A further four questionnaires were taken out due to insufficient completion and thereby lack of important information. Hence, the total number of complete questionnaires was 160.[50] This results in a usable response rate of 43.2 percent, which is in the upper part of what other comparable studies have reported (Aulakh and Kotabe, 1997: 30.7 percent; Brouthers, Brouthers, and Werner, 1999: 20.9 percent; Buvik and John, 2000: 26.6 percent; Dahlstrom and Nygaard, 1999: 50.0 percent). Table 4-1 gives an overview of key figures regarding sampling, sample frame and response rate.

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[50] No missing data on any key variables, neither no outliers (see Appendix 1).

Table 4-1: Sample frame and response rate

	Multinational companies	Number of subsidiaries
Dun and Bradstreet	1300	3082
First screening	564	1652
still active MNC with respective foreign affiliate		
year of establishment		
Second screening	370[*]	1107
type of activities in the foreign unit		
foreign ownership of MNC		
real owner of the MNC (companies on the list?)		
Not interested	24	56
Final agreements to participate	346	
Returned questionnaires	171	
Excluded questionnaires (foreign ownership)	7	
Unusable questionnaires	4	
Complete questionnaires	160	
Early respondents	117 (73.1%)	
Late respondents	43 (26.9%)	
Response rate	49.4%	
Response rate (not interested included)	46.2%	
Usable response rate (not interested excluded)	46.2%	
Usable response rate (not interested included)	43.2%	

[*] Not interested participants are included

Going further into the sample, it is observed that the majority of the foreign subsidiaries reported in the study are established within Europe (81.9 percent). They have less than 100 employees (87.5 percent), and almost 50 percent of them have sales as their main activity. The MNCs that are represented in the sample are most often manufacturing companies (55 percent). Both very small and very large companies (ranging from 10 to 27,500) are represented, but the majority has less than 500 employees (76.3 percent), which seems to be more or less in line with the structure of the total sample of companies (i.e. those 370 that are in the sample frame). However, no stringent test, except of the non-respondent test in the next section (which actually is a proxy test of non-response bias), has been conducted to compare non-respondents with respondents. Nevertheless, a manual screening of demographic variables was conducted with (maybe) one interesting observation; very few large oil companies were present in the usable sample, which is due to the presence of foreign MNCs in that particular sector. Otherwise, no other major deviations were observed (see appendix 1 for a more detailed description of the sample).

Non-response bias

Non-response occurs due to many circumstances, of which the most obvious are refusals, and "not-at-homes"[51] (Churchill, 1999). In any survey where non-response comes about, the question whether those who did respond are significantly different from those who did not respond, must be answered. If not, serious doubts can be raised as to whether it is possible to generalize the results to the whole sample, or to a larger population.

When little information is available about the non-respondents, especially regarding key variables in the study, the researcher is often left with an approximation of non-response bias through a comparison of first and late respondents on key variables (Armstrong and Overton, 1977). The idea is that persons who respond in later waves (i.e. after extra stimulus) are expected to be similar to those who did not respond.

As much as 73.1 percent of the respondents in the present study did not need a second wave (see Table 4-1). The mean score on key variables (some demographics and all variables in the main research model) in this group was therefore tested against the respective means in the late response group (26.9 percent). This test was a simple t-test of the null hypothesis of no mean differences across the two groups. As shown in Table 4-2, no significant differences were present between the two groups (although the scores on performance are close by), which indicates that non-response bias is non-significant in this study.

These results were also confirmed when running a binomial logistic regression[52] with the same variables regressed on the response variable, which is a dichotomous variable with zero and one as the only outcomes. The log-likelihood statistics (-2 Log Likelihood) across the eight models did change just marginally, going from 184.982 (the base model with only the intercept included) to 173.513 (i.e. the model χ^2 when seven variables[53] entered the equation was 11.469 (7 df)). The model χ^2 did not show any significant changes across the models. Hence, no significant improvement of the base model was recognized by entering the seven variables. The Roa's efficient score statistics (1 df) for each variable were ranging from .064 for "monitoring costs" to 3.471 for "performance", none were significant at p <

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[51] Includes circumstance such as: absence from office, lost in mail (both ways), wrong address and wrong key informant.

[52] Both ordinary entry and block-by-block entry methods were used.

[53] "Turnover MNC" was taken out of the overall model due to high correlation with "number of employees". A separate analysis with only MNC turnover as predictor was conducted with the same indication as in the t-test.

.05. Likewise, the Wald statistics (1 df) indicated non-significance at p < .05 for all variables. Therefore, no other variables but the constant were included in the model.

Table 4-2: Test of non-response bias

Variables	Mean early respondents (*N*=117)	Mean late respondents (*N*=43)	*t*-value	Sig. (2-tailed)
Bargaining costs	3.35	2.95	1.835	.068
Monitoring costs	2.84	2.79	.265	.791
Bonding costs	4.15	4.51	−1.698	.091
Maladaptation costs	2.41	2.10	1.421	.157
Performance	4.16	4.59	−1.949	.053
Number of employees MNC	966	570	.750	.454
Turnover MNC	1,327,934	864,925	1.150	.252
International sales	46.85	55.09	−1.766	.079

Normality

The statistical assumption of multivariate analysis is that the variables are multinormally distributed, and if so, univariate normality can also be inferred. Highly skewed (skewness) and peaked (kurtosis) data may ruin resulting statistical tests because F and t statistics require a normal distribution of the variables in the model (Hair, et al., 1998). Even though it is multivariate normality that is of interest, it is quite common (and instructive) to report the univariate statistics in a multivariate analysis. The characteristics of each variable are by this isolated and thrown into relief. Hence, univariate normality was checked for each single item.

With a normal distribution, skewness and kurtosis should equal zero (it is common to subtract three from the original kurtosis value). Positive values on skewness indicate skewed data towards the left of the scale, and contrary with negative values. A peaked distribution gives positive kurtosis, and a flat distribution, negative kurtosis. Looking at the descriptive statistics, especially "item 1" (on bargaining cost) seems to deviate from a normal distribution quite much with a skewness of 2.034 and a kurtosis of 4.672 (see appendix 2-a which gives descriptive statistics for all 28 initial items). Following the rule of thumb that values above one should be treated with caution (Kaplan, 1990), this item was excluded in the further analysis because of relative high skewness and excessive kurtosis. Table 4-3 presents

the descriptive statistics for the items used in the research model (the final number of items after the later reliability and unidimensionality analysis).

Table 4-3: Skewness and kurtosis – item level[54]

Items	Mean	Std. dev.	N	Skewness	Kurtosis
Barg1	3.212	1.371	160	.351	−.335
Barg2	3.275	1.341	160	.435	−.322
Mon1	2.350	1.337	160	1.173	.943
Mon2	3.581	1.544	160	.022	−.821
Mon3	2.556	1.268	160	.754	.127
Bond1	4.362	1.646	160	−.263	−.856
Bond2	4.537	1.475	160	−.295	−.602
Bond3	4.244	1.729	160	−.110	−1.038
Bond4	3.837	1.617	160	−.103	−1.031
Mal1	2.356	1.460	160	1.020	.122
Mal2	2.006	1.179	160	1.410	1.594
Mal3	2.625	1.545	160	.897	−.203
Perf1	4.194	1.482	160	−.268	−.489
Perf2	3.756	1.862	160	.077	−1.125
Perf3	4.306	1.392	160	−.351	−.498
Perf4	4.831	1.323	160	−.608	.039

In addition to an inspection of the numerical values of skewness and kurtosis, normal probability plots were executed in SPSS[55] (SPSS, 1999), and more formal tests of univariate and multivariate normality were executed in PRELIS 2 (Jöreskog and Sörbom, 1996b). In general, the formal tests of normality are quite sensitive to sample sizes, hence PRELIS 2 uses the set of tests recommended by D'Augostino (1986) (see Bollen (1989b, pp. 420-422 for a summary) to test for univariate normality. These tests try to take care of the problem that the standard error of both skewness and kurtosis decreases with larger N, and that the null hypothesis of normality

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[54] Standard errors for skewness (S_s) and kurtosis (S_k) respectively are approx.:

$$S_s = \sqrt{\frac{6}{N}} \text{ , and } S_k = \sqrt{\frac{24}{N}} \text{ , where } N \text{ is the number of cases.}$$

The obtained value for skewness (S) and kurtosis (K) are then compared with 0 using the z distribution:

$$z = \frac{S-0}{S_s} \text{ , and } z = \frac{K-0}{S_k} \text{ (Tabachnick and Fidell, 1996, pp. 73-74).}$$

[55] Two kinds of plots were executed in SPSS: (1) Plots of the normal quantiles against the quantiles of the variables, and (2) a detrended normal Q-Q plot for each variable.

will be rejected with medium to large sample sizes even if there are only minor deviations from normality. The test regarding multivariate normality is based on a procedure that addresses a problem that variables can be univariate normal, but not multinormally distributed (Bollen, 1989b). Still, precaution must be taken, when concluding on the basis of these tests.

Table 4-4: Test statistics for univariate and multivariate normality – item level

Items	Skewness		Kurtosis		Skewness and Kurtosis	
	Z-Score	P-Value	Z-Score	P-Value	χ^2	P-Value
Barg1[a]	1.826	.068	−.912	.362	4.166	.125
Barg2[a]	2.236	.025*	−.865	.387	5.748	.056
Mon1	5.156	.000*	2.013	.044*	30.636	.000*
Mon2	.118	.906	−3.499	.000*	12.255	.002*
Mon3	3.644	.000*	.489	.625	13.516	.001*
Bond1	−1.383	.167	−3.771	.000*	16.128	.000*
Bond2	−1.544	.123	−2.107	.035*	6.820	.033*
Bond3	−.583	.560	−5.587	.000*	31.560	.000*
Bond4	−.550	.582	−5.508	.000*	30.643	.000*
Mal1	4.644	.000*	.478	.633	21.796	.000*
Mal2	5.870	.000*	2.813	.005*	42.372	.000*
Mal3	4.201	.000*	−.447	.655	17.850	.000*
Perf1	−1.410	.159	−1.555	.120	4.405	.111
Perf2	.413	.680	−6.808	.000*	46.521	.000*
Perf3	−1.825	.068	−1.596	.111	5.878	.053
Perf4	−3.029	.002*	.266	.790	9.243	.010*
Multivariate normality	8.342	.000*	5.402	.000*	98.762	.000*

* non-normal for $p < .05$ (two-tailed test)

[a] reversed items

Table 4-4 summarizes the test statistics for the univariate and the multivariate normality test. Since Olsson et al. (2000) conclude that the ML estimation method is quite robust even with very high values of kurtosis,[56] and that former studies have indicated that tests of variances are more affected by kurtosis than of skewness, neither skewness nor kurtosis are that critical in the present study (see p. 566). Just minor deviation from normality was observed at the item level.

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[56] Even with kurtosis in the interval of 2.0-6.35, the ML method was considerably insensitive (see Olsson et al. (2000) table 5, p. 578).

Aggregating the data to the construct level (i.e. latent variable scores, and summated scales, both executed in PRELIS 2. See Table 4-5 and appendix 2-b) give even better results. On the basis of both the visual tests and the formal tests, no other items were excluded because of non-normality, although some of them were excluded due to cross loadings (see later analysis in this chapter).

Table 4-5: Skewness and kurtosis – construct level

Variables	Skewness	Kurtosis
Latent variable scores:		
Bargaining cost (2 items)	.385	−.129
Monitoring cost (3 items)	.819	.568
Bonding cost (4 items)	−.168	−.493
Maladaptation cost (3 items)	.944	.210
Performance (4 items)	−.320	−.197
Summated scales:		
Bargaining cost (2 items)	.312	−.319
Monitoring cost (3 items)	.664	.294
Bonding cost (4 items)	−.176	−.370
Maladaptation cost (3 items)	.938	.152
Performance (4 items)	−.269	−.290

Underlying assumptions

A sound logic of the theory in this research is that there must be some variances in the underlying variables if a transaction costs approach is to be applied. Hence, a descriptive presentation of each underlying variable and a correlation matrix between these variables and the transaction costs are presented.

If zero variance were present, the standard deviation would also be zero. However, all underlying variables have a standard deviation of more than one (i.e. from 1.165 on "behavioral uncertainty", to 1.525 on "country risk"). Table 4-6 presents the descriptive statistics.

Table 4-6: Descriptive statistics – underlying variables

Variables	Mean	Standard deviation
Behavioral uncertainty	2.663	1.165
Volatility	2.769	1.214
Diversity	4.758	1.441
Country risk	3.055	1.525
Asset specificity	3.364	1.207
Opportunism	2.816	1.338

Without going into details, nor going into any discussion, significant correlations are recognized between many of the variables; especially "opportunism" and "behavioral uncertainty" have distinct correlations between several transaction costs. It is also recognized that "asset specificity", and especially "diversity" are not definite in their relationships. Table 4-7 presents the correlations after a refining of the underlying variables' scales through a confirmatory factor analysis with varimax rotation (accomplished in SPSS). All correlations are based on summated scales.

Table 4-7: Correlation matrix – underlying variables and transaction costs

	Behavioral uncertainty	Volatility	Diversity	Country risk	Asset specificity	Opportunism
MalCost	.444***	.466***	−.003	.094	.035	.665***
sign.	.000	.000	.485	.120	.331	.000
MonCost	.199**	.399***	.018	.193**	.036	.459***
sign.	.006	.000	.410	.007	.325	.000
BargCost	.338***	.427***	.009	.069	−.162*	.489***
sign.	.000	.000	.454	.195	.020	.000
BondCost	−.273***	−.001	.030	.144*	.174*	.060
sign.	.000	.494	.353	.035	.014	.225

* $p < .05$ (two-tailed test)
** $p < .01$ (two-tailed test)
*** $p < .001$ (two-tailed test)

Based on these relative shallow analyses, it is concluded that there is empirical support for continuing with the analysis of what roles the transaction costs play regarding performance.

Sample size

How large does the sample have to be to get proper solutions and meaningful parameter estimates? No exact answer can be given to this question. It depends on type of analysis, number of variables in the analysis, number of parameters to estimate, model misspecification, departure from normality, and estimation procedure (Hair, et al., 1998). However, some rules of thumb are given in the literature.

If there are concerns about the impact of specification errors, sample size should be increased compared to what otherwise would be required. As far as what is knowable, the most relevant items regarding the definition of transaction costs are included in the model. The performance items are developed from theory and represent the construct in a relative proper way. On the other hand, many other variables than those that are included in the model are relevant in explaining total performance. However, this research is occupied with what impact transaction costs have on performance, hence in that sense, the most relevant items and constructs are included in the model.

In general, there is an agreement of "more is better than less" in terms of both N and number of indicators per factor (Anderson and Gerbing, 1984; Gerbing and Anderson, 1987). A sample size as low as 50, is possible with ML estimation,[57] but the recommended sample size is N>100. With a sample size of 150 and with three or more indicators per factor, a converged and proper solution is usually achieved. Likewise, parameter estimates with standard errors small enough to be of practical use will also be obtained (Anderson and Gerbing, 1984; Gerbing and Anderson, 1985). In addition, there must be at least as many observations as free parameters in the model (N/p = 1/1), but a recommended minimum ratio of N/p has been 5/1 for relatively normally distributed data (Bentler and Chou, 1987). However, in small sample sizes, the probability of getting nonconvergence and improper solutions increases dramatically when the number of indicators increases. Hence, in many cases, this will either limit the number of items per factor (p/f), or limit the number of constructs measured in the model. Nevertheless, it is also recognized that in CFA with very small N (i.e. N = 50) it is recommended to have more than four items per factor to avoid improper solutions (Marsh and Hau, 1999, p. 61).

Therefore, having a sample size of 160 and a total of 16 indicators that measure five latent variables in the final model, it is concluded that the

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[57] See also under "Estimation method" on page 57, for a further description of the ML characteristics.

sample size and model complexity are within the limits recommended in the literature.

Measurements of performance

Some studies recommend that performance has to be measured in different ways – using both subjective and objective measures (Geringer and Herbert, 1991; Glaister and Buckley, 1998). In the present study, performance was at the outset, measured by seven subjective indicators (PerfAll), one objective measure – return on sales (ROS), two semi objective – self reported mean growth in sales (SalesGrowth) and return (RetGrowth), and one behavioral measure – mean growth in number of employees (EmplGrowth). However, due to the need for simplicity, it is only the subjective measures that are used in the LISREL analysis. Knowing that this may weaken the conclusions of the whole research, a correlation analysis between most of these performance variables was executed to see whether there is a strong correlation between these measures. If so, to use only subjective measures as a good proxy for performance can probably be justified. Table 4-8 shows the results.

Table 4-8: Correlation matrix – miscellaneous performance measures

	PerfAll	PerfRed	SalesGrowth	RetGrowth	ROS	EmplGrowth
PerfAll	1.00					
sign						
PerfRed	.971***	1.00				
sign.	.000					
SalesGrowth	.393***	.358***	1.00			
sign.	.000	.000				
RetGrowth	.422***	.384***	.531***	1.00		
sign.	.000	.000	.000			
ROS	.263**	.252**	.122	.137	1.00	
sign.	.001	.002	.137	.095		
EmplGrowth	.261**	.239**	.678***	.385***	.058	1.00
sign.	.001	.003	.000	.000	.483	

*$p < .05$ (two-tailed test)
**$p < .01$ (two-tailed test)
***$p < .001$ (two-tailed test)

Most of the correlations are significant at $p < .001$. One extremely high coefficient of .971 is recognized, but this is between the initial seven subjective performance items (*PerfAll* – summated scales) and the actually four items (*PerfRed* – summated scales) used in the model. The correlations between *PerfRed* and the other measures are in the range of .384-.239, all are significant at $p < .01$ or $p < .001$.

To justify a single type of measure, or to merge measures, no exact lower limit of the correlation coefficient between constructs is defined. However, Cohen (1977) recommends in general a correlation coefficient of .50 before it can be called large. On the other hand, seeing the correlation analysis as an analogy of a factor analysis where inter-item correlation above .30 is considered important (Hair, et al., 1998; Robinson, Shaver, and Wrightsman, 1991), it can be justified that the subjective measures are relatively adequate proxies for at least the mean growth/decline in sales and return. The correlation between return on sales (ROS), where the calculation is based on sales and return for the foreign unit in the year 2000, is perhaps more problematic. However, notice the insignificant correlations between ROS and SalesGrowth and RetGrowth[58]. If the level of fixed costs is constant across time, firms and industries (which is highly unrealistic), a clear correlation between these variables would have been recognized. But relatively young firms, which are growing rather fast, will probably have a different level of fixed costs than more mature firms. The same applies to manufacturing subsidiaries compared to subsidiaries with sales as their main activity. Hence, if this is the situation, using ROS as a measure for performance will be rather dubious. There is no clear evidence of these problems in the material, but the fact that the firms are coming from different industries, are represented in different countries, and that the mean sales growth has been approximately 10-20 percent with even larger growth in employees (15-25 percent), strongly indicate that ROS cannot be used as a performance measure in this setting. With this reasoning as a backdrop, mainly subjective measures of performance will be used in the further analysis.

Validation of measurements

The measures used in this study have to be evaluated in regard to both reliability and validity. The first refers to the consistency of the measures over time or across observations, and the latter refers to whether a variable really measures what it is assumed to do (Bollen, 1989b). However, primary to the reliability and validity evaluation, unidimensionality has to be assessed (Hair, et al., 1998).

Unidimensionality

When a particular set of observable measures (items or indicators) fit a specific common latent variable (trait or construct), then unidimensionality

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[58] An even weaker tendency was registered between ROS and sales/profit for the year 2000. The correlation were: ROS-sales: .041, ROS-profit: .139.

is present (Hattie, 1985; McDonald, 1981). Contrarily, measurement models with correlated measurement errors or with indicators that load on several traits do not represent unidimensionality in the measurement of constructs. Hence, such constructs can be very difficult to interpret in a one-way fashion. Assessing unidimensionality is therefore a critical element in the procedures of testing the measurement model (Anderson and Gerbing, 1988). The following procedures were conducted to evaluate the unidimensionality of the scales: (1) an unrotated principal component analysis (PCA) with a following (2) promax rotated PCA were conducted. Thereinafter, (3) inter-item correlation and (4) item-to-total correlation were assessed, and at last, (5) a confirmatory factor analysis (CFA) was conducted in LISREL 8.53. The reason for not relying solely on an exploratory PCA is mainly that this type of analysis does not provide a rigorous test of unidimensionality. Each set of factors, even if they are orthogonal, is a weighted sum of all observable items in the study. This is in contrast to a CFA in which each factor represents a unique latent factor for a set of equally exclusive items (Gerbing and Anderson, 1988).

First, an unrotated exploratory principal component analysis (PCA) with all items (except item 1 on "bargaining costs") was conducted in SPSS. With an eigenvalue set to one, seven factors were extracted with a variance of 26.96 percent explained by the first factor. This confirms that more than one factor are needed when counting for total variance in the sample.

Second, an oblique (promax) rotated exploratory PCA was conducted to see whether some items had high loadings on unexpected factors or cross-loaded on some of the other factors in the analysis.[59] Following the rule of thumb that loadings above .30 are the absolute minimum, and loadings above .40 are considered more important (Hair, et al., 1998, p. 111), the lower limit of factor loadings was set to .40. Seven items were deleted due to major cross loadings and unsatisfactory factor loadings – three on "monitoring costs", two on "bargaining costs", and two on "bonding costs". The deleted items on "monitoring costs" were the self-developed ones; they loaded on different factors with just marginal loadings on the factor that the three remaining items loaded on (i.e. those items taken from Dahlstrom and Nygaard (1999). Still, the original conceptual definition of the construct was not significantly

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[59] An oblique rotation was used at this stage because it allows correlated factors instead of an assumption of independence among the factors as is maintained in an orthogonal rotation (Hair, et al., 1998). However, a varimax rotation was also conducted to see any differences. No major dissimilarities were observed (see also Gerbing and Anderson (1988, p. 189)).

changed by this deletion, although the definition may be somewhat limited in covering the whole range of monitoring costs.

It is notified that by removing "item 2" on "bargaining costs", the intention of also capturing the "quantity" of the construct through two self-developed items fell apart since the first item was removed due to high skewness and kurtosis. By removing the items on "bargaining costs", no significant change of the original conceptual meaning of the construct was observed.

Third, an inter-item correlation matrix was inspected to see whether the items within each construct had some low correlations (see appendix 3 for the correlation matrix). It is recognized, that especially "item 4" on "bonding costs" had some rather low values (i.e. in the range of .268 to .322). Hair et al. (1998) recommend a lower limit of inter-item correlation of .30.[60] Still, the item remained in the analysis due to the exploratory nature of the "bonding cost" construct, and due to the fact that it did not cross-load too much on the other constructs. Later analyses in LISREL confirmed this and the correlation was significant, though with a high error term. At the opposite end of the scale, very high inter-item correlation is recognized between "item 1" and "item 2" on "performance"(i.e. correlation = .745), which may indicate that one of the items has to be deleted. The same problem may also be present between "item 1" and "item 3" on "maladaptation costs" (i.e. correlation = .748). However, no items were deleted due to the inspection of the correlation matrix.

Fourth, an item-to-total correlation was conducted to verify the preliminary results from the exploratory CFA (Nunnally, 1978; Nunnally and Bernstein, 1994). The rationale for this kind of analysis is that items that are used to describe a common latent variable have to be highly correlated with the total scores of this latent variable. If not, there is a great chance that the item does not represent a proper measure of the construct. The item-to-total correlation for the preliminary model is shown in appendix 4. All correlations exceed the recommended lower limit of .50 (Hair, et al., 1998). The correlations were ranging from .64 to .90, all significant at $p < .001$. No items were deleted as a result of this analysis, either. However, general flaws with the item-to-total correlation are also recognized (Gerbing and Anderson, 1988). If the set of items actually represents two constructs, a composite score can result in rather high correlations between the items and the total scale, especially if the underlying constructs are correlated. All the items-to-total correlations may satisfy the lower limit of .50, even though a distinct two-factor solution was obvious when looking at the inter-item correlations.

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[60] See also Robinson, Shaver, and Wrightsman (1991).

Hence, as a consequence of failing in discriminating between the constructs, it also becomes rather problematic to decide upon which items should remain in which set of constructs (Gerbing and Anderson, 1988).

Fifth, thereto-subsequent analyses in LISREL 8.53 (Jöreskog and Sörbom, 1993b) with all pairs of constructs and four complete and semi-complete measurement models with all construct simultaneously compared, were conducted. In Model 1, all initial items (except "item 1" on "bargaining costs"), and five latent variables were included (i.e. ξ_1=BargCost, ξ_2=MonCost, ξ_3=BondCost, ξ_4=MalCost, ξ_5=Perf). Model 2 represents the preliminary model after stage four in the above procedure. Model 3 has five performance measures and three measures on "maladaptation costs", otherwise equal to Model 2, and Model 4 has four measures on performance, otherwise equal to Model 3. Every model contained all five latent constructs.

All latent constructs were allowed to correlate freely, but the items were set to correlate only with their own construct. This procedure ensures in better ways the two necessary conditions of unidimensionality, namely internal and external consistency[61] (Anderson and Gerbing, 1988). This will be tested later (see the reliability sections).

Different fit statistics are produced when testing the overall measurement model in LISREL, but since no single fit measure is agreed upon to be superior, the most important fit statistics are reported and evaluated. In general, these fit statistics are often organized into three different groups: (1) absolute fit indices, (2) incremental fit indices, and (3) parsimonious fit indices. In addition, a χ^2 test, which is the conventional overall test of fit in SEM is reported.

The χ^2 statistic is the only statistically based measure that determines the degree to which the overall model predicts the observed correlation (or covariance) matrix (Hair, et al., 1998). It measures the distance between the sample correlation (or covariance) matrix and the fitted correlation (covariance) matrix, and the larger this distance is, the larger the χ^2 will be. In this sense, this statistic is a badness-of-fit statistic – small numbers (in relation to the degrees of freedom) that result in p-values greater than .05 correspond to acceptable fit (Jöreskog, 1993). Yet, it is recommended that

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[61]Given two indicators *a* and *b*, which correlate (ρ) on a common construct ξ. The two measures are internally consistent if: $\rho_{ab} = \rho_{a\xi}\rho_{b\xi}$. Similarly, given an indicator *a* of construct ξ, and another indicator *d* of construct ξ^*. External consistency is then given by the following equation: $\rho_{ad} = \rho_{a\xi}\rho_{\xi\xi^*}\rho_{\xi^*d}$ (Anderson and Gerbing, 1982, p. 454).

the p-value must exceed the level of .1 or .2 before nonsignificance can be concluded (Hair, et al., 1998, p. 654). However, the χ^2 test is rather sensitive when the sample contains more than 200 observations. Even small discrepancies between the true model and estimated models will then be assessed as significant, hence with sample sizes above this level, it is recommended to rely on other fit measures. Likewise, with sample sizes around 100 and below, the test becomes rather insensitive (Schumacker and Lomax, 1996, p. 125). Therefore, the χ^2 test is most appropriate when the sample size is between 100 and 200, a requirement that this research fulfills. Even though the χ^2 approximation assumes no kurtosis,[62] and that a covariance matrix is analyzed, research has shown that the test is quite robust under non-normality (non-centrality) and that the same χ^2 estimates are generated whether it is a covariance matrix or a correlation matrix that is analyzed (Bollen, 1989b).[63]

Another widely used measure of absolute fit is the root mean square error of approximation (RMSEA) (Steiger, 1990), which is the discrepancy between the true model and the estimated model per degree of freedom. This measure is quite useful since it seems to be more robust than the χ^2 concerning sample size, and that the value represents the goodness-of-fit expected if the model were estimated in the population and not only in the sample (Hair, et al., 1998). However, Olsson et al. (2000) underscore that the RMSEA cannot be easily compared across estimation methods because these methods (i.e. WLS, GLS, and ML) have a tendency to produce rather different values with non-normal and misspecified models. Especially, GLS and WLS produce rather over-optimistic RMSEA values. Hence, even though values below .05 are deemed as a good fit, and values between .05 and .08 are acceptable, these values have to be compared with other fit measures.

Other absolute fit indices are the goodness-of-fit index (GFI) and the adjusted goodness-of-fit index (AGFI)[64] (Jöreskog and Sörbom, 1981; Tanaka and Huba, 1985). The GFI measures the amount of variance and covariance in the original correlation/covariance matrix that is predicted by the estimated correlation/covariance matrix. In opposite to the AGFI index, the GFI does not adjust for degrees of freedom. Otherwise, they are quite

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[62] Even if all the assumptions of the χ^2 test hold, it may not be realistic to assume that the model holds exactly in the population. In this case, χ^2 should be compared with a non-central rather than a central χ^2 distribution.

[63] See also footnote 43.on page 63.

[64] In some books, the AGFI measure is also described as a parsimonious fit measure (see for example Hair et al. (1998) on page 623).

equal. Neither of them explicitly depends on sample size,[65] they are relatively robust against non-normality, and they usually range between zero and one. Even though no exact threshold has been defined, values above .90 have been defined as good fit (Hair, et al., 1998).

The last three absolute fit indices that are reported in this study, are the noncentrality parameter (NCP), the critical N (CN), and the root mean squared residual (RMR). The NCP tries to reduce the influence of sample size by subtracting the degrees of freedom from the noncentrality χ^2 statistic. There is no threshold value, but the objective is to minimize the parameter value. The CN attempts to estimate a sufficient sample size for accepting the fit of a given model for a χ^2 test. Hoelter (1983) proposes a cutoff value of 200 or larger. It may be a problem that under dependence among common and unique latent variables, the CN index seems to be inconsistent across sample sizes and estimation methods, and has a tendency to underestimate its asymptotic value, which leads to rejection of the true model too often (Hu and Bentler, 1995). The RMR describes the average residual correlation between observed and estimated input matrices. No threshold level is established, but the index can be used to compare the fit of two different models for similar data (Jöreskog and Sörbom, 1996a).

An incremental fit index that has been quite common is the normed fit index (NFI), which assesses the adequacy of a target model in relation to a null model (with all observed variables uncorrelated) (Bentler and Bonnet, 1980). NFI has a zero-one range where values close to 1.0 (i.e. >.90) are recommended (Hu and Bentler, 1995). According to several studies, the NFI index substantially underestimates its asymptotic value in small samples (Bollen, 1989a) and it also has a tendency of rejecting models too much even at moderate sample sizes when using for example GLS (Tanaka and Huba, 1985). Hence, the NFI is evaluated as a rather poor indicator when N is small. Other fit indices belonging to the same group is the comparative fit index (CFI) (Bentler, 1990) and the nonnormed fit index (NNFI) (Bentler and Bonnet, 1980; Tucker and Lewis, 1973). The first is based on the noncentrality parameter of the χ^2 of the goodness-of-fit test statistic. The latter quantifies the degree to which a particularly model is an improvement over a baseline model by combining a measure of parsimony (takes the degrees of freedom into account) into a comparative index. Both indices varies between zero and one, but recommended values for good fit are .90 or

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[65] A number of goodness-of-fit measures have been proposed to eliminate or reduce its dependence on sample size. According to Jöreskog (1993), this is a hopeless task because even though a measure does not depend on sample size explicitly in its calculation, its sampling distribution will depend on N.

greater. A third index that belongs to the same group is the incremental fit index (IFI), which is a modification of the NFI index in the way that it is less dependent on N while simultaneously controlling for the degrees of freedom available. For a correct maintained model it should be close to one, values greater than one indicate overfitted models (Bollen, 1989a; 1990).

A χ^2 related so-called parsimonious fit measure is the normed χ^2, which is the ratio of the χ^2 divided by the degrees of freedom. The basic objective with this measure is to check whether the model is "overfitted"(i.e. too many parameters are included in the model, and thereby capitalizing on chance) or not (Jöreskog and Sörbom, 1993b). When values below 1.0 are observed, "overfitting" is probably present. A value above 2.0 indicates that there is room for improvements. Hence, a proper solution should have values between 1.0 and 2.0 (Hair, et al., 1998). This measure is not explicitly reported, but given the χ^2 and the degrees of freedom, a simple calculation shows that all models except *Model 1* pass this test.

The fit of each different model (Models 1-4) is reported in Table 4-9.

Table 4-9: Fit indices for four measurement models

Fit statistics	Model 1 all initial items included	Model 2 perf: 7 items malcost: 4 items	Model 3 perf: 5 items malcost: 3 items	Model 4 perf: 4 items malcost: 3 items
χ^2	889.37	235.89	121.48	97.00
(df)	(340)	(160)	(109)	(94)
p-value	.0000	.0000	.1949	.3956
RMSEA	.101	.055	.027	.014
p-value close fit	.00	.30	.95	.98
NCP	549.37	75.89	12.48	3.00
GFI	.71	.87	.92	.93
AGFI	.66	.83	.88	.90
RMR	.10	.069	.065	.064
NFI	.84	.92	.94	.94
NNFI	.88	.96	.99	.99
CFI	.89	.97	.99	.99
IFI	.89	.97	.99	.99
CN	69 (69.67)	130 (130.20)	179 (179.20)	200 (200.04)

The initial model (*Model 1*) received rather poor fit, and none of the fit indices met the minimum level of good fit. Cross-loadings and some low loadings on the underlying constructs were observed. This was also in line with the exploratory analysis executed in stage two above. Hence, there were potentials for major improvements. Before any refining of the model, *Model*

2 with seven items on "performance" and four items on "maladaptation costs" was tested, and received reasonable fit on many of the fit indices. However, the χ^2 test, the RMSEA, the GFI and the AGFI, and CN indicate that the model is not optimal. In addition, the LISREL program indicated better fit if several cross-loadings between constructs had been solved. This can be done by removing constructs, adding paths (i.e. relate indicators to multiple constructs), allowing for correlated measurement errors, or relating the indicators to a different construct if it is theoretical justifiable (Anderson and Gerbing, 1988). To preserve unidimensionality, removing constructs or changing relationships are preferred. There is no theoretical foundation for changing the relationships in this research, so the only remedy to improve fit was to remove items as long as it did not change the meaning of the underlying construct.

After refining the initial model comparing the result with *Model 2*, some more items were removed. *Model 3*, with five "performance" items and three measures on "maladaptation costs" shows very good fit. Compared with *Model 2*, "item 3" on "maladaptation cost" was removed due to major correlation with "item 2" on "monitoring costs" (a decrease in χ^2 of 34.05 was observed). Likewise "item 5" and "item 7" on "performance" were deleted due to serious cross-loadings and correlations across constructs. A decrease in the χ^2 of 44.41 while only removing "item 7", and a decrease of 43.24 if only "item 5" was removed, would occur. Even though *Model 3* has a very good fit indicated by almost all the fit statistics (except of CN and AGFI), this model was slightly changed by removing "item 2" on performance. As indicated earlier, and by inspection of the correlation matrix, "item 1" and "item 2" were highly correlated; however, this was not the most important problem, "item 2" loaded also so much on "bargaining costs", that it was decided to remove this item also. Hence, *Model 4* with a total of 16 items and 5 constructs is chosen as the final measurement model. It shows excellent fit by all fit statistics, and still contains quite reasonablly the theoretical dimensions this research attempts to model (except a rather one-dimensional "bargaining cost"). Figure 4-3 presents the final measurement model.
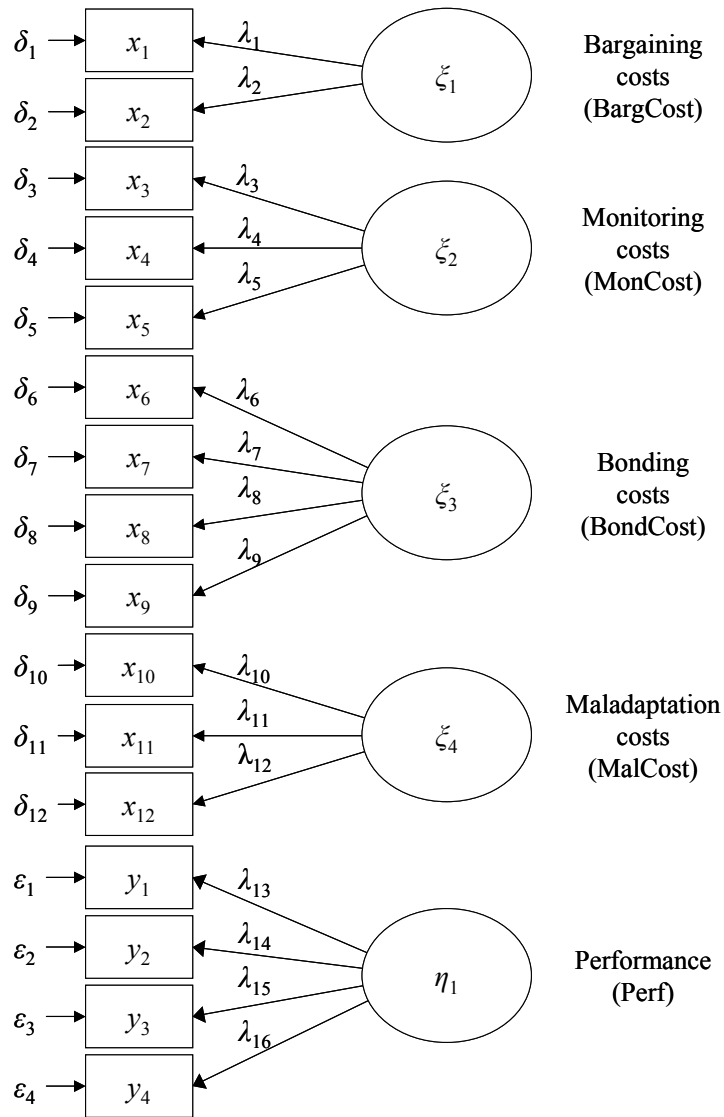
Figure 4-3: Final measurement model

In addition to the test of the final measurement model, a test of the four-dimensional characteristics of transaction costs was also conducted. This is critical with respect to the theoretical understanding of what transaction costs are, but also critical with respect to the four hypotheses stated in this research. Indications of a four-dimensional solution are observed through the development of the measurement model, but a formal test needed to be executed. This test was also carried out in LISREL, but now without the performance indicators. Excellent fit indices are reported (χ^2 (48) = 53, p = .287, RMSEA = .026, GFI = .95, AGFI = .91, IFI = .99, CFI = .99). See appendix 5 for a complete set of fit indices. Hence, this strengthens the indications that transaction costs are to be treated as four separate constructs. The following tests of reliability and validity of the measurement model will probably fortify this impression.

Reliability

According to Hair (1998) reliability is an assessment of the consistency between measurements that have one latent construct in common. Actually, reliability can be assessed across methods, time, and subjects. However, since this research is a cross sectional study with one single informant, the only reliability that can be assessed is the consistency across subjects. The idea is that items that measure the same construct should be highly correlated. Four measures are recommended for assessing reliability: the Cronbach's alpha, individual item reliability, composite reliability (or latent variable reliability), and variance extracted (Bagozzi and Yi, 1988; Gerbing and Anderson, 1988).

The Cronbach's alpha (Cronbach, 1951) is composed by the number of test items (k) and the average inter-correlation among the items ($\bar{r}$):

$$\alpha = \frac{k \cdot \bar{r}}{1 + (k-1) \cdot \bar{r}}$$

and ranges in value from zero to one. It can be used to describe the reliability of factors extracted from dichotomous as well as for multi-item scales. The higher the score, the more reliable the generated scale is. Nunnally and Bernstein (1994, pp. 264-265) have indicated .70 to be an acceptable reliability coefficient, but lower thresholds are sometimes used in the literature, especially for exploratory measures. All scales in the present research were above the .70 threshold; ranging from .71 on "bonding costs" to .84 on "performance".

Item reliability is defined as the "magnitude of the direct relations that all variables have on x" (Bollen, 1989b, p. 221). The stronger this relationship is, the larger the reliability of the item. The item reliability can be written as follows:

$$\rho_i = \frac{\lambda_i^2}{\lambda_i^2 + \varepsilon_i}$$

Hence, assuming that the variance of an item equals one and that each item is loading on only one latent variable, the reliability equals the square of the loading (λ_i) on the construct. LISREL (by using the SIMPLIS language) prints this directly as a R^2 value. No lower limit is recommended in the literature, but values closer to one are indicating higher reliability. Hair et al. (1998, p. 111) indicate the following values for factor loadings: $\pm.30$ (minimum level), $\pm.40$ (more important), and $\pm.50$ (significant). Squaring these values to get the variance explained, the minimum level is .09, more important will be .16, and a lower limit of a significant value will be .25. Looking at Table 4-10, especially two items on "bonding costs", "item 1" and "item 4" seem to capture a small portion of the variance of the "bonding cost" construct. All other items are well within significant limits.

Composite reliability (Jöreskog, 1971) is defined as the square of the sum of the standardized loadings (λ_i) on each construct, divided by the same plus the sum of the errors (ε_i or δ_i), can be displayed as follows:

$$\rho_{com} = \frac{\left(\sum_i \lambda_i\right)^2}{\left(\sum_i \lambda_i\right)^2 + \sum_i \left(1 - \lambda_i^2\right)}$$

As a measure of the internal consistency of the latent variable items, the construct reliability measure is close to Cronbach's alpha in practice (Gerbing and Anderson, 1988), which also can be observed in Table 4-10. A recommended threshold value of acceptable reliability is .70, although lower values are acceptable in exploratory scale measures. All scales are above the .70 threshold value.

Even though ρ_{com} indicates the reliability of the scales, it says nothing about how much of the variance is explained by the construct and how much is explained by measurement error (Fornell and Larcker, 1981). When the

items are truly representative of the latent variable, a value above .50 (i.e. more than 50 percent of the variance is captured by the construct) is observed. The average variance extracted (ρ_{var}) is:

$$\rho_{\mathrm{var}} = \frac{\sum_i \lambda_i^2}{\sum_i \lambda_i^2 + \sum_i \left(1 - \lambda_i^2\right)}$$

The only difference between this measure and ρ_{com} is that the standardized loadings are squared before added up. See Table 4-10 for a detailed description. It is observed that two of the scales are slightly below the .50 level. "Bonding costs" have variance explained by the construct of .42 and "monitoring costs" by .47. However, this measurement is substantially more conservative than the composite reliability; thus highly reliable measures can have an unacceptable average variance extracted. Thus omitting "unreliable" measures to improve ρ_{var} will always be a trade-off between unidimensionality, composite reliability and average variance extracted. In this way, average variance extracted could also indicate the validity of the measurements, which is the last subject that must be assessed.

Table 4-10: Measurement model – pattern coefficients and reliability measures

Parameter	Scale	Estimates ML (std. error)	Estimates GLS[66]	t-values	Error term (δ, ε)	Item reliability (R^2)	Average variance extracted	Composite reliability	Cronbach's alpha
λ_1	BargCost	.75 (.077)	.72	9.67	.45	.56			
λ_2	BargCost	.84 (.077)	.81	10.92	.30	.70	.63	.77	.77
λ_3	MonCost	.76 (.080)	.72	9.49	.42	.58			
λ_4	MonCost	.60 (.082)	.59	7.32	.64	.36			
λ_5	MonCost	.68 (.081)	.68	8.44	.53	.47	.47	.72	.72
λ_6	BondCost	.49 (.083)	.47	5.89	.76	.24			
λ_7	BondCost	.82 (.079)	.81	10.41	.33	.67			
λ_8	BondCost	.79 (.079)	.78	10.00	.38	.62			
λ_9	BondCost	.39 (.085)	.36	4.56	.85	.15	.42	.73	.71
λ_{10}	MalCost	.85 (.069)	.78	12.22	.28	.72			
λ_{11}	MalCost	.68 (.075)	.67	9.17	.53	.47			
λ_{12}	MalCost	.79 (.071)	.73	11.06	.38	.62	.60	.82	.81
λ_{13}	Perf	.82 (.069)	.75	11.91	.32	.68			
λ_{14}	Perf	.68 (.074)	.61	9.19	.54	.46			
λ_{15}	Perf	.79 (.070)	.74	11.28	.37	.63			
λ_{16}	Perf	.76 (.072)	.78	10.56	.43	.57	.59	.84	.84

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[66] These GLS-estimates are only provided of comparison reasons; large relative differences between ML-estimates and GLS-estimates may indicate that the measurement model is misspecified (Olsson, et al., 2000). As noted before (see footnote 39 on page 58), the differences are so small that one can assume that the model is well specified. The largest relative difference is approximately 8.5 % (for λ_{13}).

Validity

In SEM, unobserved constructs are measured by observed variables and the purpose of a measurement model is to describe how well the observed variables serve as a measurement instrument for the unobserved constructs. Validity is about how well these observed measures reflect their underlying constructs (Jöreskog and Sörbom, 1993b). Hence, establishing valid measures is of major importance, especially because of the relationships between these unobservable variables that are hypothesized in the structural model. In this context, especially construct validity, which can be divided into convergent and discriminant validity (Campbell and Fiske, 1959), is of interest (Anderson and Gerbing, 1988).

In its original form, convergent validity is about the measurement of multiple traits using multiple, and maximally different, methods. Convergent measures are highly correlated across different methods. However, traits are often measured by only one method (and so also in this research); thus, establishing a rigorous evaluation of convergent validity is difficult. Nevertheless, a recommended indication of convergent validity is the significance of the factor loadings (Anderson and Gerbing, 1988). As shown in Table 4-10, all t-values for the λ's are significant at $p < .001$, indicating that convergent validity is attained.

Discriminant validity is about the correspondence between constructs. Discriminant measures are more correspondent with internal measures than they are correspondent with measures of other concepts (Campbell and Fiske, 1959). Hence, scales that measure different constructs cannot correlate too much. The CFA procedure of removing items that correlate too much across constructs is perhaps the most important procedure to ensure discriminant validity. Following the recommendations given by Anderson and Gerbing (1988) and Fornell and Larker (1981), three tests of discriminant validity were conducted. In addition, to confirm the results from the CFA, an orthogonal[67] (varimax) rotated factor matrix is presented (see Buvik and John (2000, pp. 56-58)).

The first and perhaps easiest test is to see whether the confidence interval ($\pm$ two standard errors) around the correlation coefficients between two latent constructs include 1.0. As Table 4-11 shows, this is not the case.

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[67] Now, in opposition to the exploratory PCA conducted above, it is more natural to assume that the factors are orthogonal since all significant cross-loadings are removed.

Table 4-11: Discriminant validity – correlations among latent constructs

	BargCost	MonCost	BondCost	MalCost	Perf
BargCost	1.00				
MonCost	.43	1.00			
(std. error)	(.09)				
BondCost	−.28	.18	1.00		
(std. error)	(.09)	(.10)			
MalCost	.69	.59	−.07	1.00	
(std. error)	(.06)	(.08)	(.10)		
Perf	−.52	−.36	.28	−.51	1.00
(std. error)	(.08)	(.09)	(.09)	(.07)	

The second test is a χ^2 difference test (with one degrees of freedom), where each pair of constructs is compared across two models. In the first and restricted model, the correlation between the constructs is fixed to one. In the unrestricted model, the constructs are allowed to correlate freely. A significant lower χ^2 value in the unrestricted model indicates discriminant validity. According to Table 4-12, all constructs were highly significantly different from each other.

Table 4-12: Discriminant validity – a χ^2 difference test

Scales	Restricted model	Unrestricted model	Δdf	Δχ^2
BargCost and MonCost	58.29	3.03	1	55.76
BargCost and BondCost	78.30	12.66	1	65.64
BargCost and MalCost	36.31	3.15	1	33.16
BargCost and Perf	53.38	5.54	1	47.84
MonCost and BondCost	125.59	18.59	1	107.00
MonCost and MalCost	68.35	7.04	1	61.31
MonCost and Perf	101.93	10.95	1	90.98
BondCost and MalCost	193.01	18.90	1	174.11
BondCost and Perf	154.46	15.42	1	139.04
MalCost and Perf	140.78	19.38	1	121.40

χ^2- cutoff for different significance levels with one degree of freedom:

.05	$\chi^2 = 3.84$
.01	$\chi^2 = 6.63$
.001	$\chi^2 = 10.83$

In the third test, the average variance extracted for each construct is compared with the shared variance (the square of the correlation coefficient) among each pair of constructs (Fornell and Larcker, 1981). To pass the test,

average variance extracted must be greater than shared variance for the same pair of constructs. All pairs of constructs passed the test (see Table 4-13).

Table 4-13: Discriminant validity – shared variance and average variance extracted

ρ_{var}		BargCost (ρ_{var}=.63)	MonCost (ρ_{var}=.47)	BondCost (ρ_{var}=.42)	MalCost (ρ_{var}=.60)	Perf (ρ_{var}=.59)
		Shared variance				
.63	BargCost	1.00				
.47	MonCost	.19	1.00			
.42	BondCost	.08	.03	1.00		
.60	MalCost	.48	.35	.01	1.00	
.59	Perf	.27	.13	.08	.26	1.00

To confirm the results from the CFA, a PCA with orthogonal rotation was conducted in SPSS (Buvik and John, 2000). All 16 items loaded properly on the theoretically correct factor (see Table 4-14).

Table 4-14: Discriminant validity – principal component analysis

Items	Factor 1 Loading: BargCost	Factor 2 Loading: MonCost	Factor 3 Loading: BondCost	Factor 4 Loading: MalCost	Factor 5 Loading: Perf
BAR1	**.800**	.209	−.023	.207	−.202
BAR2	**.735**	.120	−.146	.338	−.218
MON1	.139	**.728**	.035	.277	−.136
MON2	.158	**.748**	.152	.091	−.065
MON3	−.003	**.799**	.086	.142	−.104
BON1	.014	.237	**.689**	−.001	−.143
BON2	−.185	.026	**.800**	.019	.184
BON3	−.292	.157	**.733**	−.041	.172
BON4	.322	−.085	**.664**	.033	.055
MAL1	.290	.198	.035	**.786**	−.177
MAL2	.020	.249	−.061	**.751**	−.252
MAL3	.247	.119	.054	**.803**	−.200
PER1	−.171	−.068	.054	−.098	**.850**
PER2	−.058	−.094	−.046	−.206	**.754**
PER3	−.045	−.056	.132	−.207	**.816**
PER4	−.185	−.149	.106	−.117	**.756**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Summary

The data in this research seem to be of good quality. The thorough administration of the data collection seems to secure that key information about the problem under investigation is revealed. Non-response biases do not appear as a problem, and a relative rigorous testing procedure secures that both validity and reliability problems seem to be of moderate character. Excellent fit indices also indicate that unidimensionality is secured in a satisfactory manner.

5 Test of hypotheses

Initially, a brief account of the estimation method used to test the hypotheses is presented. Then, the results from the OLS-regressions are reported. However, as a reflection on the results of the hypothesis tests, a more exploratory structural model, estimated in LISREL, is proposed and tested at the end of the chapter.

Choice of statistical method

As already touched upon in the previous chapter,[68] the main statistical method for the hypothesis tests is an OLS-regression. The main reason for this is linked to the need for a relative large sample size when running moderator or interaction analysis in SEM. Yang Jonsson (1997) suggests that a sample size of at least 400 cases is required when one or more interaction effects is included. In samples with fewer cases, an increasing number of non-convergence solutions are observed. However, the problem of non-convergence is more typical in simulation studies than in studies with real empirical data (Yang Jonsson, 1997, p. 27). Since Yang Jonsson's study was a simulation study,[69] lower sample sizes than 400 may be possible, which, among others, Jaccard and Wan (1996) point out. They assert that when doing interaction analysis by splitting the sample into subgroups, a minimum sample size of approximately 100 per group is to be preferred, but sample sizes as small as 75 can be used in some cases when the model is very simple, the parameter estimates (the λs) are highly saturated (i.e. .83 in their study), and a moderately sized interaction effect is present. Further, Jaccard and Wan (1996, p. 73) state that "sample sizes of less than 50 per group typically will yield unacceptable low levels of power for detecting group differences in slopes". Looking at group sizes across entry modes in this study, the total number of subsidiaries in the greenfield category is 105, and the total number of acquisitions is 55. Hence, it seems to be relatively inappropriate to opt for a SEM approach when testing the structural model with hypothesized moderator effects present (i.e. sub-group analysis).

When doing moderator analysis, generally there are three different categories of moderators, which all require different statistical approaches (Sharma, Durand, and Gur-Arie, 1981). A *homologizer* influences the strength of the relationship between *y*, the criterion variable, and *x*, the

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[68] See pp. 54-57 in the methodology chapter.
[69] Yang Jonsson did a simulation study of a non-linear structural equation model formulated by Kenny and Judd (1984).

predictor variable, and relates neither to the predictor nor the criterion variable. Hence, it is the error term that is affected by the moderating variable, which lead to different predictive validity (R^2) between groups when splitting the whole sample into subgroups across the moderating variable. A *pure moderator*, on the other hand, does not moderate the strength, but the form of the relationship between *y* and *x*, and accordingly, it only interacts with the predictor to modify the form of the relationship – this in contrast to a *quasi-moderator*, which also serves as a predictor. The theoretical discussion of the moderator effects in this study deals with entry mode as a pure moderator, i.e. it is hypothesized that *entry mode* (*EM*), operationalized by two levels: greenfield and acquisition, modifies the relationships between the predictors (the *ex post transaction costs* (*TC*)) and the criterion variable *performance* (*Perf*). Hence, the relationship can generally be written as:

$$Perf_j = a_j + b_{ij}(TC \times EM) + \varepsilon_j \qquad (5.1)$$

where a_j denotes the intersection, b_{ij} the regression coefficients, and ε_j represents the errors.

One proper way of analyzing a relationship with a pure moderator is by dichotomizing the sample on the moderator variable, and then computing the slopes for the relationship for each of the two resulting groups (Jaccard, Wan, and Turrisi, 1990). In general, a criticism of this method has been that a dichotomizing of the moderator reduce precision and thereby power[70] (in opposition to a product term approach) (Aiken and West, 1991, p. 168; Cohen, et al., 2003). However, in this case, the moderator is dichotomous in its nature; i.e. it has only two distinct outcomes – greenfield or acquisition, and thus, the critique is not relevant in this case. Hence, when testing the interaction effect, the sample is divided into two sub-groups across the moderator variable, and then tested for any significant slope differences.

Since there are major constraints regarding a SEM approach to small sub-samples, different OLS-regressions will constitute the main part of the

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[70] Statistical power is the probability that the test will detect an effect in the sample when a true effect is present in the population. A common standard for the minimum power necessary for conducting an investigation in the social sciences has been .80 (Cohen, 1988). The power depends, among other things, on the specific statistical test, the level of significance chosen, the magnitude of the true effect in the population, sample size, and measurement error (Cohen, 1988). Regarding measurement error, Aiken and West (1991, pp. 163-164) show that by reducing reliability from 1.00 to .80, power will be reduced by almost 50 percent, and up to two thirds when reliabilities drop to .70.

analysis, but a more complex (and highly exploratory) model without moderator effects (i.e. an analysis on the whole sample) will be introduced and tested in LISREL at the end of the chapter.

Testing for the general assumptions in linear regression

The three general assumptions in regression analysis: normality, homoscedasticity, and linearity, were tested for. In addition, multicollinearity was also tested for.

According to former analyses, non-normality is not a critical problem in this study – both skewness and kurtosis are below $\pm$ 1.0 (see also appendix 2-b) and an inspection of a normal probability plot confirms the conclusion see appendix 6-g). To test for the assumption of homoscedasticity (or constant variance of the error term), the data was first analyzed in SPSS 11.0 by inspecting a graphical plot of standardized residuals (ZRESID) against standardized predicted values (ZPRED). No pattern of increasing or decreasing residuals was observed. This result was further confirmed by an analysis of a graphical plot of Studentized residuals (SRESID) against ZPRED.[71] See appendix 6:a-b for a graphical presentation. When splitting the sample across entry mode, the more formal Levene test can be used to test for possible heteroscedasticity (Hair, et al., 1998). The Levene statistics are all insignificant with values ranging from .049 (sign. .825) to 2.689 (sign. .106).[72] Hence, the assumption of homoscedasticity is most probably met. To identify possible non-linear relationships, partial regression plots were produced and inspected. No nonlinear relationships were identified (see appendix 6:c-f for the main variables in the model).

Multicollinearity is often detected by using a two-step procedure. First, by inspecting the variance proportion matrix, and second, by comparing the results with the variance inflation factor (VIF) and tolerance values (generated by SPSS in this analysis). A collinearity problem is present when the same dimension accounts for more than 90 percent of the variance for two or more variables (Hair, et al., 1998). There is no indication of this problem in the data set, which also is confirmed by a maximum VIF value of 2.362 with a respective tolerance value of .423. The average VIF value is 1.870. According to Hair et al. (1998, p. 193), a common cutoff threshold is

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[71] According to Field (2000, p. 139) the SRESID against ZPRED method is almost identical with the method of plotting ZRESID against ZPRED, but the former is more sensitive on a case-by-case basis.

[72] The test was also conducted in ANCOVA with $F = 1.151$ ($p < .285$).

a tolerance value of .1, and thereby a VIF value of 10.0 (since VIF = 1/tolerance).[73]

Endogeneity

Some researchers maintain that endogeneity in a research model can lead to biased estimates and thereby unreliable conclusions (Hamilton and Nickerson, 2003; Shaver, 1998). OLS-regression models assume that the error in the dependent variable is uncorrelated with the explanatory variables. This may not be true in many circumstances. In strategy and international business research, one of the aims is to predict superior performance based on a set of firm strategies. But managers choose these strategies based on their best knowledge about firm characteristics and industry conditions (Shaver, 1998). Hence, firm performance also explains strategy, and the model becomes non-recursive.

Theoretically, this may also be the situation in this research, although it is not detected empirically.[74] The transaction costs that occur in the relationship may be dependent on former performance in the subsidiary. Likewise, they are also dependent on the chosen entry mode. The latter is partially taken care of through the modeling of the operation method variable. The choice was made several years ago, and this study sets out to investigate whether this choice moderates the relationship between transaction costs and performance today. Hence, the measurement of transaction costs and performance are based on already revealed information, not an *ex ante* assumption of these values. The first could be solved through a two-stage least squares (2SLS) procedure if the problem is present in the dataset, if not, an OLS-regression is the preferred estimation technique (Norušis and SPSS, 1999).

The first step in a 2SLS analysis is to run different reduced form regressions, where the possible endogenous variables are regressed on a set of exogenous variables (i.e. instrumental variables that could be the whole set of controls in the system and/or additional variables that are collected, and that explain the endogenous explanatory variables, but do not correlate with the error term in the final dependent variable). The second step is to use the predicted values calculated from the first step (i.e. variables that are sound proxies for the transaction costs and uncorrelated with the error terms in subsidiary

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[73] This result is also confirmed in previous tests of the measurement model.

[74] No covariance between the error term (ε_j) for the dependent variable (*Perf*) and the transaction cost variables were detected in this study (i.e. Cov(tc, ε_j) = 0).

performance) together with the control variables in an ordinary OLS-regression to estimate performance. The crucial point when following this procedure is that 2SLS depends heavily on the quality of the instrument. Hence, high R^2-values are needed for the reduced form equations. This was not obtained during the first step when using only the control variables in the system. All R^2-values were in the interval between .02-.07 (sign F from .06-.46). By using other variables outside the system, but variables that the theory assesses as predictors for transaction costs (such as opportunism, volatility, and behavioral uncertainty), significantly higher R^2-values were obtained (.18-.57, sign. F = 000).[75] Unfortunately, some of these variables correlate, although to a modest degree (correlation coefficients of .18 and −.19 for two of the variables), also with the error term in subsidiary performance, and are therefore difficult to use. The whole idea is that the researcher needs instrumental variables that to a high degree explain the endogenous variables on the right-hand side of the equation and do not correlate with the errors on the left-hand side at the same time.

It seems difficult, then, to deal with a possible endogeneity problem statistically with the obtainable variables from both inside and outside the measurement system. However, it is not certain that this phenomenon constitutes a serious problem. In a recent article, Schugan (2002) maintains that this problem is much more prevalent in naturally occurring data than in data from questionnaires or telephone interviews. Hence, despite the possibility that endogeneity problems are not detected, OLS-regressions are chosen when testing the hypotheses. The endogeneity topic will be followed up in a later section (see "Limitations and future studies" on page 147).

Results

Initially, four OLS regression models were estimated. Model A and Model B are estimated with only direct effects present (i.e. the transaction costs are regressed on subsidiary performance). In addition, Model A, the most basic one, has no control variables included. Model C and Model D are both models with the moderator included, the first one without controls and the last with the controls. Hence, we have the following formal models where c_j, d_j, e_j, f_j, and g_{ij} denote coefficients; *BargCost* (bargaining costs), *MonCost* (monitoring costs), *BondCost* (bonding costs), and *MalCost* (maladaptation

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[75] If the R^2 is too low and not significant at a high level (i.e., if the F-statistics are insignificant), the regression results become unreliable. The lower the R^2 in the first stage of the 2SLS regression, the more likely there will be bias in the second stage regression. In addition, a low R^2 reduces the likelihood that the endogenous variables will be significant in the second-stage OLS regression.

costs) are the transaction costs involved; *Perf* denotes subsidiary performance; *EM* (the entry mode) is the moderator variable; *CONT* denotes a vector of control variables taken into the model; and b_{ij} denotes coefficients for the transaction costs when the moderator effect is taken into consideration:

Model A:
$$Perf_j = a_j + c_j BargCost + d_j MonCost + e_j BondCost + f_j MalCost + \varepsilon_j \qquad (5.2)$$

Model B:
$$Perf_j = a_j + c_j BargCost + d_j MonCost + e_j BondCost + f_j MalCost$$
$$+ g_{ij} CONT + \varepsilon_j \qquad (5.3)$$

Model C:
$$Perf_j = a_j + b_{ij}[(BargCost + MonCost + BondCost + MalCost) \times EM]$$
$$+ \varepsilon_j \qquad (5.4)$$

Model D:
$$Perf_j = a_j + b_{ij}[(BargCost + MonCost + BondCost + MalCost) \times EM]$$
$$+ g_{ij} CONT + \varepsilon_j \qquad (5.5)$$

Direct effects (H_1-H_4)

The results without the interaction term included are reported in Table 5-1. Both models are highly significant with *F*-values of 22.018 (Sig. $F < .001$) for *Model A*, and $F = 16.286$ (Sig. $F < .001$) for *Model B* where the control variables are included. The direct effects of all four *ex post* transaction costs on subsidiary performance are also significant. Looking at Model A, it is observed that "bargaining costs" and "monitoring costs" have a significant negative effect on subsidiary performance ($\beta_{\text{BargCost}} = -.219$, $t = -2.320$, $p < .05$; $\beta_{\text{MonCost}} = -.154$, $t = -1.839$, $p < .05$). In addition, an even stronger negative significance is observed with regard to "maladaptation costs" ($\beta_{\text{MalCost}} = -.253$, $t = -2.566$, $p < .01$). Thus, hypotheses H_1-H_3 are supported. On the other hand, H_4 is not supported. Even though the effect is highly significant ($\beta_{\text{BondCost}} = .229$, $t = 3.200$, $p < .01$), the upshot of "bonding costs" on subsidiary performance is positive, not negative as was hypothesized. Explained variance in *Model A* is .346 (adjusted $R^2 = .346$).

The overall pattern from *Model A* is not changed when the control variables are included (see *Model B*, Table 5-1), which indicates that there are no spurious or intervening effects in the model. The same levels of significance are observed for the main variables in the two models, and the signs of the relationships are still the same (i.e. *BargCost*, *MonCost*, and *MalCost*), all

have a negative effect on subsidiary performance, and *BondCost* has a positive effect). Just minor deviations from the *β*-values and the *t*-values in *Model A* are observed in *Model B* for the main variables.

Table 5-1: Regression results – direct effects on subsidiary performance (Perf)

Variables	Model A		Model B	
	β [a]	*t*-value [b, c]	β [a]	*t*-value [b, c]
BargCost	−.219	−2.320[**]	−.159	−1.738[**]
MonCost	−.154	−1.839[**]	−.184	−2.290[**]
BondCost	.229	3.200[***]	.248	3.555[***]
MalCost	−.253	−2.566[***]	−.284	−3.021[***]
Industry growth (*IndGrow*)			.177	2.765[***]
International sales (*IntSales*)			.149	2.398[***]
Age of subsidiary (*SubAge*)			.167	2.649[***]
Host country experience (*HostEx*)			.018	.271
Number of employees (*NumEmp*)			−.004	−.068
Cultural differences (*CultDif*)			.074	1.091
Model statistics:				
R^2		.362		.430
Adjusted R^2		.346		.404
F		22.018[****]		16.286[****]
N		160		159

[a] Standardized coefficients   [b] One-tailed test   [c] Two-tailed test for BondCost
[*]$p < .10$, [**]$p < .05$, [***]$p < .01$, [****]$p < .001$

Three of the six control variables have significant positive effects on subsidiary performance, namely "industry growth" (*IndGrow*), "international sales ratio" (*IntSales*) for the company, and "age of subsidiary" (*SubAge*) ($\beta_{IndGrow} = .177$, $t = 2.765$, $p < .01$; $\beta_{IntSales} = .149$, $t = 2.398$, $p < .01$, $\beta_{SubAge} = .167$, $t = 2.649$, $p < .01$). On the other hand, the size of the whole company measured by number of employees (*NumEmp*),[76] former host country experience (*HostEx*), and perceived cultural distance (*CultDif*) have no effect on performance. By including the control variables in the model, explained variance increased from .346 to .404 (adjusted R^2).

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[76] The same non-significant pattern was observed when using "sales in the whole company" and "revenue" as control variables instead of number of employees (revenue is probably not an ideal proxy for company size).

Effects with alternative performance measures

This research has argued strongly for a multi-item (perceptual) definition of subsidiary performance, but it has also been pointed out that it may be necessary to use other, and more "objective" measures of performance. Therefore, different regression models have been applied with three other measurements of performance; mean growth in sales, mean growth in revenue, and mean growth in number of employees for the subsidiary. The results are presented in Table 5-2 (in the table, the findings from the hypothesis tests are also included).

Much weaker relationships were found, and the explained variances are substantially lower in all the three regression models (adjusted R^2 ranging from .109 to .058), but many of the same patterns observed in *Model B* are also recognized in the regressions with the three other performance measures. The variable that really has a significant (positive) effect across all the performance measures is "industry growth" (*t*-values ranging from 2.196 to 3.751). In addition, "bonding costs" has significant positive effects on "sales growth" ($\beta_{BondCost}$ = .137, t = 1.761, p < .10) and "employment growth" ($\beta_{BondCost}$ = .169, t = 2.107, p < .05), and the effect of "monitoring costs" on "revenue growth" is significantly negative ($\beta_{MonCost}$ = −.155, t = −1.904, p < .05). Likewise, "maladaptation costs" has a significant negative effect on "sales growth" ($\beta_{MalCost}$ = −.116, t = −1.516, p < .10). Finally, "cultural difference" has a negative effect on "revenue growth" ($\beta_{CultDif}$ = −.175, t = −2.175, p < .05). With respect to the signs of these relationships, all are in line with the results from *Model B*. However, the effects are somewhat weaker. All other effects are insignificant, but the signs are still very much the same as in *Model B*.

Even though several coefficients in these regressions show the same pattern as in the analysis with *Perf* as dependent variable, there are also some deviant results that are worth mentioning. First, the lack of effects from *BargCost* and *MonCost* on "employment growth" is recognized. In addition, *MonCost* and *MalCost* have no effects on "sales growth" and there is no effect of *MalCost* on "revenue growth". Second, explained variance for all three models is rather low. Hence a further elaboration along these two themes will be developed in a later section (see the discussion chapter pp. 131-133).

Table 5-2: Regressions with alternative performance measures

Variables	Sales growth		Revenue growth		Employment growth		Perf
	β [a]	t-value[b, c]	β [a]	t-value[b, c]	β [a]	t-value[b, c]	Findings from the hypothesis tests
BargCost	−.133	−1.205	−.014	−.157	.009	.106	−
MonCost	−.030	−.305	−.155	−1.904[**]	−.028	−.345	−
BondCost	.137	1.761[*]	.097	1.220	.169	2.107[**]	+
MalCost	−.116	−1.516[*]	−.049	−.508	−.081	−1.021	−
IndGrow	.284	3.662[****]	.292	3.751[****]	.176	2.196[**]	+
SubAge	.027	.330	−.013	−.162	−.026	−.310	+
IntSales	.038	.491	−.006	−.081	−.023	−.289	+
HostEx	.014	.177	−.026	−.330	.052	.652	ns
NumEmp	−.047	−.603	.058	.741	−.082	−1.043	ns
CultDif	.015	.182	−.175	−2.175[**]	−.045	−.555	ns
Model statistics:							
R^2	.127		.116		.070		
Adj. R^2	.109		.098		.058		
F	7.253[***]		6.551[***]		5.665[***]		
N	159		159		159		

[a] Standardized coefficients   [b] One-tailed test   [c] Two-tailed test for BondCost

[*] $p < .10$, [**] $p < .05$, [***] $p < .01$, [****] $p < .001$

Moderator analysis (H$_5$)

The EM-variable has already been defined as a pure moderator, which also seems to hold when testing the relationship. Entry mode is insignificant in explaining performance when running a regression with EM also taken into the model (correlation: $-.090$, $\beta_{EM} = .016$, $t = .024$, $p < .811$). This is according to the theoretical assumptions. When the variable does not act as a predictor, it could be defined as a pure moderator since one of the important prerequisites that separate a true moderator from a quasi moderator is fulfilled.

Further, and as already mentioned, since the moderator in this study is dichotomous in its nature, sub-group analysis and slope difference tests are proper methods of detecting moderator effects in the sample. The whole sample is divided across entry mode, and the following two groups are established: (0) acquisitions with 55 (54)[77] cases, and (1) greenfields with 105 cases. Descriptive statistics are presented in Table 5-3

Table 5-3: Moderator analysis – descriptive statistics

	N^*	Mean	Std dev.	Std. error mean
BargCost	0 = 55	2.991	1.196	.161
	1 = 105	3.376	1.220	.119
MonCost	0 = 55	2.552	1.980	.132
	1 = 105	2.975	1.150	.112
BondCost	0 = 55	4,286	1.086	.146
	1 = 105	4,224	1.236	.121
MalCost	0 = 55	2,164	1.162	.157
	1 = 105	2,416	1.218	.118
Perf	0 = 55	4,400	1.218	.164
	1 = 105	4,205	1.270	.124

* 0 = acquisition, 1 = greenfield

Different regressions are then applied to each group to detect any significant effects of the independent variables on subsidiary performance. The results, which reveal some interesting patters, are presented in Table 5-4.

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[77] One acquired firm was excluded due to lack of information on some of the control variables.

Table 5-4: Moderator effects – sub-group analysis with OLS-regression

Dependent variable: Perf	Model C		Model D	
Variables	β[a]	t-value [b, c]	β[a]	t-value [b, c]
Group 0: Acquisitions				
BargCost	−.175	−1.230	−.141	−1.028
MonCost	−.513	−4.697[****]	−.545	−4.879[****]
BondCost	.512	4.694[****]	.484	4.484[****]
MalCost	−.113	−.778	−.130	−.941
IndGrow			.247	2.224[**]
IntSales			.122	1.162
SubAge			.189	1.803[**]
HostEx			.005	−.048
NumEmp			−.012	−.109
CultDif			−.005	−.048
Model statistics:				
R^2	.410		.468	
Adjusted R^2	.388		.424	
F	18.090[****]		10.762[****]	
N	55		54	
Group 1: Greenfields				
BargCost	−.313	−2.863[***]	−.265	−2.401[***]
MonCost	−.045	−.458	−.108	−1.097
BondCost	.140	1.612	.116	1.364
MalCost	−.319	−2.916[***]	−.346	−3.221[****]
IndGrow			.138	1.687[**]
IntSales			.177	2.257[**]
SubAge			.090	1.122
HostEx			.000	−.003
NumEmp			−.029	−.364
CultDif			.101	1.194
Model statistics:				
R^2	.336		.386	
Adjusted R^2	.322		.361	
F	25.751[****]		15.690[****]	
N	105		105	

[a] Standardized coefficients [b] One-tailed test [c] Two-tailed test for BondCost
[*] $p < .10$, [**] $p < .05$, [***] $p < .01$, [****] $p < .001$

First, in the group of acquired firms, two out of the four transaction costs variables have significant effects on subsidiary performance. The relationship between "monitoring costs" and "performance" is significant at $p < .001$ in both models ($\beta_{MonCost} = −.513$, $t = −4.697$ (*Model C*); $\beta_{MonCost} = $

−.545, $t = −4.879$ (*Model D*). The same level of significance is observed with the effect of "bonding costs" ($\beta_{\text{BondCost}} = .512$, $t = 4.484$ (*Model C*); $\beta_{\text{BondCost}} = .484$, $t = 4.484$ (*Model D*)).

Second, in the group of greenfields, an almost opposite pattern is observed: "bargaining costs" and "maladaptation costs" have significant effects at $p < .05$ ($\beta_{\text{BargCost}} = −.313$, $t = −2.863$ (*Model C*); $\beta_{\text{BargCost}} = −.265$, $t = −2.401$ (*Model D*); $\beta_{\text{MalCost}} = −.319$, $t = −2.916$ (*Model C*), or at $p < .001$ ($\beta_{\text{MalCost}} = −.346$, $t = −3.221$ (*Model D*)), while the two others are more or less insignificant.

Third, only "industry growth", "international sales ratio", and "age of subsidiary" have to a certain degree significant effects among the control variables, which also was the pattern when testing the direct effects in *Model B*. However, it is worth mentioning that the age of the subsidiary does not matter in the group of greenfields.

Fourth, explained variance (adjusted R^2) in *Model C* ranges from .336 in the group of greenfields to .388 in the group of acquisitions, while Model D explain .361 of the variance in performance in the group of greenfields and .424 in the group of acquired firms. Hence, both *Model C* and *Model D* are highly significant at $p < .001$.

Even though significant different effects are registered, there is no formal proof of moderator effects (i.e. that the β-coefficients of each type of transaction costs are significant different from each other). Hence, to examine these observations further, parameters for the transaction costs were also estimated by running GLM factorial ANCOVA due to the advantages this type of analysis has when examining interaction and moderator variables.[78] Since there is an important assumption about homogeneity of regression slopes between groups when running factorial ANCOVA, a special procedure is available to test whether the slopes are equal or not. If the slopes are significantly different, there are clear indications of moderator or interaction effects in the model. To test this, the model must include only the interactions, and by doing so, the test of between-subjects effects will report significant or insignificant values. Significant F-values are reported if the β-coefficients are really different in the two groups, and if so, a separate

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[78] The GLM ANCOVA analysis (the analysis of covariances) provides analysis for one dependent variable by one or more factors (categorical) and or continuous variables. The procedure is especially useful when investigating interaction or moderator effects. The factor variables (here: entry mode) divide the sample into groups.

slope design (by splitting the sample across the factor, i.e. across EM) is necessary to test for the effects of the predictors in each group.

Table 5-5 shows significant F-values ($F_{BargCost}$: $p < .10$; $F_{MonCost}$: $p < .10$; $F_{BondCost}$: $p < .001$; $F_{MalCost}$: $p < .05$) for all four types of transaction costs. Hence, the β-coefficients for each type of transaction costs are significantly different from each other in the two groups, and a split sample procedure was therefore conducted in estimating the parameters.

Table 5-5: Test of slope differences

Variables	F-value	Significance
EM × BargCost	2.451	.090
EM × MonCost	2.984	.054
EM × BondCost	7.429	.001
EM × MalCost	3.509	.032

Table 5-6 presents the complete parameter estimates. Although the β-values and the respective t-values are slightly different, the results are very much in line with the OLS regressions presented in Table 5-4, and since the results from Table 5-5 show significant slope differences between the two groups on all four transaction costs, hypothesis 5 is then be supported. There are moderator effects present. Among the MNCs with acquired foreign subsidiaries, it is mainly monitoring costs and bonding costs that have significant effects on subsidiary performance. Likewise, bargaining costs and maladaptation costs have highly significant effects on performance among the MNCs with greenfield subsidiaries. These rather interesting results will be discussed further in the next chapter (see pp. 136-138).

Table 5-6: ANCOVA analysis with split sample design - parameter estimates

Variables	β [a]	t-value	Significance [b]
(EM=0) × BargCost	−.165	−.901	.369
(EM=1) × BargCost	−.256	−2.022	.045
(EM=0) × MonCost	−.436	−2.256	.026
(EM=1) × MonCost	−.094	−.911	.364
(EM=0) × BondCost	.432	3.383	.001
(EM=1) × BondCost	.144	1.834	.069
(EM=0) × MalCost	−.047	−.265	.791
(EM=1) × MalCost	−.330	−2.636	.009

[a] Standardized coefficients   [b] Two-tailed test
0 = acquisitions, 1 = greenfields

Summary

Above, four different hypotheses were presented with proposed transaction cost effects on subsidiary performance ($H_1 - H_4$), and one hypothesis that formulated a moderation effect on the relationship between transaction costs and subsidiary performance. Table 5-7 summarizes the findings.

Table 5-7: Test of hypotheses – a summary

Hypotheses	Proposed effects	Findings	Significance level [a, b]	Conclusion
H_1: Bargaining costs → subsidiary performance	−	−	$p < .05$	supported
H_2: Monitoring costs → subsidiary performance	−	−	$p < .05$	supported
H_3: Maladaptation costs → subsidiary performance	−	−	$p < .01$	supported
H_4: Bonding costs → subsidiary performance	−	+	$p < .01$	not supported
H_5: EM moderates the relationship between TC and performance				supported
bargaining costs	yes	yes	$p < .090$ [c]	
monitoring costs	yes	yes	$p < .054$ [c]	
bonding costs	yes	yes	$p < .001$ [c]	
maladaptation costs	yes	yes	$p < .032$ [c]	

[a] One-tailed *t*-test [b] Two-tailed test for "Bonding cost" [c] *F*-test

The results of the regressions show that while four out of five hypotheses were supported, the hypothesis of negative effect of bonding costs on subsidiary performance was not supported. Measuring subsidiary performance by more "objective" measures revealed much of the same patterns, but the effects of several of the transaction costs were rather weak, and explained variance decreased substantially in the three alternative models. The control variable "growth rate in the industry" was highly significant across the models where control variables were included.

According to this study, bonding costs have a strong positive effect on subsidiary performance (measured by four different perceived items). However, splitting the sample across entry modes, the effect is more distinct

in the group of acquired firms than in the group of greenfields. "Bargaining costs" and "maladaptation costs" have significant effects towards "subsidiary performance" in the group of greenfields, while "monitoring costs" is significant in the group of acquired firms and not significant among the greenfields. Explained variance was approx. 35 percent with only main variables included, and increased to approx. 38 percent with control variables incorporated. The explained variance in the two sub-groups is roughly at the same level.

Testing the main effects: A SEM approach

As already indicated in the section of hypothesis development, there may be trade-offs and interconnections between the transaction costs (Nygaard, 1992). It is far from certain that only direct effects towards subsidiary performance should be expected to be observed. Also indirect effects where one type of transaction costs influences performance through another type of transaction costs are probable. For example, since maladaptation costs occur due to communication failure between parties, these costs may generate both increased bargaining costs and increased monitoring costs (i.e. maladaptation costs also affect subsidiary performance through those two directly observable transaction costs). Likewise, it may also be so that increased efforts in bonding activities decrease bargaining costs since the two parties most probably get more in line with each other. In addition, bonding activities such as education programs (building common company culture), conflict solving with third parties etc. may lead to more control due to the necessity of evaluating the effect of putting additional resources into bonding activities.[79] Finally, taking the observed positive relationship between bonding costs and performance into account, the exploratory model displayed in Figure 5-1 can be proposed:

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[79] However, it is conceivable that due to increased communication and time together with the subsidiary, a built-in control effect in bonding activities reduces the needs for monitoring. That is, there is a negative effect, rather than a positive effect, between bonding costs and monitoring costs.
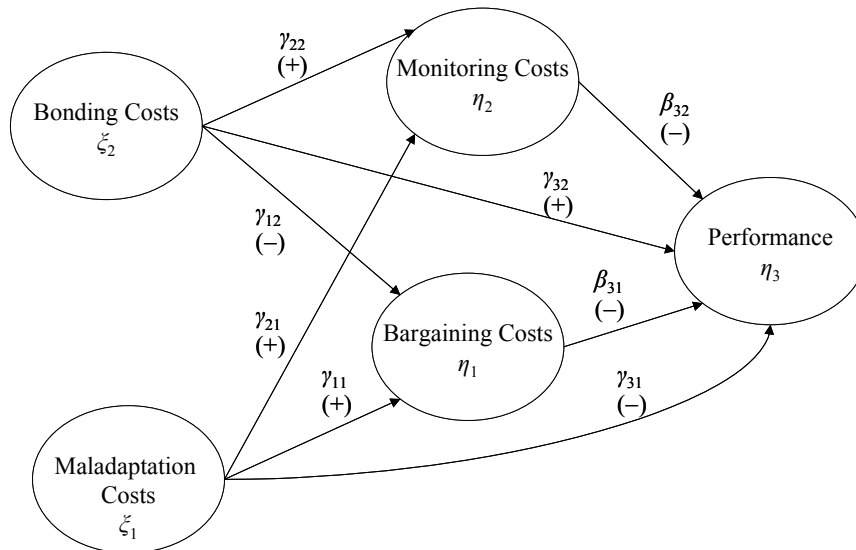
Figure 5-1: Alternative research model – a LISREL approach

Since there are virtually no prior studies of the relationship between transaction costs and subsidiary performance, the main intention by presenting and testing this alternative model is to open up for reflections and deliberations upon a subject that may play an important role in firms' international activities. Due to sample size limitation, the moderator effects are omitted. Likewise, since the focus in this study is on the relationship between perceived transaction costs and subsidiary performance, and not to explain subsidiary performance per se, control variables are omitted.[80]

So far, it has been asserted that OLS-regressions would be the most appropriate tools when testing the hypotheses in this research. However, as indicated in Figure 5-1, and by looking at the correlation coefficients between the latent constructs (see Table 4-11 on page 101), there may be some interdependences among the latent variables, which is a condition that SEM solves better than OLS regression analysis (Goldberger, 1973; Jöreskog and Sörbom, 1982).[81] The structural model in Figure 5-1 contains three latent endogenous variables – "bargaining costs" (η_1), "monitoring

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[80] This can also be justified by the fact that no spurious and intervening effects were present in the study (see text and Table 5-1 on page 111).

[81] Goldberger presents (1973, pp. 2-6) three cases in which least-squares regression is a relative inappropriate estimation procedure compared to structural equation modeling. These three cases occur when unobservable variables are involved, reciprocal causation is present, and omitted variables (inadequate control) are present.

costs" (η_2), and "performance" (η_3), and two latent exogenous variables – "maladaptation costs" (ξ_1) and "bonding costs" (ξ_2). In addition to testing the proposed effects, the LISREL approach also analyzes the whole model. As in the analysis of the measurement model, fit indices will also be produced for the structural model, and to assess the overall fit, the same fit statistics that were reported for the measurement model will also be reported for the structural analysis.

The most common modeling strategy involves a comparison of competing models – nested or non-nested.[82] Model difference can then be tested for statistical significance by following the recommendation from Anderson and Gerbing (1988, p. 419): "significance between models can be tested by a χ^2 difference test with degrees of freedom equal to the differences in degree of freedom for the two models". The only requirement if this procedure is to be followed is that the number of constructs and indicators are the same for the different models (i.e. that we have a set of nested models). If the models are non-nested, we have to rely on a comparison of the parsimonious fit measures (AGFI, and the normed χ^2) since the χ^2 difference test is inappropriate in this case (Hair, et al., 1998). Only nested models are compared; hence, possible significant differences among models are tested by χ^2 difference tests (Anderson and Gerbing, 1988; Rust, Lee, and Valente, 1995).

Results

Three different nested models were compared (S1, S2, and S3). *Model S3*, which is the proposed model described in Figure 5-1 has direct effects from all transaction costs on subsidiary performance (γ_{31}, γ_{32}, β_{31}, and β_{32}). In addition, some effects from "maladaptation costs" on "bargaining costs" and "monitoring costs" (γ_{11} and γ_{21}), and from "bonding costs" on "monitoring costs" and "bargaining costs" (γ_{22} and γ_{12}) are also proposed. *Model S1* has no bonding cost effects towards "bargaining costs" and "monitoring costs" (without γ_{22} and γ_{12}), but is otherwise equal to *Model S3*. *Model S2* is also a reduced version of *Model S3* with no direct maladaptation cost effect on "performance" (without γ_{31}), otherwise equal to *Model S3*. Hence, *Model S1 < Model S2 < Model S3*. All models have the same number of observed indicators and latent constructs as the measurement model estimated earlier (see *Model 4* on page 93). Fit indices and χ^2 differences for the three competing models are presented in Table 5-8.

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[82] "A model M_2 is said to be nested within another model, when its set of freely estimated parameters is a subset of those estimated in M_1, and this can be denoted $M_2 < M_1$" (Anderson and Gerbing, 1988, p. 418).

Table 5-8: Fit indices and χ^2 differences for three competing structural models

Fit statistics	Model S1 minus γ_{12} and γ_{22}	Model S2 minus γ_{31}	Model S3
χ^2	110.49	100.17	97.83
(df)	(97)	(96)	(95)
p-value	.1650	.3653	.4006
RMSEA	.030	.017	.014
p-value close fit	.92	.97	.98
NCP	13.49	4.17	2.83
GFI	.92	.93	.93
AGFI	.89	.90	.90
RMR	.076	.067	.065
NFI	.93	.94	.94
NNFI	.98	.99	.99
CFI	.99	.99	.99
IFI	.99	.99	.99
CN	179 (179.46)	196 (196.89)	199 (199.80)
$\Delta \chi^2$:			
Model S1 − Model S2 (1 df)	10.32***		
Model S1 − Model S3 (2 df)	12.66***		
Model S2 − Model S3 (1 df)	2.34		

*$p < .10$, **$p < .05$, ***$p < .01$

All three models show relatively excellent fit by most of the fit statistics. However, *Model S1* has a somewhat low CN value (CN = 179), and an AGFI below the recommended threshold value of .90 (AGFI = .89). When testing for significantly differences, it is observed that *Model S2* and *Model S3* are significant better fitted than *Model S1*. χ^2 for *Model S1* is 110.49 with 97 degrees of freedom. For *Model S2*, the respective values are 100.17 and 96, and for *Model S3*: 97.83 and 95, which gives a $\Delta \chi^2$ of 12.66 with 2 degrees of freedom and a significance of $p < .01$ (critical value = 9.210) for the difference between *Model S1* and *Model S3*. The respective numbers for *Model S1* and *Model S2* are: $\Delta \chi^2$ = 10.32 with 1 degree of freedom, $p < .01$ (critical value = 6.635). However, there is no significant difference between *Model S2* and *Model S3* with respect to fit. $\Delta \chi^2$ = 2.34 with 1 degree of freedom (critical value for $p < .10$ = 2.706).

In addition to comparing the fit between structural models, Anderson and Gerbing (1988) also recommend a final comparison of fit differences between the structural model and the measurement model. If a significant difference is observed, there are reasons to believe that it is possible to improve the structural model by respecifying it. The formal χ^2 difference test is reported in Table 5-9 together with some of the recommended fit indices

used when comparing structural models with a baseline model (RMSEA, NNFI, CFI, and IFI).

Table 5-9: Comparing the structural models with the measurement model

Fit indices	Measurement model (*Model 4*)	Structural model (*Model S1*)	Structural model (*Model S2*)	Structural model (*Model S3*)
χ^2 (df)	97.00 (94)	110.49 (97)	100.17 (96)	97.83 (95)
$\Delta \chi^2$ (df)	—	17.49[***]	3.17	.83
RMSEA	.014	.030	.017	.014
NFI	.94	.93	.94	.94
NNFI	.99	.98	.99	.99
CFI	.99	.99	.99	.99
IFI	.99	.99	.99	.99

[*]$p < .10$, [**]$p < .05$, [***]$p < .01$

The results from the χ^2 difference test, presented in Table 5-9, indicate that *Model S1* needs some improvements since the χ^2 difference is highly significant ($p < .01$ (3 df)). On the other hand, there are no significant differences between the measurement model (the baseline model) and the two structural models: *Model S2* and *Model S3*. Hence both structural models seem to be well specified. Therefore, in accordance with the logic presented by Anderson and Gerbing (1988, pp. 419-420), one should accept the theoretical model of interest if not a constrained or unconstrained model is significantly better fitted. However, since the theoretical model of interest (*Model S3*) is exploratory, the conclusion regarding the best overall model of *Model S2* and *Model S3* must be based on theoretical grounds rather than on a statistical basis.[83] Still, some indications of what is the most proper model can be given by the parameter estimates for the three competing structural models presented in Table 5-10.

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[83] There are probably many other parametric structures that summarize the data equally well if the relationships are based on empirical grounds rather than on theoretical grounds (Bagozzi and Baumgartner, 1994).

Table 5-10: Parameter estimates for three competing structural models

Model		MalCost ξ_1	BondCost ξ_2	BargCost η_1	MonCost η_2	R^2
	BargCost η_1	$\gamma_{11} = .68$ [a] (6.63) [b] $p < .001$ [c]	$\gamma_{12} = -.23$[a] (−2.68) [b] $p < .01$ [c]	—	—	.53
Model S3	*MonCost* η_2	$\gamma_{21} = .62$ [a] (6.13) [b] $p < .001$ [c]	$\gamma_{22} = .22$ [a] (2.37) [b] $p < .01$ [c]	—	—	.41
	Perf η_3	$\gamma_{31} = -.26$[a] (−1.57) [b] $p < .10$ [c]	$\gamma_{32} = .23$ [a] (2.44) [b] $p < .01$ [c]	$\beta_{31} = -.22$[a] (−1.48) [b] $p < .10$ [c]	$\beta_{32} = -.15$[a] (−1.20) [b] ns	.37
	BargCost η_1	$\gamma_{11} = .69$ [a] (6.84) [b] $p < .001$ [c]	$\gamma_{12} = -.22$[a] (−2.64) [b] $p < .01$ [c]	—	—	.55
Model S2	*MonCost* η_2	$\gamma_{21} = .63$ [a] (6.22) [b] $p < .001$ [c]	$\gamma_{22} = .22$ [a] (2.45) [b] $p < .01$ [c]	—	—	.42
	Perf η_3	—	$\gamma_{32} = .23$ [a] (2.31) [b] $p < .05$ [c]	$\beta_{31} = -.38$[a] (−3.38) [b] $p < .001$ [c]	$\beta_{32} = -.26$[a] (−2.35) [b] $p < .01$ [c]	.36
	BargCost η_1	$\gamma_{11} = .70$ [a] (6.75) [b] $p < .001$ [c]	—	—	—	.49
Model S1	*MonCost* η_2	$\gamma_{21} = .59$ [a] (5.94) [b] $p < .001$ [c]	—	—	—	.35
	Perf η_3	$\gamma_{31} = -.26$[a] (−1.63) [b] $p < .10$ [c]	$\gamma_{32} = .23$ [a] (2.77) [b] $p < .01$ [c]	$\beta_{31} = -.24$[a] (−1.74) [b] $p < .05$ [c]	$\beta_{32} = -.13$[a] (−1.12) [b] ns	.36

[a] Standardized coefficients
[b] *t*-values
[c] One-tailed test
ns: not significant

In all three models, transaction costs explain approximately 36 percent of the variance in subsidiary performance, which is almost at the same level as in the OLS regression presented in Table 5-1 *Model A*. However, both *Model S3* and *Model S1* present some rather low, or insignificant relationships. Due to both a direct effect and some indirect effects of maladaptation costs on performance (see *Model S3*), it is observed that monitoring costs have no significant effect towards performance ($\gamma_{32} = -.15$, $t = -1.20$, $p < .12$) and the rather strong effect of bargaining costs that is observed in *Model S2* (β_{31}

$= -.38$, $t = -3.38$, $p < .001$) has almost become insignificant when the direct effect of *MalCost* is included as in *Model S3* ($\beta_{31} = -.22$, $t = -1.48$, $p < .10$).

Furthermore, there are strong indications of some kind of relationships between *MalCost* on the one hand and *BargCost* and *MonCost* on the other hand, as proposed in the alternative research model. In *Model S3* (as well as in the other two models), *MalCost* has a strong and significant effect on *BargCost* and *MonCost* ($\gamma_{11} = .68$, $t = 6.63$, $p < .001$; $\gamma_{21} = .62$, $t = 6.13$, $p < .001$). These effects are only slightly lower than the effects estimated in *Model S2* where the direct effect between *MalCost* and *Perf* is included. However, this direct effect is relatively weak with $\gamma_{31} = -.26$ ($t = -1.57$, $p < .10$), and excluding this effect had only modest effects on the explained variance in subsidiary performance ($\Delta R^2 = .01$ – going from .36 to .37). When excluding the relationships between *MalCost* and *BargCost* and between *MalCost* and *MonCost*, and keeping everything else equal, a rather poor fit was obtained (RMSEA = .086; NFI = .88; AGFI = .80), and the explained variance in subsidiary performance dropped to 28 percent.

Hence, it seems reasonable to conclude that maladaptation costs affect subsidiary performance more through bargaining costs and monitoring costs, than through a direct effect when only transaction costs are included as explanatory variables in the model. Therefore, it may be that *Model S2* is more in line with reality than the two other models, which is a discussion that will be followed up in a later chapter.

It is also worth emphasizing that bonding costs have a strong and significant positive effect on performance whatever model is proposed. In *Model S2*, the effect of ξ_2 on η_3 is significant at $p < .05$ ($\gamma_{32} = .23$, $t = 2.31$). The same effect size is observed in *Model S3* and *Model S1* although the significance level is somewhat higher ($p < .01$). Hence, the findings in the OLS regression with regard to the positive effect of bonding costs towards subsidiary performance are very much in line with the results in this LISREL analysis.

6 Discussion and implications

The purpose of this closing chapter is to discuss the theoretical and managerial implications of the major findings in this study. First, the direct effects of transaction costs on subsidiary performance will be discussed (i.e. H_1-H_4), with a special emphasis on the divergent effect of bonding costs. Then, the consequences of using alternative performance measures are considered, followed by an elaboration on the effects of maladaptation costs and bonding costs, introduced in the structural equation model. The moderator effects (H_5) are then assessed, before the measurement of transaction costs is discussed. The chapter concludes with implications for management, limitations, and future research.

Discussion of findings – theoretical implications

The whole logic of the TCE framework is build upon the assumption that the most efficient governance structure is the one that minimizes the transaction costs in the long run. Consequently, a strong association between transaction costs and performance has to be present. Unfortunately, very few studies have tested whether this relationship is true or not (Benito and Tomassen, 2003; Rindfleisch and Heide, 1997). The reason for that may have something to do with the reluctance of going into details in the behavior and understanding of the transaction costs (Williamson, 1985), which also is expressed by the lack of measurements of such costs across different governance structures, especially those that are generated within hierarchical solutions (Masten, Meehan, and Snyder, 1991; Rindfleisch and Heide, 1997).

The main objectives of this study have therefore been threefold: First, it is a test of the underlying presumption in TCE that postulates a strong relationship between transaction costs and performance. As such, it is also an answer to the call for more research on this theme (Benito and Tomassen, 2003). Second, it is a test of the moderating effects of two different foreign operation modes on the relationship between transaction costs and performance. Since the literature to a great extent has treated transaction costs as rather uniform across markets and hierarchies, it has been pertinent to discover whether different kinds of governance structures create different kinds of transaction cost effects on performance. Third, it is also a response to the call for more research on internally generated transaction costs (Rindfleisch and Heide, 1997).

In addition, and as a consequence of the three objectives, it has been necessary to identify and measure both within-firm-generated transaction costs and subsidiary performance in a more proper way. These issues are also addressed to some extent in the following section.

An additional purpose, which has emerged more or less from the empirical observations and the statistical tests in the study, has been to raise a debate about possible interdependences between the different types of transaction costs. However, since this is rather novel, and very much an empirically driven theme, the main discussions will be developed along the findings from the focal research model.

Transaction cost effects on foreign subsidiary performance

This study is among the first to test the relationship between transaction costs and subsidiary performance in an international setting. Based on a transaction cost perspective, four hypotheses were developed about negative relationships between transaction costs and subsidiary performance. Hence, there is an assumption that transaction costs have a negative association with performance. The findings provide support for three out of four hypotheses. There is a significant and negative relationship between bargaining costs and subsidiary performance, as well as between monitoring costs and performance, and maladaptation costs and performance. These results are also more or less in accordance with the findings of Nygaard (1992), although that study investigated an inter-organizational relationship.[84]

With regard to bargaining costs (H_1), there should be diminutive needs for ongoing negotiations between cooperative parities in a static relationship. However, negotiations are often rooted in changing conditions and *ex ante* bounded rationality from both parties (Milgrom and Roberts, 1992). Hence, developing a foreign subsidiary, especially from scratch, will most often generate unintended bargaining costs for the MNC. A set of business activities are to be developed, distribution channels must be settled, and personnel from other cultures, with different languages, are to be hired. All this creates uncertainty and a great risk of renegotiations of contractual elements, which create additional bargaining costs for the MNC. In general, these costs are therefore negative for the firm, even though renegotiations very often are necessary to bring the relationship back on track again. Ideally, such activities should not be necessary. Hence, the findings in this study are in line with the assumptions in the theory that bargaining costs attenuate the performance of the subsidiary.

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[84] Monitoring cost effects turned out insignificant in Nygaard's study.

The same kind of logic could also be attributed to the monitoring costs (H_2). The need for monitoring activities in for example a MNC may often stem from the possibilities of opportunistic behavior from agents in the foreign subsidiary. Thus, monitoring will in many cases be necessary to prevent larger losses if no control initiatives have been taken. However, both costs are undesirable for the MNC and should have negative associations towards subsidiary performance. As such, the significant negative effect of monitoring costs found in this research is consistent with the general theoretical assumptions.[85]

Concerning the third hypothesis (H_3), maladaptation costs stems from communication and coordination failures between parties which in turn make them unable to react rapidly to changing conditions (Williamson, 1985). Hence maladaptation costs could be understood as the opportunity costs of ineffective and inappropriate responses. As such, a negative relationship between maladaptation costs and performance should be expected, which also is confirmed in this study. A relatively strong negative relationship towards performance is detected ($p < .01$). Hence, deficient information from the foreign subsidiary creates costs that are assessed as negative for the performance of the foreign subsidiary.

With regard to the fourth hypothesis (H_4), bonding costs have a strong effect on subsidiary performance, but the effect is positive, which is contradictory to the hypothesized relationship. The argument for a negative relationship was based on the fact that zero costs linked to bonding activities were usually better than positive costs. However, at certain points in time, more costs may be better than fewer costs because the MNC has to improve the value of the firm in some situations by for example increasing bonding or monitoring activities (Jensen and Meckling, 1976). This may be the situation in the present empirical setting, since the subsidiaries in this research are relatively young firms that most likely needed special treatment from the headquarters to increase their performance in their initial years. The mean age for the subsidiaries is 5.7 years, with a relatively even distribution within the age interval of 3-11 years (1990-2000). And since no subsidiaries are older than 11 years, many MNCs are probably still in the phase of

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[85] However, Jensen and Meckling (1976) claim that in some cases monitoring activities will reduce agency costs and thereby increase the value and wealth of the firm. Given a situation with outside owners, there may be a trade-off between resources spent on non-pecuniary benefits for the manager and resources spent on monitoring activities. If these costs can be traded against each others, reducing non-pecuniary benefits and increasing the control by auditing, formal control systems, and budget restrictions, will make it easier to detect undesirable behavior and thereby increasing the wealth (and value) for the owner of the firm.

developing the relationships between MNC and foreign subsidiary by initiating different bonding activities. In addition, bonding activities, in contrast to monitoring activities, are often associated with positive actions that are especially well accepted in the Norwegian management tradition with its focus on democracy, trust, involvement, and cooperation across firm levels (Byrkjeflot, 2002; 2003; Sejersted, 1993). Hence, an incurred cost today may have a positive effect on performance tomorrow, so to speak.

It is nevertheless also opportune to ask whether the relationship between bonding costs and performance will ever be negative. The way bonding costs are measured and the type of activities they are generated from, may indicate that the managers evaluate such costs as necessary and as a direct consequence of inevitable, wanted, and important activities. And as such, they are assessed by the managers in the MNCs as positive for the performance of the foreign subsidiary – accordingly they are not seen as "ordinary" costs.[86] The three other types of transaction costs are, on the other hand, consequences of rather undesirable conditions in the foreign subsidiary. Hence, even though the bonding activities obviously generate costs that in the short run should have had a negative effect on the economic results of the subsidiaries, they are rather seen as an investment for future success. If this is the fact, the relationship will probably never be negative, even though the foreign subsidiaries become far older than 11 years. Unfortunately, a formal test of the behavior of bonding costs controlled for the time factor is hard to undertake with the chosen cross-sectional research design,[87] but since the foreign subsidiaries in the sample are of different age, a regression analysis of subsidiary age on bonding costs may reveal some information about the behavior of bonding costs within the limited time interval of 3-11 years.

It is of course difficult to define exactly when a firm is going from young to old, but if bonding costs (*BondCost*) is regressed on the age of the subsidiary (*SubAge*) a significant negative relationship is detected ($\beta_{SubAge} = -.183$, $t = -2.334$, $p < .01$). Hence, while the subsidiary is growing older, the level of bonding costs is going down. At the same time, it is also recognized that while the subsidiaries are growing older, their performance also improves (ref. Table 5-1 on page 111). This probably shows that the management in the MNCs consist of fairly rational persons that reduce the level of bonding

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[86] An additional and maybe somewhat speculative explanation could also be that by spending resources on bonding activities, the MNC managers bind themselves more personally to key persons in the foreign unit, and thereby have difficulties in evaluating the subsidiary in an objective way.

[87] Ideally, a longitudinal study should be undertaken to really investigate the behavior of variables over time (Churchill, 1999).

activities as the subsidiary becomes more experienced and well fitted to the goals of the MNC, and/or that the bonding activities become more efficiently fitted to the circumstances.[88, 89]

There are at least two important implications of these findings. First, transaction cost variables have to be emphasized in future performance studies. Taken together, the four categories of transaction costs explain approximately 35 percent (adjusted R^2 = .346) of the performance variance among the total sample of 160 foreign subsidiaries. Consequently, transaction costs play a significant role in explaining performance (in the way performance is measured in this study) and the theoretical assumption of a strong and negative relationship between three of these variables is by then confirmed also empirically. Second, bonding cost effects are for the first time measured, they have a significant positive effect on performance, but may capture other dimensions than what could typically be defined as cost components. Before bonding costs finally are established theoretically and empirically as a transaction cost dimension, future research has to investigate and test the relationship thoroughly in different settings and within different organizational forms. A discussion about the bonding costs dimension will be further developed later.

Alternative performance measures – a brief discussion

This study relies heavily on a perceptual and multi-item approach when measuring subsidiary performance. This could of course be criticized from different perspectives since they are both subjective and potentially inaccurate compare to accounting measures. Nevertheless, this has been a deliberate strategy. The literature review clearly showed that performance is a multi-faceted notion; hence, using single-item measures would most certainly have reduced the information in the data significantly. In addition, as also pointed on in the literature review, there are also difficulties with more objective data. There are differences in accounting practices across countries, which make it difficult to compare financial figures (Ramaswamy, 1992). Financial figures are also difficult to get hold of (Dess and Robinson,

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[88] While controlling for only the age of the subsidiaries, an almost equal bonding costs effect towards subsidiary performance ($\beta_{BondCost}$ is going from .229 (t = 3.200) to .262 (t = 3.647), $\Delta\beta$ = .033) is observed. Hence, the effect of bonding costs is at the same level even though the magnitude is going down.

[89] Running different regressions with the same independent variable (i.e. *SubAge*), but with the other transaction costs as dependent variable, no significant relationships were detected. Hence, age of the subsidiary does not affect directly the level of the other three types of transaction costs. These differences are difficult to explain, so a further discussion will only be conjectures.

1984), and the success of the foreign subsidiary often goes beyond short-term financial calculus (Hill, Hwang, and Kim, 1990). By using survival as a proxy for performance, interpretation difficulties arise. It is difficult to exactly know when a subsidiary no longer exist. The "death" of a firm often occurs over time, and buy-ups and different transformations of the foreign subsidiary also generate interpretive difficulties (Barney, 1997).

However, since both objective and subjective measures of performance have their strengths and weaknesses (Barney, 1997), different subsidiary performance measurements have been used in additional analyses.

By using three more objective performance measures instead of a multi-item latent construct, the very distinct results presented and discussed above, turned out to be somewhat more ambiguous. Although the same tendencies are observed, the explained variance is much lower in all three models, and significant relationships are much less frequently observed. It is difficult to come up with a complete and reliable explanation for these results, but some of the explanations can probably be attributed to three different reasons, which all go back to the way these variables are measured.

First, the way transaction costs are defined (as both direct costs and opportunity costs) and measured makes it difficult to directly attribute these costs to the annual balance sheet in the foreign subsidiary. Second, the transaction costs are only measured with observable indicators that constitute latent constructs of transaction costs. This way of measuring transaction costs seems to fit well when performance is measured in the same way (i.e. all variables are multidimensional and subjective), which seems to be logical since subsidiary performance often is more than sales or revenue for many MNCs (Barney, 1997; Benito and Tomassen, 2003). Short-term profit is regularly balanced with other more long-term and strategic oriented goals with regard to for example market presence and distribution arrangements when the performance is evaluated (Hill, Hwang, and Kim, 1990; Kogut, 1988). Therefore, growth in sales or profit will only cover a fraction of the multi-faceted performance construct.

Third, former research also indicates that the effect of production costs probably outshine the transaction costs effects on short-term performance measures, such as net operating income, since the transaction costs are caused by more structural reasons (Nygaard, 1992). Hence, if most of the transaction costs are attributed to a multi-dimensional construct with a more long-term perspective, using a single item measure of performance with a rather short-term focus, probably limits the possibilities of detecting any relationship between transaction costs and performance.

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That being said, it must also be underlined that for the first time, significant relationships between transaction costs and more objective measures of performance are registered. Compared to the findings in Nygaard (1992), a much more coherent picture is observed in the present study. While Nygaard did not find any significant relationship at all between transaction costs and efficiency,[90] this study reveals a distinct negative association between monitoring costs and growth in revenue ($p < .05$). Likewise, both bonding costs and maladaptation costs are associated with sales growth ($p < .10$). One should be careful when trying to explain these significant results, but it may have something to do with the fact that growth in sales and growth in profit are mean values for the three years between 1998 and 2000, which probably give a more long-term perspective than a one year profit or sales figure (which Nygaard's efficiency measure was based upon), and thereby also makes it possible to catch some of the transaction costs effects if it is correct that the transaction costs effects only will be picked up by more "long-term" measurements.

These findings indicate that it is important to consider multiple performance measures in performance studies of different kinds. Likewise, a multiple-item approach can be fruitful, especially when the study deals with variables that in some sense are difficult to attribute and measure in an objective manner. In addition, performance measures that cover both long-term and short-term perspectives are sometimes important to employ, which also is emphasized by Ariño (2003) by her conceptualization of so-called outcome performance and process performance. According to her, both aspects have to be dealt with in further performance studies.[91]

Interdependencies among the transaction costs

So far, the discussion has taken for granted that the transaction costs effects on subsidiary performance could be modeled as direct effects. Three circumstances point towards an alternative modeling strategy. First, relatively high correlation coefficients were observed among some of the transaction cost constructs (see Table 4-11 on page 101). Second, it is

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[90] Efficiency was measured by net operating income/gross sales revenue. Explained variance was close to zero (adjusted $R^2 = .009$), and β-coefficients between |.05 - .08|. Likewise, the signs went in the opposite directions for both control costs and bargaining costs when the results for the two models were compared.

[91] Although these aspects were developed with the intensions to measure performance in strategic alliances, much of the logic could be applied to studies of firm and/or subsidiary performance.

theoretically possible with both interconnections and some kind of trade-offs between these costs (Nygaard, 1992). Third, the relationships between the different costs will most certainly also change over time in a rather dynamic fashion. For example, a feeling of shared purpose makes organizations able to create an atmosphere that shapes the values and goals of their members. Hence, bonding activities incurred yesterday, may lead to the development of trust and commitment, which is of major importance in reducing opportunism and thereby also transaction costs tomorrow (Moran and Ghoshal, 1996).

Instead of modeling the relationships as direct effects, the alternative research model (Figure 5-1 on page 120) presumed interdependencies between the transaction costs, and a structural equation modeling approach was therefore conducted to further investigate these possible relations. However, a cross-sectional snapshot will still give limited understanding of such dynamism as described in the third line of reasoning above. Hence, this way of modeling the relationships may give some new insights into only the static relations between transaction costs of today.

The following discussion will by and large be concentrated around two major findings: first, and most importantly, the role of the maladaptation costs, and second, the effect of bonding costs.

According to the results presented in Table 5-10, maladaptation costs and bonding costs are the two independent "drivers" in the model. Bargaining costs and monitoring costs, on the other hand, are intervening variables, which are highly dependent on especially the maladaptation costs (bargaining costs: $\gamma_{11} = .69$, $\eta_1 = 6.84$; monitoring costs: $\gamma_{21} = .63$, $\eta_2 = 6.22$). In addition, according to further analysis, 36 percent of the total 42 percent variation in monitoring costs explained by the model can be attributed to the maladaptation costs. The respective figures for bargaining costs are even higher with 51 percent and 55 percent.

Since adaptation (internal as well as external) is seen as one of the most central economic problems of organization, maladaptation costs are also assessed as the most important of the transaction costs (Williamson, 1988, p. 572). Therefore, given that the logic in the alternative research model is correct, these results seem quite logical. Maladaptation costs are those opportunity costs that most certainly are seen as sources for increased *ex post* transaction costs. When it is difficult for the subsidiary to anticipate changes in consumer preferences, distribution arrangements, competition in the foreign market, and/or is faced with opportunism, there is a great chance of misalignments. The most likely action then, is to increase both monitoring

and bargaining activities. The first is done to control for further detrimental developments, the latter is a necessity if contractual misalignments are to be corrected. Direct costs of these activities are therefore easy to spot and to attribute. It is much more difficult to do the same with the maladaptation costs. The management in the MNC most likely has problems with attributing these costs directly to the performance of the subsidiary, but may see them as sources for other observable costs that are the results of necessary actions. The results in fact indicate such an assumption. Maladaptation cost effects on subsidiary performance is mostly of an indirect nature and work through monitoring costs and bargaining costs. Explained variance in subsidiary performance dropped only from 37 percent to 36 percent when the direct effect from maladaptation costs on subsidiary performance was skipped (see Table 5-10). In addition, a rather poor fit was obtained when the maladaptation costs effect was modeled only as a direct effect on subsidiary performance (see page 125).

Bonding costs have both direct and indirect effects according to the findings. Bonding expenses can certainly be attributed to subsidiary performance (with the same proviso as taken above), but it is also possible that bonding costs influence the level of bargaining costs and monitoring costs. The first relationship is probably the easiest to explain. Costs used on bonding activities, in many cases bring the foreign subsidiary more in line with the MNC headquarter, which then probably leads to reduced disputes about settled agreements (Anderson, 1988b). Bargaining costs that occur between headquarter and subsidiary will thereby go down (Dahlstrom and Nygaard, 1999). The positive relationship on monitoring costs is more difficult to understand. Intuitively, frequent meetings, building personal relationships, and support from headquarters in conflicts with third parties, should develop a more trustful relationship, which thereby reduces the needs for monitoring (Chiles and McMackin, 1996). In addition there may also be a built-in control effect in increased communication and time together with the subsidiary (with the intention to bind the entities more closely together), which also should have reduced the need for control precautions.

One reason for a positive relationship could be rooted in the need of evaluating activities that are introduced actively and consciously from the management in the MNC (i.e. bonding activities). However, saying so, it is of course also possible that the positive relationship is purely accidental. Therefore, a further discussion of this relationship will only be based on highly speculative arguments, so that an answer on the observed positive relationship between bonding costs and monitoring costs must instead be left to future studies.

Summarized, five key implications could be extracted from this exploratory modeling effort:

1. The four different transaction costs are probably not independent variables, and cannot be treated as such in future research.
2. Most certainty, there are trade-offs between such costs, which must be tested with longitudinal designs.
3. Maladaptation seems to be the main source of other transaction costs in an intra-organizational relationship, and as such, this seems to be the most important transaction cost.
4. Bargaining costs, monitoring costs, and bonding costs represent the direct effects of transaction costs on subsidiary performance. Much of these costs are observable direct costs.
5. Maladaptation cost effects on subsidiary performance most certainly work through bargaining costs and monitoring costs, and not as a direct effect on subsidiary performance.

This attempt at modeling transaction costs as interdependent variables has been highly exploratory, and far more empirically driven than theoretically. However, since the relationship between transaction costs and performance is seldom investigated, pushing the forefront of the accumulated knowledge about transaction costs and their behavior and effects may stimulate others to dig more deeply into the area.

The moderating role of modes of entry

The fifth hypothesis (H_5) stated that the relationships between *ex post* transaction costs and subsidiary performance were dependent on whether the foreign subsidiary was established as a greenfield or as an acquisition. This logic was originally derived from the assumption that different operation methods cannot differ with regard to performance if everything else is equal, but moderate transaction costs effects on performance (Masten, 1993). This was also confirmed by the tests. Significant different transaction costs effects were observed across the groups of greenfields and acquisitions.

Among the group of greenfields, bargaining costs and maladaptation costs seem to play an active role in determining the performance of the foreign subsidiaries. Building up a subsidiary from scratch can be difficult even though the MNC relative often uses expatriates in top positions in their greenfield subsidiaries. This is particularly common during the initial phases of the foundation and development of the subsidiary (Harzing, 2002). Distribution arrangements are to be developed and settled, and a whole workforce at different levels in the subsidiary must be recruited and

intensely supervised. In addition, the MNC has to deal with cultural, economic and political differences where language barriers are often present. All this, of course, creates an increased propensity to misalignments and renegotiations of former contracts and agreements, and as such, it is not surprising that these two transaction cost effects are so distinct among the MNCs with greenfield operations. On the contrary, an acquisition has often been a going business in the foreign market long before the take-over. Much of the external and internal arrangements are settled and relatively transparent, which probably reduces the propensity for serious misalignments and renegotiations.

What about the non-significant relationship between monitoring costs and performance observed among the greenfields? Control of a subsidiary can be executed in many different ways. Expatriates can be used at different levels and/or in key positions in the foreign subsidiary. Centralization of important strategic decisions, as well as formalization and implementation of operational procedures are other methods. In addition, output control of different kinds (such as continuous evaluation of results, and financial reports) and planning systems can be employed (Harzing, 2002). Monitoring costs, as defined in this study, cover only part of the costs associated with all the control mechanisms that are available. Hence, the fact that monitoring cost effects turned out insignificant does not imply that no control precautions are executed in the greenfields. It may be that controls are executed by having for example a larger staff of expatriates or other trustworthy people in key positions in the foreign unit. Unfortunately, there are no data available for the whole set of subsidiaries to see if this is the fact,[92] but according to the findings in Harzing (2002), expatriates tend to be more present in greenfields than in acquisitions. Hence, it seems plausible that control in greenfields is executed more by a direct presence of trustworthy personnel, than by administrative routines managed on an arms-length distance, and that human presence in the foreign unit outshines the monitoring costs effects towards foreign subsidiary performance.

According to TCE-reasoning, greenfields make it easier for the MNC to leverage its resources into the foreign market since the greenfield most often is more in line with the parent company with respect to cultures, administrative systems, and routines (Hennart and Park, 1993). Hence, this may be the reason for the relative weak presence of bonding cost effects

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[92] Inspecting a reduced data set (145 of those 160 MNCs), 27.8 % of the managing directors in the greenfields were Norwegians, compared to 18.8 % among the acquired firms, which points in the same direction as the findings by Harzing (2002).

among the greenfields. A take-over, on the contrary, demands proactive bonding activities since acquired firms have their own history, knowledge, reputation and workforce (Jemison and Sitkin, 1986). Major changes among local personnel are seldom necessary due to competencies and resources embedded in the company, but it will often be important to bring the acquired firm more in line with the goals of the MNC; therefore it is not surprising that the bonding cost effects turned out significant among the acquired firms. Likewise, since the presence of MNC-personnel is limited within the acquired subsidiary, parallel with the bonding efforts, arms-length monitoring precautions have to be introduced to reduce the propensity of moral hazard due to information asymmetry between the acquired unit and the MNC (Williamson, 1985).

Hence, for the first time it is showed empirically that different modes of entry have differences in transaction costs effects on subsidiary performance, which implies that the assumption of transaction costs differences between organizational forms of internal nature also is supported to some extent.

Measurement of transaction costs

Overall, it seems to be encumbered with some difficulties to dimensionalize and measure transaction costs by using objective measures. Thus, the preferred approach in the present study, which also has been the far most common approach in other studies, has been to identify observable indicators that define the theoretical and latent constructs of transaction costs (Buvik, 1995; Dahlstrom and Nygaard, 1999; Noordewier, John, and Nevin, 1990; Walker and Poppo, 1991). Retrospective perceptions of indicators that may represent transaction costs have been collected through a questionnaire, and then associated with one or more theoretical constructs of transaction costs, assuming that both direct costs and opportunity costs can be measure by using a Likert-scale. This is a practice that goes back to the psychometric tradition of Nunnally (1967) and Lord and Novick (1968), which acknowledges that theoretical concepts are hard to measure in a multifarious world and therefore have to be measured by multiple items. And according to Nygaard (1992), this may also yield a more abundant and prolific basis for both future research and managerial understanding and applications.

Although the approach in this research is the most common one, the debate of whether it is fruitful to measure transaction costs at all, or how to measure transaction costs, has been going on for a long time. This subject is for example addressed in a speech to the Western Economic Association:

"It has been argued that it is fruitless to study transaction costs, because it is frequently impossible to measure them. This view is wrong. Fundamentally, measurement involves an assignment of numbers for the purposes of ranking, and precision in measurement can only be judged by the extent of agreement among different observers. To say that cost is measurable, or measurable precisely, does not necessarily mean it is measurable in dollars and cents. If we are able to say, *ceteris paribus*, that a particular type of transaction cost is higher in Situation A than in Situation B, and that different individuals consistently specify the same ranking whenever the two situations are observed, it would follow that transaction costs are measurable, at least at the margin. Testable propositions may then be obtained, and that is the important thing."

<div align="right">(Cheung, 1998, p. 517)</div>

In general, there has been a strong belief among many researchers about the difficulties of measuring transaction costs. And at least three important obstacles have been emphasized: (1) obtaining reasonable data on contracting costs is difficult because these costs occur on both sides of the dyad (i.e. you have to collect data from both sides); (2) the costs of *ex post* contractual failure are very difficult to anticipate *ex ante*; (3) some of these costs are also opportunity costs, which certainly complicates an attempt to measure transaction costs if specific monetary units were to be associated to the costs (Masten, Meehan, and Snyder, 1991; Rindfleisch and Heide, 1997). The first is perhaps not that difficult to solve (see for example Dahlstrom and Nygaard (1999)), but the two latter elements are of course much more challenging, especially if the assumption is that most of the transaction costs are either anticipated future costs and/or opportunity costs.

Hence, in an attempt to solve the measurement problems described above, Masten, Meehan, and Snyder (1991) proposed to measure the costs of internal organization instead of the transaction costs of market transactions, since organization costs "tend to occur in a more routine fashion" (Masten, Meehan, and Snyder, 1991, p. 13). This study was also the first that really tried to put "dollars and cents" on the transaction costs. However, there are several problems with the study, although the approach seems adequate. First, the definition of transaction costs is rather broad and comprises costs that go far beyond the description of transaction costs set by Williamson (1985) and others (Dahlstrom and Nygaard, 1999; Milgrom and Roberts, 1992; Pilling, Crosby, and Jackson, 1994). Actually, they seem to be more in line with general organizational costs (although very specific for one firm),

which in fact also is the notion used by the authors. Second, the study is based on a small number of observations from one particular firm in a highly idiosyncratic industry. And this idiosyncrasy is also reflected in the way organizational costs are described. Hence, cost definitions associated with management of very specific processes and components in one particular firm, reduces the possibilities of using the same cost definition across firms and industries. Third, it is the anticipated hours used on the processes and components that are measured, so even though these costs are measured by monetary units, still the level of these costs is based on subjective assessments. Since the transaction costs never occur in annual reports or financial documents, a subjective assessment of these costs will most probably be the main source for identifying them, but these figures will not be more objective if dollars or kroner are used as measurement units instead of points on a Likert-scale.[93] Fourth, only direct costs have been measured. Hence, opportunity costs are still unmeasured, and will certainly remain so if the only acceptable way of measuring transaction costs is through more or less "objective" monetary figures.

But even though it seems an insurmountable task to measure all the transaction costs in a fully objective manner, the understanding and consequences of these costs will become much more unambiguous through a continuous development of the theoretical constructs of transaction costs. Although the effort of measuring transaction costs in an objective manner was criticized above, the idea is important and has to be followed up in future studies. Both objective as well as more subjective measurements seem to be necessary to develop, since the costs are both observable direct costs as well as opportunity costs. And this measurement problem is not trivial, either is it insignificant, because "stronger tests of the theory, and estimation of the actual costs of organization are possible only if the measurement problems [.............] can be resolved" (Masten, Meehan, and Snyder, 1991, p. 4). One measurement problem is of course the comparison of costs across organizational forms (i.e. the costs for the not chosen alternatives), the second is the problem that the costs are difficult to observe and measure. Among other things, the latter is addressed in the present study, although from a psychometric point of view.

As already presented in the theory chapter, the point of departure for the operationalization of transaction costs was a skeleton of such costs, first

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[93] Another issue is, of course, that by using continuous scales, the measurement precision is perhaps enhanced compared to when measuring costs on ordinal scales that are treated as continuous scales. See also previous discussion about level of measurement on page 61.

presented by Jensen and Meckling (1976), Dahlman (1979), and Williamson (1985). Later research has developed the understanding of the costs, but still it has been of great pertinence to improve the present understanding due to both generalization matters and dimension issues (Rindfleisch and Heide, 1997). And both areas are addressed in this study through the attempt of: (1) using the same conceptual understanding of transaction costs that are used in inter-organizational research, in an intra-company context; (2) the development of an additional dimension of transaction costs.

(1) Intra-company transaction costs
Even though Demsetz (1993, p. 161) prefers the notion of "management costs" instead of transaction costs on the costs of governing transactions within firms, and the fact that these costs manifest themselves somewhat differently across organizational forms (ref. the moderator analysis pp. 114-118), the same set of human and environmental factors seem to be relevant for both (Williamson, 1975). Hence, the transaction costs that arise through intra-organizational coordination also stem from communication distortion, monitoring actions, bonding activities, and adaptation problems, which occur due to for example opportunism, specific investments, information asymmetry and uncertainty.

Within the tradition of psychometric measurement, the present study is the first to measure internally generated transaction costs. All other studies have been measuring transaction costs that occur among independent contractual parties. According to the present study, transaction costs definitely exist in intra-organizational relationships, which confirms the assumptions put forward by several others (Demsetz, 1993; Masten, Meehan, and Snyder, 1991; Rindfleisch and Heide, 1997). Moreover, much of these costs are in fact direct costs linked to monitoring actions, bonding activities and bargaining, even though opportunity costs certainly are present by the ineffective and inappropriate responses to changing conditions and the failure of reaching efficient agreements with the foreign subsidiary. Hence, part of the transaction costs should not be that difficult to measure in a more objective manner, although the current measurements have been done retrospectively and through Likert-scales in this study. But since internally generated transaction costs often tend to occur routinely, it may also be possible to anticipate future costs of an internal nature by following some of the suggestions raised by Masten, Meehan, and Snyder (1991), although it seems fruitless to attribute objective monetary units to all of these costs.

The general magnitude of the transaction costs differs quite substantially (mean values ranging from 2.33 for MalCost to 4.26 for BondCost), but taken together, the general level of bargaining, monitoring, and

maladaptation costs are relatively low (see appendix 2-a). On the other hand, the level of bonding costs is considerably higher.

First, it would have been rather surprising if the general level of the three types of transaction costs had been substantially higher. By internalizing the market for intermediates, when the firm is faced with high market imperfections, transaction costs will be reduced compared to a situation where the firm had relied solely on market transactions (Williamson, 1985). Even though it is tempting to conclude that any other non-equity solution would have implied a higher level of transaction costs when anything else constant, this research cannot infer anything as to whether the firms were faced with such high transaction costs that the chosen mode of operation was the most efficient one. The measurement of transaction costs has been done after the choice of entry mode, so *ex ante* costs and *ex post* costs for the not chosen alternatives are not known. The fact that strategic considerations, such as the need for market presence and scale and scope economies, may also weaken such reasoning (Hill, Hwang, and Kim, 1990; Kim and Hwang, 1992; Kogut, 1988).

Second, it is perhaps not so surprising either, that the level of bonding costs seems to be substantially higher than the level of the three other types of transaction costs, since most of the bonding activities are activities typically necessary for the MNCs to execute if they want to become more integrated. But, this may also raise a question of whether the variable is measured in such a way that the items do not capture the same interpretation of the variable across different governance structures. Especially one item of the bonding costs variable is too context-specific (time spent on building a common company culture). Whether this item can be used in totally different organizational forms is doubtful, but a definition of bonding costs has to be developed so that the meaning is useful across organizational forms, not only for internal circumstances.

This also raises a more substantial inquiry of whether "bonding costs", as defined in this study, are more like ordinary organizational costs disconnected from the contractual arrangements between headquarters and subsidiary. The fact that a positive relationship between these costs and subsidiary performance was registered may indicate that the respondents evaluate at least these costs differently from the rest of the transaction costs. A closer inspection of the correlation matrix (appendix 3), leads to the conclusion that the two items that really drive the positive relationship towards performance seems to be the two items that also have a high positive

correlation towards the bonding cost construct.[94] Both these items describe at least well accepted activities in management of companies, also activities that may go beyond a strict transaction cost definition.

Since this research only has measured bonding costs for two kinds of ownership modes, future research may use the variable across different governance structures to really test whether this definition is useful.

(2) Transaction cost dimensions
Former studies have developed several dimensions of transaction costs, but the most consistent one has probably been Dahlstrom and Nygaard (1999), which this study has drawn on to a great extent in the dimensionality of three out of four of the transaction costs. The three dimensions in their study are also confirmed in this study. The scales of "bargaining costs", "monitoring costs", and "maladaptation costs" are almost identical with respect to reliability values (Cronbach's alpha). All are in the reliability range of $\alpha =$ .72 − .81, which deviates very little from the reliability of the scales developed by Dahlstrom and Nygaard (1999). The constructs also revealed a high degree of discriminant validity and unidimensionality; hence, there are manifest evidences on the multi-dimensionality of the transaction cost notion.

In addition to the three former developed scales, this study has proposed an additional dimension, which was called "bonding costs". Hence, a four-dimensional definition of transaction costs is put forward in this study. This solution was also confirmed when running the measurement model in LISREL. Excellent fit indices were reported. For the first time, bonding costs have been operationalized and used in a study of transaction costs. Four items constitute this variable and a satisfactory α-value of .71 was registered. However, there are indications that this construct has to be further developed (average variance extracted value of .42, which is below the recommended value of .50) – especially two items seems to need more consideration even though they both have significant factor loadings.[95] The first item was probably too little specific and too vague to be understood uniformly by the respondents, which may have led to a rather low factor loading on the construct (λ_6 = .49). The second question may describe rather unfamiliar actions since many of the foreign subsidiaries probably operate

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[94] Item 2: "We spend a lot of time in developing personal ties between headquarter and the foreign subsidiary".
  Item 3: "We spend a lot of time in developing a common company culture"
[95] Item 1: "We spend a lot of time in communicating with our foreign subsidiary".
  Item 4: "We spend a lot of time together with our foreign subsidiary in order to solve conflicts with third parties".

quite independently in their respective local markets. In addition, the wording of the question could be a bit confusing because it is not quite clear that the conflict with third parties has to do with a conflict that is difficult or important for the foreign subsidiary to solve. The conflict could as well be at the MNC level. This ambiguity is reflected in a low factor loading on the construct (($\lambda_9 = .39$).

There are also indications in the study that some of the other constructs have to be improved. Monitoring costs are probably more than those costs covered by the construct used in this study. Monitoring precautions can for example be of both administrative and human nature. Personal presence through expatriates and/or trustworthy persons in the foreign subsidiary may reduce the needs for more formal arms-length control routines. This study did try to develop additional measures for the monitoring cost variable, but it did not succeed in that attempt (ref. the test of unidimensionality, which also revealed that a two-dimensional solution was not possible due to too low factor loadings on a common factor for the three additional items). It is also notified that the initial intention of capturing both "quality" and "quantity" of the bargaining costs construct fell apart. Future studies may try to develop items along these two dimensions.

In sum, within the tradition of psychometric measurement of transaction costs, this study has measured transaction costs in a relatively rigorous manner. Structural equation estimation of the measurement model verified that the measurements by and large are highly satisfactory regarding validity and reliability, even though there is scope for improvement in the operationalization of monitoring costs, bargaining costs, and bonding costs. For the first time, intra-company transaction costs in an international headquarter-subsidiary context have been measured. And as such, this study contributes to the accumulation of knowledge about transaction costs in general, and intra-company transaction costs in particular.

Implications for practice

Basically, four major managerial implications can be drawn from this study. First, transaction costs that occur between MNC-headquarter and foreign subsidiary are important determinants for the performance of those units. Hence, reducing these costs must be important for management in MNCs. Second, working hard with bonding efforts is important, and especially important in the initial phase of the relationship. Third, monitoring costs are detrimental to the performance of the subsidiary, hence it is important to reduce the needs for these costs. Monitoring efforts can be carried out in different ways, and personal presence may reduce the amount of formal

control procedures. Fourth, maladaptation seems to be extremely important to evade, but the effects of maladaptation costs are most distinct among *de novo* entrants.

This study shows that internalizing cross-border activities through either greenfields or acquisitions does not prevent the occurrence of transaction costs. Even though these costs are modest in magnitude, they have a significant influence when the MNCs evaluate the performance of their foreign subsidiaries. Since they explain close to 35 percent of the variation in performance, the management must also emphasize these costs when going abroad. In general, several of these costs are negatively correlated with subsidiary performance, which imply that it is important to manage those subsidiaries in such a way that these costs are to be kept at a minimum level. Although outside the scope of this research, this also emphasizes the importance of carefully selecting the most proper governance structure *ex ante*. Not doing so, increases the probability for misalignments and increased bargaining and monitoring costs *ex post* (Williamson, 1985). If companies make wrong decisions, or are forced to enter a market through non-preferred modes of entry, the MNCs most certainly have to change the headquarter-subsidiary relations over time by for example increasing the level of control in the subsidiaries (Harzing, 2002). These extra costs would not have been necessary if a more proper entry mode had been chosen in the first place.

It seems important for Norwegian managers to bind the foreign subsidiary more closely to the MNC, and a successful integration of a subsidiary has, according to the findings, vital and positive effects. Communication of different kinds, solving third party disputes together with the foreign subsidiary, building personal relationships, and a focus on developing a common corporate culture, are all components that seem to have a positive effect when it comes to the evaluation of the foreign subsidiary. Especially important are the two latter activities. Saying so, it must also be emphasized that proactive bonding activities are most pertinent among the acquired subsidiaries. Hence, MNCs that acquire foreign companies must be aware of this positive effect in particular. It may not be that important in greenfield operations because already from the beginning the subsidiaries are more in line with the goals of the MNCs (Hennart and Park, 1993). In addition, supplementary analyses indicate that bonding costs are most visible in the beginning of the relationship, and that they also reduce the negative costs that occur through bargaining activities, which reinforce the impression that using bonding costs proactively to improve performance in the foreign subsidiary will be a prudent strategy for the MNC.

Monitoring costs have negative effects for the performance of the subsidiary. However, that does not imply that managers should stay away from control precautions, but it points towards the necessities of limiting some of the reasons that make monitoring in the foreign subsidiary necessary. The raison d'être of control costs lies, among other things, in the hazards for opportunistic behavior (Dahlstrom and Nygaard, 1999). These hazards can for example be reduced by more cooperation between the parties, which often leads to a development of mutual goals (Anderson, 1988b). Likewise, Dahlstrom and Nygaard (1999) emphasize the importance of formalizing operating procedures since this increases the possibilities that duties and responsibilities become much more apparent and thereby reduce the possibilities of moral hazards. The proactive actions that lie behind the monitoring costs are to a certain degree most distinct when MNCs acquire foreign firms, surely because of the build-in control effect that lies in the way *de novo* entrants are established and developed through a more direct attendance of people from the MNC (Harzing, 2002). However, firms cannot conclude that it is only in acquired firms that monitoring is necessary. Most certainly, the monitoring costs take only different forms, and some of these forms are not covered by the definition used in this study.

Even though the greenfields are easier to align to the MNC due to compatibility with respect to culture, systems, and routines (Hennart and Park, 1993), maladaptation costs effects are more powerful among these foreign units. It is therefore important for management to emphasize these problems both *ex ante* and *ex post* of the foreign entrance. An optimal choice of operation method is of course of major importance since the alternatives increase costs along many paths (Harzing, 2002). A sound choice requires that the MNC is well aware of the objectives with the new entry, which also requires a thorough understanding of MNC characteristics and industry conditions. *Ex post* of entrance, poor and incomplete information from the foreign subsidiary creates information that is difficult to use or may be not necessary for the MNC at all, which creates extra costs for the MNC. An even more serious problem is of course that poor information may lead to wrong decisions with possible disastrous consequences for the foreign subsidiary. In addition, and according to the more exploratory part of this research, the management in a MNC has to be aware of the fact that misalignments seem to reinforce the negative effect of both bargaining costs and monitoring costs on performance. Therefore, building communication and performance systems that manage to detect problems at an early stage are of major importance.[96]

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[96] Balance scorecards could be an example of such systems (Kaplan and Norton, 1996).

Limitations and future research

Doing empirical research will always be a balance between dilemmas, *ceteris paribus*, it is always desirable to maximize generalizability, precision, and realism, but according to McGrath (McGrath, 1982, p. 74), "*ceteris* is never *paribus* in the world of research". Hence, all empirical research has certain limitations – and that also applies to this study. And by an identification of limitations, avenues for future studies are also revealed. Therefore, limitations and future studies are considered jointly in the following section.

Only Norwegian MNCs are represented in the sample, which implies that the results cannot automatically be extrapolated to other geographical settings. Caution must be observed. However, this is not a serious limitation since the foremost purpose of this study has been to test a normative proposition in the TCE framework, which entails a rather homogenous empirical context. In that sense, questions could rather be raised whether the empirical context is still too heterogeneous for proper theory testing purposes. Both large and small firms, across different industries, are present in the database. Likewise, firms with different international experience and age are represented. A heterogeneous population will decrease the possibilities of identifying statistically significant effects with respect to the main independent variables, because of the number of possible extraneous variables that make it hard to purge alternative explanations for the observed relationships in the data (Cook and Campbell, 1979). Even though control variables were included in the equation, the problem of heterogeneity in the data is a weakness of the study. Future studies should therefore try to limit the context to only one single industry, in one particular country, and include more control variables that may correlate with both the focal independent variable and the dependent variable.

This study relies on single key informants from the MNC headquarters for the constructs in the model. Although much effort has been made to really find <u>the</u> knowledgeable person in the headquarters, this is still a limitation of the study. Relying on just one person opens up for biases in the measurement of the constructs. In future studies using multiple informant strategies from both sides of the dyad (since transaction costs also occur on both sides), and from different sources in each set of units is recommended.

The cross-sectional design is not able to detect the direction of influence in the model. Neither can lagged effects, such as an incurred monitoring cost today with negative effects on performance in the short run, and positive effect in the long run (Jensen and Meckling, 1976), be revealed. Thus

longitudinal studies are required in future research to really understand the dynamics in the relationship between transaction costs and performance.

Endogeneity problems cannot easily be controlled for statistically in this study. Since it is reasonable to assume temporal effects between transaction costs and subsidiary performance (bad performance in t_0 increases transaction costs in t_1, which probably affects performance in t_2), there are also some possibilities that the error terms between the independent and the dependent variables are correlated and give biased estimates. Hence, it is important to control for such a problem. This could be done in at least two ways: (1) striving to collect better data; (2) making an assumption of endogeneity in the data, and directly incorporating that relationship into the estimation (Schugan, 2004). The first point has been impossible to carry out for the present study due to *ex post* time- and resource restrictions, but it is a sound advice for future studies. The second point requires instrumental variables in the data set that could generate proxies for the explanatory endogenous variables (here: the four transaction costs). Both high explained variance in the reduced equations, and low correlations with the error in the dependent variable are necessary if the second remedy is to be used. Poor instruments also give unreliable parameter estimates in the final regression. Hence, a limitation of this study is the confined number of instrumental variables available. However, that being said, it must also be emphasized that finding these exogenous variables could be a tremendous task. Models always have boundaries, If not, the daring assumption that the model contains all relevant factors must be maintained, and that is perhaps more than what anyone is able to do in real life research. Therefore, according to Schugan (2004), "by allowing different types of exogenous constraints, we might make our models far more applicable to realistic settings than if we seek to make all variables endogenous."

To really understand the nature and effects of transaction costs on performance, future studies should also try to develop the just opened avenue that explores possible interconnections and trade-offs among the different types of transaction costs. Interesting aspects were revealed in this study, but the attempt was very much empirically driven. Later studies have to carefully develop theoretical propositions that could be tested in a rigorous manner. In addition, both long-term and short-term performance measures have to be considered (Ariño, 2003).

The measurements of the variables in the model can still be improved. Several of the transaction cost dimensions are quite limited in their description, and hence several more items and dimensions have to be developed in future research. For example, the deviating result from the

hypothesized relationship between bonding costs and subsidiary performance may also be rooted in the measurement of these costs. The conceptualization of bonding costs in this study deviates from the understanding of such costs developed in agency theory (Jensen and Meckling, 1976) and adapted in some TCE-based literature (Williamson, 1985). Hence, with rather low values on one of the reliability measures (average variance extracted = .42), this construct needs to be further developed. Monitoring costs are obviously also more than what is covered by the present definition, so in that respect the study of Harzing (2002) may help in developing the measurement of such costs. In addition, performance measures that cover both long-term and short-term perspectives are sometimes important to employ, which also is emphasized by Ariño (2003) in her conceptualization of so-called outcome performance and process performance. Both aspects have to be taken care of in future performance studies.

In the real world of MNCs, strategic considerations often lead to situations where firms may select a governance structure that is not efficient for the specific transaction in terms of TCE considerations, but which is the best alternative for the firm as a whole (Hill, 1990; Kogut, 1988). Empirical research also shows that short-term anomalies will most likely occur and coexist with efficient governance structures during a time span (Armour and Teece, 1978; Monteverde and Teece, 1982; Rumelt, 1974). Therefore, comparing organizational forms with respect to the effect of transaction costs on performance (i.e. the moderator test) could lead to wrong conclusions with respect to the upshot of transaction costs. A higher level of transaction costs could be accepted in one situation just to fulfill other dimensions of performance than a purely economic one. Hence future research may try to control for the strategies that were behind the organizational form(s) that are under investigation.

Conclusion

With few exceptions, research within the TCE-tradition has been little concerned about the relationship between transaction costs and performance. Instead, transaction costs have been used as proxies for performance (Buvik and Andersen, 2002; Dahlstrom and Nygaard, 1999; Heide and John, 1988; Masten, Meehan, and Snyder, 1991; Noordewier, John, and Nevin, 1990). However, if the normative assumptions in the theory are to be tested rigorously, this relationship has to be verified empirically, which also requires a thorough understanding and measurement of both transaction costs and performance. This research has contributed to all three elements by identifying and testing both transaction costs and performance in a thorough manner by using multiple items and multiple methods, and it has given better insights into a relatively unexplored topic by formally testing the relationship between transaction costs and performance. In addition, bonding costs, which is a novel variable, is measured. Although there is room for improvements, introducing this variable has revealed some new insights, and avenues for future studies.

Another contribution lies in the increased insight on how foreign entry modes modify the relationship between transaction costs and performance. This study demonstrates that different types of transaction costs differ with respect to intra-organizational forms. Some former performance studies within the field of international business have proposed direct entry mode effects towards performance in the attempt to explain that some modes of entry are superior to others (Li and Guisinger, 1991; Woodcock, Beamish, and Makino, 1994). This way of modeling the relationship may be flawed since, *ceteris paribus*, different operation methods cannot differ with regard to performance; they rather moderate the transaction costs effects on performance (Masten, 1993). This last point is confirmed by this study.

Finally, this dissertation has also started an exploration of possible interconnections between the transaction costs. Exploring this avenue further may contribute to a more thorough understanding of the dynamics among transaction costs.

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APPENDIX 1: Key figures – MNC and FDI

Company parameters	MNC	FDI
Number of employees:		
mean	854	93
maximum	27,500	2,325
minimum	10	2
portion of companies within (%):		
0-10 employees	—	35.6
1-100 employees	44.4	87.5
101-500 employees	31.9	8.8
501-1000 employees	9.3	0.6
1001-2000 employees	7.5	2.5
2001-5000 employees	3.8	0.6
>5001 employees	3.1	—
Turnover (thousand NOK):		
mean	1,203,501	152,945
maximum	34,083,000	7,716,000
minimum	11,468	200
portion of companies within (%):		
0-10 million	—	25.0
11-50 million	16.3	42.9
51-100 million	15.6	12.9
101-500 million	42.5	13.4
501-1000 million	8.1	3.2
> 1001 million	17.5	2.6
Profit (thousand NOK):		
mean	125,457	11,231
maximum	5,171,000	1,578,000
minimum	−585,000	−350,000
International sales (%):		
mean	48.4	—
maximum	100.0	—
minimum	2.5	—
Main activity (%):		
manufacturing	55.0	27.5
sales	—	49.4
service	26.9	23.1
retailing	18.1	—
Portion acquisition/greenfield (%)	—	34.4/65.6
Location (%):		
Europe	—	81.9
North-America	—	6.9
South-America	—	1.3
Asia	—	8.7
Africa	—	1.2
Mean age of FDI (in years)		5.7

APPENDIX 2: Descriptive statistics

2-a: Descriptive statistics for all initial items and final variables

Observed variables	Mean	Std	Skewness	Kurtosis	Min.	Freq.	Max.	Freq.
Bargaining costs								
Item 1[*]	1.881	1.230	2.034	4.672	1.000	78	7.000	2
Item 2[**]	3.544	1.689	.245	−.882	1.000	19	7.000	7
Item 3[a]	3.212	1.371	.351	−.335	1.000	15	7.000	2
Item 4[a]	3.275	1.341	.435	−.322	1.000	9	7.000	2
Item 5[**]	2.781	1.608	.922	−.060	1.000	33	7.000	4
BargCost	3.244		.312	−.319				
Monitoring costs								
Item 6	2.350	1.337	1.173	.943	1.000	46	7.000	1
Item 7	3.581	1.544	.022	−.821	1.000	17	7.000	3
Item 8	2.556	1.268	.754	.127	1.000	34	6.000	5
Item 9[**]	2.538	1.278	.885	.550	1.000	34	7.000	1
Item 10[**]	3.962	1.617	−.011	−.899	1.000	10	7.000	8
Item 11[**]	2.550	1.321	.810	−.045	1.000	35	6.000	5
MonCost	2.829		.664	.294				
Bonding costs								
Item 12	4.362	1.646	−.263	−.856	1.000	7	7.000	13
Item 13	4.537	1.475	−.295	−.602	1.000	3	7.000	12
Item 14	4.244	1.729	−.110	−1.038	1.000	8	7.000	16
Item 15	3.837	1.617	−.103	−1.031	1.000	13	7.000	3
Item 16[**]	2.681	1.468	.833	−.151	1.000	34	7.000	1
Item 17[**]	3.469	1.939	.265	−1.295	1.000	30	7.000	9
BondCost	4.245		−.176	−.370				
Maladaptation costs								
Item 18	2.356	1.460	1.020	.122	1.000	57	7.000	1
Item 19	2.006	1.179	1.410	1.594	1.000	65	6.000	2
Item 20[**]	2.181	1.317	1.434	1.732	1.000	56	7.000	1
Item 21	2.625	1.545	.897	−.203	1.000	41	7.000	1
MalCost	2.329		.938	.152				
Performance								
Item 22	4.194	1.482	−.268	−.489	1.000	7	7.000	8
Item 23[**]	4.213	1.603	−.278	−.708	1.000	9	7.000	10
Item 24	3.756	1.862	.077	−1.125	1.000	23	7.000	13
Item 25	4.306	1.392	−.351	−.498	1.000	5	7.000	3
Item 26[**]	4.263	1.627	−.388	−.739	1.000	11	7.000	8
Item 27	4.831	1.323	−.608	.039	1.000	2	7.000	11
Item 28[**]	5.056	1.250	−.792	.469	1.000	2	7.000	12
Perf	4.272		−.269	−.290				

[*] Excluded items due to excess kurtosis and skewness
[**] Excluded items due to cross-loadings or too low factor loadings
[a] Reversed item

2-b: Univariate and multivariate normality – construct level

Variables	Skewness		Kurtosis		Skewness and Kurtosis	
	Z-score	P-value	Z-score	P-value	χ^2	P-value
Univariate						
BargCost (lvs.)	1.991	.046*	−.213	.831	4.011	.135
MonCost (lvs.)	3.905	.000*	1.412	.158	17.239	.000*
BondCost (lvs.)	−.890	.374	−1.572	.116	3.265	.195
MalCost (lvs.)	4.375	.000*	.687	.492	17.239	.000*
Perf (lvs.)	−1.675	.095	−.427	.670	2.977	.226
BargCost (s.s.)	1.632	.103	−.853	.394	3.392	.183
MonCost (s.s.)	3.272	.001*	.874	.382	11.471	.003*
BondCost (s.s.)	−.932	.351	−1.049	.294	1.970	.373
MalCost (s.s.)	4.352	.000*	.549	.583	19.238	.000*
Perf (s.s.)	−1.412	.158	−.746	.456	2.550	.279
Multivariate (lvs)	3.471	.001*	1.613	.107	14.649	.001*

* non-normal at $\alpha = .05$

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APPENDIX 3: Correlation matrix – item level

	BAR1	BAR2	MON1	MON2	MON3	BON1	BON2	BON3	BON4	MAL1	MAL2	MAL3	PER1	PER2	PER3	PER4
BAR1	1															
BAR2	.625	1														
MON1	.337	.276	1													
MON2	.247	.205	.437	1												
MON3	.199	.172	.526	.438	1											
BON1	.080	−.034	.153	.317	.186	1										
BON2	−.138	−.218	.025	.061	.088	.417	1									
BON3	−.179	−.265	.066	.123	.141	.358	.641	1								
BON4	.055	.029	.070	.088	.093	.268	.322	.289	1							
MAL1	.437	.493	.393	.293	.314	.119	−.031	−.137	.113	1						
MAL2	.303	.405	.370	.264	.313	.099	−.118	−.072	.004	.573	1					
MAL3	.442	.436	.380	.274	.216	.093	−.041	−.083	.094	.679	.523	1				
PER1	−.333	−.366	−.231	−.083	−.198	−.081	.197	.234	.034	−.279	−.332	−.298	1			
PER2	−.275	−.265	−.238	−.215	−.153	−.145	.156	.120	.001	−.329	−.297	−.373	.583	1		
PER3	−.258	−.335	−.217	−.113	−.161	−.019	.238	.243	.084	−.302	−.358	−.341	.645	.548	1	
PER4	−.351	−.353	−.265	−.176	−.184	.022	.205	.177	.043	−.363	−.346	−.250	.629	.468	.605	1

APPENDIX 4: Item to total correlation – preliminary model

Scales	Items	Item-to-total correlations	Corrected item-to-total correlations[1]
Bargaining costs	Barg3	.90	.63
	Barg4	.90	.63
Monitoring costs	Mon1	.81	.56
	Mon2	.81	.50
	Mon3	.80	.56
Bonding costs	Bond1	.70	.44
	Bond2	.80	.63
	Bond3	.79	.57
	Bond4	.64	.36
Maladaptation costs	Mal1	.89	.78
	Mal2	.78	.65
	Mal3	.89	.81
	Mal4	.85	.71
Performance	Perf1	.84	.78
	Perf2	.83	.65
	Perf3	.80	.79
	Perf4	.80	.72
	Perf5	.67	.54
	Perf6	.76	.68
	Perf7	.67	.59

[1]This is the correlation between the single item and the remaining items on the construct (calculated in SPSS – reliability analysis).

APPENDIX 5: Fit indices – tc dimensions

Fit statistics	Transaction costs 4-dimensional solution
χ^2	53.00
(df)	(48)
p-value	.287
RMSEA	.026
p-value close fit	.86
NCP	5.00
GFI	.95
AGFI	.91
RMR	.066
NFI	.94
NNFI	.99
CFI	.99
IFI	.99
CN	220 (220.97)

APPENDIX 6: Residual analyses and regression plots
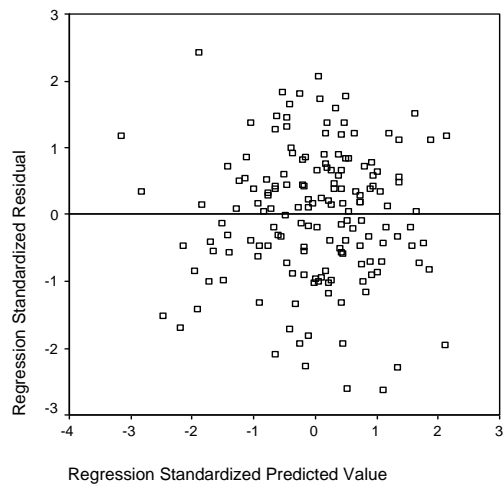
6-a: ZRESID against ZPRED
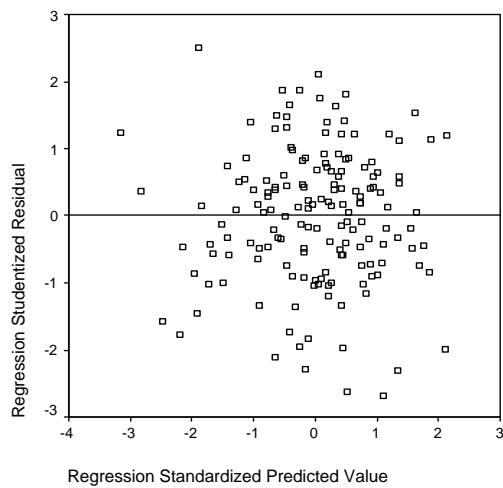
6-b: SRESID against ZPRED
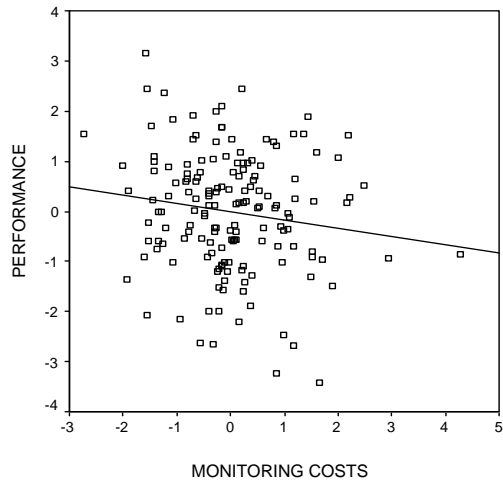
6-c: *Partial regression plot – performance against monitoring costs*
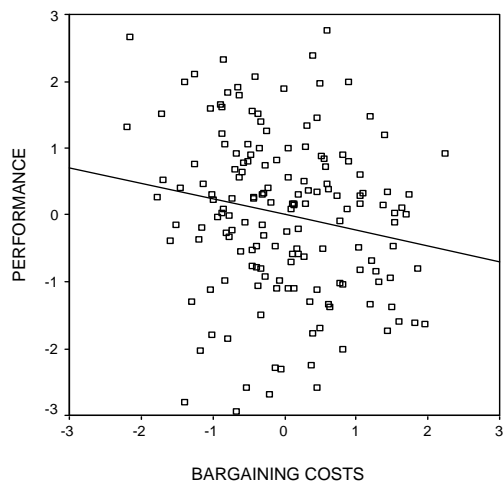
6-d: *Partial regression plot – performance against bargaining costs*
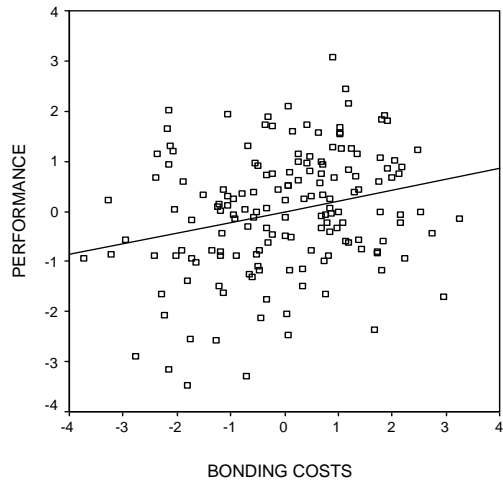
6-e: *Partial regression plot – performance against bargaining costs*
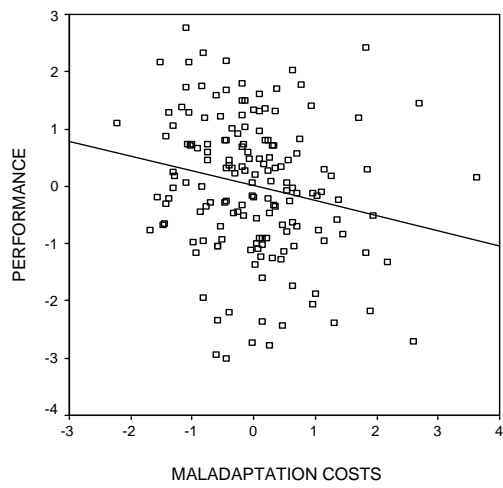
6-f: *Partial regression plot – performance against maladaptation costs*

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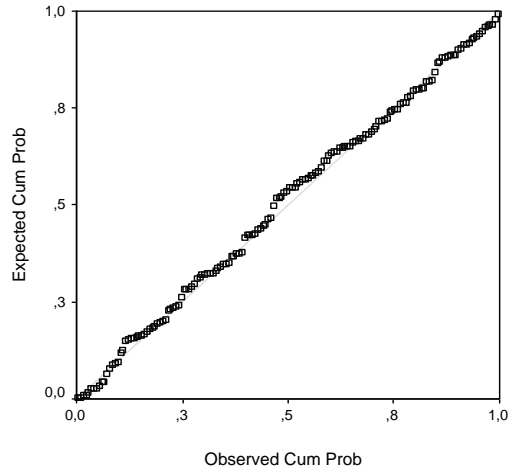
6-g: Normal probability plot

APPENDIX 7: Cover letter

BI
Handelshøyskolen BI

Tusen takk for at De tar Dem tid til å svare på denne undersøkelsen!

På et tidligere tidspunkt har De/dere alt sagt dere villig til å delta i en undersøkelse angående utenlandske datterselskaper etablert av norske bedrifter. Nå kommer altså spørreskjemaet!

Undersøkelsen tar for seg forskjellige sider vedrørende forholdet mellom morselskap og datterselskap, samt prestasjonene til disse internasjonale datterselskapene. Undersøkelsen er en del av et doktorgradsarbeid ved Handelshøyskolen BI.

Spørreskjemaet er utformet på en måte slik måte at det ikke skulle være nødvendig å grave seg verken dypt og/eller langt ned i gamle historiske data. Men når det er sagt, er det likevel viktig å merke seg at den som fyller ut skjemaet må kjenne både morselskapet og datterselskapet relativt godt. Det skal dog ikke være mulig for utenforstående å finne ut hvilket morselskap og hvilket datterselskap som er med i undersøkelsen. Derfor er det ingen direkte informasjon i spørreskjemaet som kan identifisere selskapene. Listen over selskaper som har vært med i undersøkelsen blir arkivert i en database uavhengig av spørreskjemaene, men for at det skal være mulig for den som utfører undersøkelsen å kunne vite hvem som har svart og hvem som ikke har svart, vil spørreskjemaet og svarkonvolutten være påført en kode som samsvarer med et linjenummer i databasen. Databasen er underlagt konsesjonsplikt.

Les nøye gjennom instruksene gitt i spørreskjemaet, og lykke til med utfyllingen (som trolig ikke vil ta mer enn ca. 30 minutter).

Dere som returnerer spørreskjemaet i utfylt stand, vil på et senere tidspunkt få tilsendt en rapport som oppsummerer funnene i undersøkelsen.

Vennlig hilsen

Sverre Tomassen
Institutt for strategi, Handelshøyskolen BI

APPENDIX 8: Reminder

BI

Handelshøyskolen BI

Direkte utenlandsinvesteringer og deres prestasjoner
- et forskningsprosjekt fra Handelshøyskolen BI

Til ansvarlig for utenlandsaktivitetene

Påminnelse

For en tid siden mottok Deres firma et spørreskjema vedrørende ovennevnte tema. Vi kan ennå ikke se å ha mottatt en tilbakemelding fra dere, noe som det sikkert kan være flere grunner til. Skjemaet kan ha kommet til feil person, og mange av dere har i tillegg dårlig tid, men vi håper likevel at De kan ta Dem tid til å fylle ut skjemaet og returnere dette i vedlagte svarkonvolutt.

For orienteringens skyld legges ved det tidligere introduksjonsbrevet samt et spørreskjema. Dersom det første skjemaet er kommet bort kan dere benytte det som er vedlagt i denne sendingen.

NB!

Dersom selskapet ikke lenger har internasjonale datterselskap(er), eller at datterselskapet er av en slik art at spørreskjemaet ikke passer i det hele tatt, ber vi vennligst om at dere returnerer skjemaet ved for eksempel å skrive en setning på forsiden av spørreskjemaet om hvorfor skjemaet ikke er fylt ut.

Vennlig hilsen

Sverre Tomassen
Institutt for strategi, Handelshøyskolen BI

APPENDIX 9: Questionnaire – 4 pages

BI
Handelshøyskolen BI

Direkte utenlandsinvesteringer og deres prestasjoner
Et forskningsprosjekt vedrørende norske direkteutenlandsinvesteringer.

Dette forskningsprosjektet, som er en del av et doktorgradsarbeid ved Handelshøyskolen BI, har som formål å belyse ulike sider vedrørende prestasjonen til utenlandske, heleide eller deleide, datterselskap av norske bedrifter.

Undersøkelsen sendes til selskaper som har foretatt en eller flere direkte utenlandsinvesteringer. Alle besvarelsene vil bli behandlet strengt konfidensielt. I den senere analysen vil svarene bli analysert under ett slik at informasjon knyttet opp imot et spesielt selskap vil være umulig å spore. I tillegg er dataregisteret som er basert på svarene underlagt konsesjonsplikt.

Vennligst fyll ut spørreskjemaet i henhold til de instrukser som blir gitt underveis. Mange av spørsmålene i skjemaet er formet som påstander der De skal vurdere i hvor stor grad det er en dekkende/ikke dekkende beskrivelse av situasjonen som blir beskrevet. Dette gjør De ved å sette et kryss i den rubrikken som representerer Deres svar best. Alternativene går fra 1 til 7. I tillegg kommer det en del spørsmål hvor vi ber om en del bakgrunnsinformasjon for både morselskap og datterselskap. Når De besvarer spørsmålene vil De oppleve at noen av dem er relativt like, andre kan virke noe spesielle, men det er en mening med samtlige av dem. Vi anbefaler at spørsmålene besvares fortløpende. Det vil ta Dem ca. 30 minutter å fylle ut skjemaet.

NB!! Dersom selskapet har flere internasjonale datterselskap, velg ut et datterselskap etter følgende kriterier:
1. Et selskap med en viss omsetning av varer og/eller tjenester.
2. Dersom noen av selskapene er etablert i tidsrommet 1990 -1997, velg et av disse. Dersom ikke, ta det som er etablert senest opp til 1990.
3. Velg et datterselskap som De/dere har gode kunnskaper om.

Vennligst returner spørreskjemaet i den vedlagte ferdigfrankerte svarkonvolutten. Om De mister denne, kan skjemaet returneres til:

Sverre Tomassen, Institutt for strategi
Handelshøyskolen BI, Elias Smiths vei 15, Postboks 580, 1302 Sandvika

Dersom De har spørsmål vedrørende undersøkelsen, ta gjerne kontakt på
telefon 67557259 evt. telefon 22985136, eller ved hjelp av e-post: sverre.tomassen@bi.no

På forhånd takk for hjelpen!

Nedenfor har vi listet opp noen påstander vedrørende Deres muligheter til å evaluere prestasjonene til Deres utenlandske datterselskap. I hvor stor grad er disse påstandene en dekkende beskrivelse av situasjonen:

Meget dårlig beskrivelse — Meget god beskrivelse
1 2 3 4 5 6 7

1 Vi har ennå ikke utviklet eksakte evalueringsstandarder som vi kan bruke når vi evaluerer prestasjonene til vårt utenlandske datterselskap

2 Det å evaluere vårt utenlandske selskap er i høyeste grad en subjektiv prosess

3 Vårt utenlandske datterselskap utfører så mange forskjellige oppgaver at det er vanskelig å bringe på det rene om de gjør et tilfredsstillende arbeid

4 Det er vanskelig å konstatere om vårt utenlandske datterselskap holder seg til de kvalitetsstandarder og spesifikasjoner som vi har blitt enig om

I de følgende spørsmålene (som er formet som påstander) ønsker vi å belyse noen faktorer vedrørende de eksterne omgivelsene til Deres utenlandske datterselskap. Spørsmålene er kun knyttet til det spesifikke markedet som dette datterselskapet opererer i. I hvor stor grad er disse påstandene en dekkende beskrivelse av situasjonen:

Meget dårlig beskrivelse — Meget god beskrivelse
1 2 3 4 5 6 7

1 Vi blir ofte overrasket over atferden til våre leverandører og distributører i dette markedet

2 Vi blir ofte overrasket over atferden til våre konkurrenter i dette markedet

3 Vi blir ofte overrasket over reaksjonen til våre kunder i dette markedet

4 Produktene som vi tilbyr i dette markedet har mange sluttbrukere

1

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Fortsetter fra forrige side!	Meget dårlig beskrivelse					Meget god beskrivelse	
	1	2	3	4	5	6	7
5 Produktene som vi tilbyr i dette markedet har mange konkurrenter	☐	☐	☐	☐	☐	☐	☐
6 Produktene som vi tilbyr i dette markedet har bare noen få umiddelbare kunder	☐	☐	☐	☐	☐	☐	☐
7 Det er betydelige kulturelle forskjeller (dvs. i forhold til normer, verdier, skikker, relasjoner mellom mennesker, etc.) mellom Norge og det landet datterselskapet er etablert i	☐	☐	☐	☐	☐	☐	☐
8 Selskapet vårt hadde gjort mange internasjonale nyetableringer før vi etablerte dette datterselskapet	☐	☐	☐	☐	☐	☐	☐
9 Selskapet vårt hadde gjort mange internasjonale oppkjøp før vi etablerte dette datterselskapet	☐	☐	☐	☐	☐	☐	☐
10 Selskapet vårt hadde betydelig erfaring med å drive forretninger i dette landet før vi etablerte datterselskapet	☐	☐	☐	☐	☐	☐	☐

Nedenfor er det listet opp fem forskjellige faktorer som det kan være viktig å ta hensyn til når man har aktiviteter utenfor egne lands grenser. Vennligst vurder i hvor stor grad endringer i disse faktorene er uforutsigbare:	Meget liten grad					Meget stor grad	
	1	2	3	4	5	6	7
11 Importreguleringene	☐	☐	☐	☐	☐	☐	☐
12 Eksportreguleringene	☐	☐	☐	☐	☐	☐	☐
13 Reglementet vedrørende valutatransaksjoner	☐	☐	☐	☐	☐	☐	☐
14 Skattereglene for utenlandske selskaper	☐	☐	☐	☐	☐	☐	☐
15 Reglene for utførsel av kapital (overskudd og/eller betaling for produkter)	☐	☐	☐	☐	☐	☐	☐

Nedenfor har vi listet opp noen påstander vedrørende Deres engasjement i det utenlandske markedet. I hvor stor grad er disse påstandene en dekkende beskrivelse av situasjonen:	Meget dårlig beskrivelse					Meget god beskrivelse	
	1	2	3	4	5	6	7
1 Produktene er av en slik art at det tar lang tid for en selger å bli grundig opplært på disse produktene	☐	☐	☐	☐	☐	☐	☐
2 For å markedsføre og selge disse produktene trenger vi spesielle fasiliteter	☐	☐	☐	☐	☐	☐	☐
3 Vårt selskap har gjort relativt store investeringer p.g.a. behov som er spesifikke for dette utenlandske markedet	☐	☐	☐	☐	☐	☐	☐
4 Våre produkter er skreddersydd for å møte kravene i dette landet	☐	☐	☐	☐	☐	☐	☐
5 Vår mest verdifulle teknologi/know-how er overført til dette datterselskapet	☐	☐	☐	☐	☐	☐	☐
6 Mange av våre aktiviteter i vårt datterselskap trenger nær oppfølging og koordinering	☐	☐	☐	☐	☐	☐	☐
7 Vårt selskap har gjort relativt store investeringer p.g.a. spesifikke behov hos vårt datterselskap	☐	☐	☐	☐	☐	☐	☐

Påstandene nedenfor dreier seg om forhold mellom morselskapet og datterselskapet i utlandet. I hvor stor grad er disse påstandene en dekkende beskrivelse av situasjonen:	Meget dårlig beskrivelse					Meget god beskrivelse	
	1	2	3	4	5	6	7
1 Vi har grunn til å tro at ansatte i vårt utenlandske datterselskap skjuler viktig informasjon for oss	☐	☐	☐	☐	☐	☐	☐
2 Ledelsen i vårt utenlandske datterselskap har ikke holdt det som ble lovet da selskapet ble opprettet	☐	☐	☐	☐	☐	☐	☐
3 Av og til blir informasjon endret av den lokale ledelsen slik at ting skal bli gjennomført på deres måte	☐	☐	☐	☐	☐	☐	☐
4 Vår lokale ledelse gir av og til løfter til oss som ikke blir gjennomført på et senere tidspunkt	☐	☐	☐	☐	☐	☐	☐
5 Vi bruker mye tid på å reforhandle avtaler som er gjort mellom oss og datterselskapet	☐	☐	☐	☐	☐	☐	☐
6 Vi bruker mye tid på å koordinere aktiviteter mellom oss og datterselskapet	☐	☐	☐	☐	☐	☐	☐
7 Vi bruker mye tid på å kommunisere med vårt datterselskap	☐	☐	☐	☐	☐	☐	☐
8 Våre møter med ansatte i datterselskapet er meget effektive og systematiske	☐	☐	☐	☐	☐	☐	☐
9 Begge parter er alltid godt forberedt til møtene slik at vi kan ta beslutninger	☐	☐	☐	☐	☐	☐	☐
10 Koordineringen av relasjonen mellom oss og datterselskapet er alt for kostbar sammenlignet med resultatene vi oppnår	☐	☐	☐	☐	☐	☐	☐

2

	Meget dårlig beskrivelse					Meget god beskrivelse	
	1	2	3	4	5	6	7
11 Vi bruker mye tid på å kontrollere tjenester som vi får levert fra datterselskapet	☐	☐	☐	☐	☐	☐	☐
12 Vi bruker mye tid på regnskapsarbeid relatert til vårt datterselskap	☐	☐	☐	☐	☐	☐	☐
13 Vi bruker mye tid på å kontrollere leveranser av viktige ressurser til vårt datterselskap	☐	☐	☐	☐	☐	☐	☐
14 Vi bruker betydelige ressurser på å kontrollere arbeidsinnsatsen i datterselskapet	☐	☐	☐	☐	☐	☐	☐
15 Vi besøker datterselskapet meget ofte for å forsikre oss om at den generelle utviklingen i datterselskapet er i tråd med våre forventninger	☐	☐	☐	☐	☐	☐	☐
16 Ansatte fra vårt datterselskap må besøke vårt hovedkontor meget ofte for å forsikre oss om at de er på linje med våre strategiske mål	☐	☐	☐	☐	☐	☐	☐
17 Vi bruker mye tid på å utvikle personlige bånd mellom hovedkontor og datterselskap	☐	☐	☐	☐	☐	☐	☐
18 Vi bruker mye tid på å utvikle en felles bedriftskultur	☐	☐	☐	☐	☐	☐	☐
19 Når konflikter oppstår med en tredje part, bruker vi mye tid sammen med vårt datterselskap for å løse disse konfliktene	☐	☐	☐	☐	☐	☐	☐
20 Vi bruker mye tid på å designe og utvikle karrieremuligheter (innenfor vårt selskap) for våre ansatte i datterselskapet	☐	☐	☐	☐	☐	☐	☐
21 Vi har utviklet mange insentivsystemer (så som bonusordninger og aksjeopsjoner) for våre ansatte i datterselskapet	☐	☐	☐	☐	☐	☐	☐
22 Vi bruker for mye tid på opplæring av våre ansatte i datterselskapet	☐	☐	☐	☐	☐	☐	☐
23 Vi bruker for mye tid på motiveringsarbeid rettet mot våre ansatte i datterselskapet	☐	☐	☐	☐	☐	☐	☐
24 Vi bruker for mye ressurser på å rekruttere nye ansatte i datterselskapet	☐	☐	☐	☐	☐	☐	☐
25 Det tar betydelig tid for de ansatte i datterselskapet er like produktive som øvrige medarbeidere i vårt selskap	☐	☐	☐	☐	☐	☐	☐
26 Informasjon fra datterselskapet er ofte så ufullstendig at den er vanskelig å forstå	☐	☐	☐	☐	☐	☐	☐
27 Informasjon fra datterselskapet er ofte for voluminøs til å bli forstått	☐	☐	☐	☐	☐	☐	☐
28 Informasjon fra datterselskapet er ofte dårlig formulert og dermed vanskelig å forstå	☐	☐	☐	☐	☐	☐	☐
29 Viktig informasjon fra datterselskapet kommer sjelden til riktig tid	☐	☐	☐	☐	☐	☐	☐
30 Etableringen av datterselskapet har gjort det mye lettere for oss å skifte lokalisering for vår viktigste forretningsaktivitet dersom det har vært/skulle bli nødvendig	☐	☐	☐	☐	☐	☐	☐
31 Etableringen av datterselskapet har gjort det mye lettere for oss å skifte lokalisering for noen av de andre forretningsaktivitetene våre dersom det har vært/skulle bli nødvendig	☐	☐	☐	☐	☐	☐	☐
32 Etableringen av datterselskapet har gjort det mye lettere for oss å variere mellom ulike sourcingkilder (leveransekilder) dersom det har vært/skulle bli nødvendig	☐	☐	☐	☐	☐	☐	☐
33 Etableringen av datterselskapet har gjort det mye lettere for oss å ekspandere videre i dette lokale markedet	☐	☐	☐	☐	☐	☐	☐
34 Etableringen av datterselskapet har gjort det mye lettere for oss å ekspandere inn i nye geografiske markeder	☐	☐	☐	☐	☐	☐	☐
34 Etableringen av datterselskapet har gjort det mye lettere for oss å ekspandere inn i nye produktområder	☐	☐	☐	☐	☐	☐	☐
36 Datterselskapet har vært et meget godt hjelpemiddel for å utforske og oppta ny kunnskap om de politiske og juridiske forholdene i dette landet	☐	☐	☐	☐	☐	☐	☐
37 Datterselskapet har vært et meget godt hjelpemiddel for å utforske og oppta ny kunnskap om lokal forretningspraksis i dette landet	☐	☐	☐	☐	☐	☐	☐
38 Datterselskapet har vært et meget godt hjelpemiddel for å utforske og oppta ny kunnskap om lokale økonomiske forhold	☐	☐	☐	☐	☐	☐	☐
39 Datterselskapet har vært et meget godt hjelpemiddel for å utnytte vårt selskaps produkt/service-teknologi i dette markedet	☐	☐	☐	☐	☐	☐	☐
40 Datterselskapet har vært et meget godt hjelpemiddel for å integrere våre strategiske mål i den lokale enheten	☐	☐	☐	☐	☐	☐	☐
41 Datterselskapet har vært et meget godt verktøy for oss i å integrere vårt selskaps forretningspraksis i den lokale enheten	☐	☐	☐	☐	☐	☐	☐

3

Spørsmålene nedenfor dreier seg om vurderinger rundt forskjellige prestasjonselementer hos datterselskapet Deres. Utgangspunktet for vurderingen er regnskapsåret 2000:

	Meget lite fornøyd						Meget godt fornøyd
	1	2	3	4	5	6	7
1 Hvor fornøyd er dere med markedsandelen til datterselskapet i det lokale markedet?	☐	☐	☐	☐	☐	☐	☐
2 Hvor fornøyd er dere med salgsveksten til datterselskapet i det lokale markedet?	☐	☐	☐	☐	☐	☐	☐
3 Hvor fornøyd er dere med lønnsomheten til datterselskapet i det lokale markedet?	☐	☐	☐	☐	☐	☐	☐
4 Hvor fornøyd er dere med distribusjonskanalene til datterselskapet i det lokale markedet?	☐	☐	☐	☐	☐	☐	☐
5 Hvor fornøyd er dere med kostnadsnivået i datterselskapet?	☐	☐	☐	☐	☐	☐	☐
6 Hvor fornøyd er dere med markedsadgangen i det lokale markedet?	☐	☐	☐	☐	☐	☐	☐
7 Hvor fornøyd er dere med kundetilfredsheten for Deres datterselskap?	☐	☐	☐	☐	☐	☐	☐

Nedenfor ber vi om noen få regskapsopplysninger samt annen bakgrunnsinformasjon. Der det ikke står noe annet, gjelder spørsmålene for 2000.

1 Salg (brutto) og fortjeneste (før skatt) i norske kroner (NOK) for datterselskapet i året 2000 (dersom annen valuta blir oppgitt, indiker hvilken).

Salg: ☐   Fortjeneste: ☐

2 Salg (brutto) og fortjeneste (før skatt) i norske kroner (NOK) for hele morselskapet (inkludert alle datterselskapene) i året 2000 (dersom annen valuta blir oppgitt, indiker hvilken).

Salg: ☐   Fortjeneste: ☐

	Mer enn 30% reduksjon	16-30% reduksjon	1-15% reduksjon	0	1-15% økning	16-30 % økning	over 30% økning
3 Gjennomsnittlig salgsvekst (evt. reduksjon) pr. år for datterselskapet i perioden 1998-2000. Angi svaret ved å krysse av i en av boksene.	☐	☐	☐	☐	☐	☐	☐
4 Gjennomsnittlig vekst (evt. reduksjon) i fortjeneste pr. år i datterselskapet for perioden 1998-2000. Angi svaret ved å krysse av i en av boksene.	☐	☐	☐	☐	☐	☐	☐
5 Hvor stor har den gjennomsnittlige veksten (evt. reduksjonen) i antall ansatte vært pr. år i datterselskapet for perioden 1998-2000? Angi svaret ved å krysse av i en av boksene.	☐	☐	☐	☐	☐	☐	☐

	0 - 4%	5 - 9%	10 - 14%	15 - 19%	20 - 24%	25 - 29%	over 30%
6 Gjennomsnittlig investeringsandel pr. år i datterselskapet for perioden 1998-2000 (investeringer i datterselskapet i forhold til salg i datterselskapet). Angi svaret ved å krysse av i en av boksene.	☐	☐	☐	☐	☐	☐	☐
7 Indiker markedsandelen til datterselskapet i det lokale markedet for året 2000. Angi svaret ved å krysse av i en av boksene.	☐	☐	☐	☐	☐	☐	☐
8 Hva var markedsandelen til datterselskapet i det lokale markedet i 1998? Angi svaret ved å krysse av i en av boksene.	☐	☐	☐	☐	☐	☐	☐

9 Hvor mange ansatte hadde hele morselskapet (inkl. alle datterselskapene) i 2000?

Ant. ansatte i hele selskapet: ☐

10 Hvor mange ansatte hadde datterselskapet i 2000?

Ant. ansatte i datterselskapet: ☐

11 Hva er hovedaktiviteten til datterselskapet?

Produksjon ☐   Salg ☐   Annen tjenesteyting ☐

	Meget lav						Meget høy
	1	2	3	4	5	6	7
12 Hvordan vurderer dere kompetansen i datterselskapet rundt de hovedaktivitetene det utøver?	☐	☐	☐	☐	☐	☐	☐
13 Tenk deg 12 mnd. frem i tid, hvor stor sannsynlighet er det for at dere fortsatt eier datterselskapet?	☐	☐	☐	☐	☐	☐	☐
14 Hvordan vurderer De vekstraten for Deres industri i det lokale markedet som datterselskapet opererer i?	☐	☐	☐	☐	☐	☐	☐

15 I hvilket år ble datterselskapet etablert?

Årstall: ☐

16 Hvordan ble datterselskapet etablert? Angi svaret ved å krysse av i en av boksene.

Oppkjøp ☐   Nyetablering ☐

17 Hvor stor andel (%) av omsetningen i morselskapet kommer fra internasjonalt salg?

Andel av total omsetning (%): ☐

18 Hvor stor var morselskapets eierandel (%) i datterselskapet i 2000?

Eierandel (%): ☐

19 Hvor stor andel norske eierinteresser var det i morselskapet ved utgangen av 2000?

Norsk eierandel (%): ☐

20 Er Deres selskap regnet som:
1. Industri- eller annen produksjonsbedrift ☐   2. Tjenesteytende bedrift ☐   3. Varehandelsbedrift ☐

21 I hvilket land er datterselskapet etablert?

4   *Takk for at De tok Dem tid til å fylle ut spørreskjemaet!*

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