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Studies in the Foreign Direct Investment and Divestment Behavior of Norwegian Manufacturing Companies

By

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Preface

This dissertation is the result of a research interest that started in the late 1980s while I was at the Norwegian Fund for Market and Distribution Research. At the time, I wrote a theoretical paper on a transaction cost approach to the internationalization of firms for presentation at the National Conference on Business Economics (FIBE-VI) held in Bergen in January 1989. While that particular paper was not taken further it awakened my interest in doing empirical work in the area, and the task of compiling a data base on Norwegian foreign direct investment started later that year. That data base was eventually used in an article written together with Geir Gripsrud at the Norwegian School of Management, which - after a series of revisions - was accepted for publication in *Journal of International Business Studies.* I owe special thanks to Geir Gripsrud. In addition to being the start of a productive and enduring research partnership with him, that article became a vital stepping stone toward the completion of this dissertation. A special debt of gratitude is also owed to Lawrence S. Welch (now at the Norwegian School of Management). His intellectual inspiration and cooperation, friendship and encouragement has been of great importance throughout the research process.

Sincere thanks goes to Donald Storrie (now at the University of Gothenburg) for all support and encouragement in a critical phase of the work and for his constructive comments on parts of this dissertation, to Arne Nygaard (Norwegian School of Management, School of Marketing) for having spent much time discussing my ideas and for providing critical comments on practically every aspect of the research, and to Tom Stranger-Johannessen for his assistance with the data bases, for his many useful suggestions, and for helping me out with the intricacies of preparing the final manuscript. My gratitude also goes to my principal adviser, Kjell Grønhaug at the Norwegian School of Economics and Business Administration whose comments and support at various stages of this work have been greatly appreciated, and to Torger Reve at the Norwegian School of Economics and Business Administration, for his useful suggestions in the later stages of the work.

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Chapter 1

Introduction

Background

The immense growth of foreign direct investment (FDI) in the Post-WWII period - in particular during the three last decades - has led to a considerable interest in research about various aspects of FDI and the behavior of multinational enterprises (MNEs). Foreign direct investment entails a cross-border investment made by a company for the purpose of .acquiring a sizeable long-term equity interest in a foreign enterprise, and thereby exert a considerable degree of influence on the operations of that enterprise. Control over operations undertaken in a foreign location is a key feature of FDI (Caves and Jones, 1977). Although the operational definitions of "control" may vary (Cohen, 1975), having 10 per cent or more interest in a foreign business venture is by many - including, for example, the Bank of Norway - regarded as the critical cut-off point. Another key feature of FDI is that it represents, in principle, a long-term commitment to a foreign operation. Foreign direct investment differs from international portfolio investments, i.e. short-term capital movement decisions, from a control perspective as well as from a time-frame perspective. A third characteristic of foreign direct investment is that this type of investment involves the collective transfer of various resources, including factor inputs such as technology, entrepreneurship, and managerial knowledge (Hood and Young, 1979). As noted by Balasubramanyam (1985, p. 161) "the essence of FDI is that it is a package of capital, technology and managerial skills". Thus, FDI serves as an important vehicle for transfers of not only capital, but also of technology and managerial resources between countries. A MNE, which in accordance with this concept of FDI can be defined as a company which owns, controls and manages income-generating assets in more than one country (Hood and Young, 1979), must therefore be regarded as a key actor in any analysis of international economic relations.

Although a vast literature exists, our knowledge is still only rudimentary regarding many aspects of FDI. First, while many studies have addressed the question of why companies chose to operate in foreign markets by undertaking foreign direct investments, relatively few

studies have looked into how these investments are actually made, for example whether they are made in the form of wholly-owned subsidiaries or as joint ventures. This issue is of particular interest from the viewpoint of the control aspect of FDI; if FDIs are undertaken in order to gain control over foreign operations, why are foreign investors seemingly often willing to share decision authority with an outside partner? Second, the bulk of the literature, especially the literature rooted in economics, takes a rather static view of foreign direct investment behavior[1]. For example, little is known about how individual companies expand internationally: which routes - in terms of operation modes, locations, etc. - do companies take as they grow into large MNEs? Regarding the dynamics of FDI, an intriguing question is also why and to what extent foreign investments are terminated. FDI represents, as already noted, a long-term commitment to a foreign market. It is, nevertheless, far from unusual (see for example, Boddewyn, 1979) that companies decide to dismantle their engagement in given foreign operations. Still, the issue of foreign divestment is largely unexplored in the literature. Third, most empirical studies to date have focused on FDI in a North-American context, i.e. either the foreign direct investment behavior of U.S. companies, or the inflows to the U.S. of FDI made by non-U.S. companies. However, given the special characteristics of the North-American market such as its size, and the substantial financial, managerial and technological resources available to many U.S. multinationals, it is far from clear that the insights gained from studies conducted in a U.S. context can be readily transferred to other contexts.

In this dissertation four empirical studies of the behavior of Norwegian MNEs are presented. In addition, a conceptual study is included in the dissertation. Throughout the dissertation the focus is on FDI in manufacturing. Such operations are of particular interest due to the substantial commitment of resources involved in setting up or acquiring foreign manufacturing subsidiarie. The studies address issues that have been neglected in previous studies, namely: what impact does company characteristics have on the expansion pattern of foreign direct investments? What factors influence the choice of ownership structure of foreign subsidiaries, and more generally, how do companies enter and develop operations in foreign markets? Finally, what determines companies' exit from given foreign operations? This dissertation explores these issues from the perspective of two central streams of

literature on the international operations of firms: the theory of the multinational enterprise (see for example Dunning, 1993) and the theory of the internationalization of the firm (Welch and Luostarinen, 1988). However, before delineating the theoretical frameworks and research problems investigated here in greater detail, a brief account of Norwegian FDI in manufacturing will be given as an introduction the empirical context to be studied. A brief presentation of the studies closes this chapter.

An Overview of Norwegian Foreign Direct Investment

Norwegian foreign direct investment has traditionally been quite modest. The first Norwegian company to establish production plants in foreign countries was O. Mustad & Søn A/S, which in the early years of this century began production of fishing equipment in several other European countries; Sweden, Germany, Great Britain, France, Italy, Spain and Austria-Hungary (Hodne, 1993). O. Mustad & Søn A/S and a few other Norwegian companies, such as A/S Borregaard, O. Kavli A/S and Wessel & Co. A/S, were however exceptions to the overall picture of a largely domestic oriented Norwegian manufacturing industry until the 1960s.

In the sixties, two important events led eventually to major changes in Norwegian companies' outward orientation. First, an era of trade liberalization commenced with the EFTA agreement signed in 1960, which gradually opened-up the previously protected Norwegian market. The removal of tariff barriers for manufactured goods exposed indigenous companies to competition from imported goods, which in turn forced many companies out of business (Hodne, 1993). Moreover, those that were able to stay in business, usually by focusing on relatively narrow product niches, were hampered by the small size of the domestic market. Thus, expansion into foreign - typically neighboring - markets became the key to survival. Second, the discovery and subsequent development of significant oil reservoirs in the North Sea, albeit beneficial to certain industrial sectors (especially those that were related to the exploration and operation of oil fields), was a major contributing factor to the escalation of

costs in Norway. Consequently, an outflow of FDI, which to a great extent was based on cost considerations, took place from the late sixties and throughout the seventies. Southern Europe, Southeast Asia, and the Middle East, were target areas for these investments (Carlsen and Rasmussen, 1988; Hodne, 1993, Smukkestad, 1979).

Following these developments a somewhat restrictive national policy on FDI was gradually replaced by a more liberal view on capital movements (NOU, 1981; St.prp. (1984-85); Johansen and Holm, 1989). In 1984, restrictions on inward FDI were formally lifted, and some years later restrictions on outward FDI followed suit. The growth of Norwegian FDI reflects by and large these developments regarding trade regimes, industrial structural change, and national policy. In 1969, an overview compiled by the Norwegian Industrial Federation - the only fairly comprehensive FDI statistics available at the time - identified 86 foreign manufacturing subsidiaries owned by Norwegian companies (see table 1.1.). The number of subsidiaries had increased to 131 in 1974, and to more than two hundred in 1982.

Table 1.1. Number and geographical distribution of foreign manufacturing subsidiaries owned by Norwegian companies in 1969, 1974 and 1982 (percentages in parentheses).

Region	Year					
	1969		1974		1982	
Scandinavia	29	(34%)	47	(36%)	66	(33%)
Europe	27	(31%)	41	(31%)	59	(29%)
North-America	9	(10%)	9	(7%)	35	(17%)
Other	21	(24%)	34	(26%)	41	(20%)
Total	86	(100%)	131	(100%)	201	(100%)

(Sources: *Norges Industri* (1969), *Norges Industri* (1974), *Norges Industri* (1982))

The period from the mid-eighties onwards has witnessed, in general, a move toward an even more liberal trade and investment climate worldwide, but has also been characterized by increasing regional economic integration, e.g. EU, NAFTA (Dunning, 1992). In addition - or perhaps, as a result - in many industries the global competition among oligopolistic MNEs

induced a wave of international mergers and acquisitions whereby companies attempted to attain the necessary scale and scope economies to retain their market presence (Dunning, 1993). As a result, FDI activity increased considerably throughout the period. Norwegian companies, of which several now can be considered as true multinationals (Hodne, 1993), took part in this development. First, in the 1980s, the number of foreign manufacturing subsidiaries of Norwegian companies rose quickly, reaching 547 in 1985 (Norges Bank, 1986) and 681 in 1987 (Eksport-aktuelt, 1988). Moreover, the regional distribution of FDI changed somewhat compared to previous periods. As seen from table 1.2., a steadily increasing proportion of Norwegian foreign establishments were made in Europe. Thus, it may seem that the economic integration developments that took place in Europe from the mid-1980s onwards attracted many Norwegian companies to establish or reinforce their presence in that area.

Table 1.2. Total number and geographical distribution of foreign manufacturing subsidiaries owned by Norwegian companies 1984-1987.

	Year			
	1984	1985	1986	1987
In total	385 (100%)	547 (100%)	656 (100%)	681 (100%)
of which:				
Scandinavia	42%	38%	39%	38%
Europe	31%	35%	36%	37%
North-America	10%	10%	10%	9%
Other	17%	17%	15%	16%

(Sources: Hansen (1984), Norges Bank (1986, 1987), *Eksport-aktuelt* (1988)).

Conversely, while the number of FDIs undertaken in countries outside Europe and the U.S. certainly increased from 34 in 1974 to 66 in 1984, and 107 in 1987, the relative number of FDIs made in those countries showed a downward trend. This suggests that - for Norwegian companies - cost considerations may, in general, have been less important as a determining factor in the location of FDI in the 1980s than they apparently had been just a decade earlier.

There are no readily available surveys of the number of production units owned by Norwegian companies in recent years. However, FDI statistics have been compiled by Norges Bank based on the amount of long-term capital invested in foreign countries. Table 1.3. shows the stock of total Norwegian FDI and FDI in manufacturing in the years 1988 to 1992. The figures reveal that Norwegian FDI continued to increase between 1988 and 1992.

Table 1.3. Norwegian FDI in 1988 to 1992. Figures in bill. current NOK.

Year	FDI in manufacturing	Total FDI
1988	11.9	26.1
1989	15.8	33.7
1990	19.2	40.5
1991	20.9	46.0
1992	24.4	47.7

(Source: Norges Bank, 1993)

To summarize; from a modest start in the mid-sixties, Norwegian foreign direct investment has increased impressively during the last 25 years. There are, nevertheless, still only a limited number of large companies by international standards. For example, the total number of Norwegian companies owning at least one foreign manufacturing subsidiary in 1984 was only about one hundred (Norges Industri, 1984). Hodne (1993) - using a more strict definition of a multinational enterprise (at least three foreign production plants, and sales of a minimum of two billion NOK) - finds that only eleven Norwegian companies belonged to the group of "true" MNEs in 1991.

This concentration of FDI is also reflected in the sectoral distribution of Norwegian foreign direct investment in manufacturing. As shown in table 1.4. more than half of the foreign subsidiaries existing in 1984 belonged to only two main industrial sectors; chemicals and machinery.

Table 1.4. Number of Norwegian foreign manufacturing subsidiaries in
1984 by industry*).

Industry (two-digit SIC)	Frequency	Percent
Food, beverages and tobacco	20	7.9%
Textiles	14	5.5%
Wood products and furniture	4	1.6%
Paper products	14	5.5%
Chemicals	60	23.6%
Mineral products	12	4.7%
Basic metals	22	8.7%
Fabricated metal products and machinery	89	35.0%
Other manufacturing industries	4	1.6%
Not known	15	5.9%
Total	254	100.0%

*) Based on data from *Norges Industri* (1984).

The remaining FDIs were more evenly distributed across industries. Looking at the geographical distribution of Norwegian FDI it is evident that besides some interest in low-cost production sites, particularly in the seventies, other Scandinavian and European countries have been the main targets for Norwegian foreign investment. There are probably many reasons for this; geographical and cultural proximity, as well as the fact that demand exists for relatively highly priced products are important. Furthermore, trade links were in many cases already established. The fact that Norway was not, and still is not, a member of the EC (now the EU) may also contribute to the investment pattern. Given the importance of the European markets to many Norwegian companies, the economic integration that has taken place in Europe in the last decade probably has provided a range of strategic (for example achieving sufficient scale economies) as well as market access (for example trade impediments such as local content and local production requirements) motives to undertake FDI in that area.

What has been described so far is the overall picture regarding Norwegian foreign direct investment. Development processes at the level of individual investor companies and the

various foreign subsidiaries - such as routes of expansion regarding the location of FDIs - and the characteristics of these companies have not been covered. However, such topics will be discussed in more detail in the studies included in this dissertation, and this short overview of Norwegian FDI is therefore limited to cover only some of these aspects. An important dimension of FDI is the ownership arrangement of the subsidiaries. Although FDIs are per definition oriented toward control over operations undertaken in a foreign location, there is considerable latitude for how much control an investor actually has in a given foreign operation. A crucial factor is the percentage of equity owned by a focal company, which can range from 10 percent to 100 percent.

Table 1.5. Ownership structures of Norwegian FDIs in manufacturing in 1984*).

Equity percentage	Frequency	Percent
10-49 (minority)	64	25.2%
50-50 (balanced)	12	4.7%
51-99 (majority)	38	15.0%
100 (wholly-owned)	128	50.4%
Not known	12	4.7%
Total	254	100.0%

*) Based on data from *Norges Industri* (1984).

Table 1.5. shows the distribution across various categories of ownership for Norwegian FDI existing in 1984. Most of the FDIs fall into two groups; about half of the FDIs are wholly-owned, and about one quarter belong to the minority-holding category. A comparison with U.S. data suggests that there are noteworthy differences between Norwegian and U.S. companies. A study done by Gatignon and Anderson (1988) indicated that wholly-owned arrangements are used more frequently by U.S. companies: wholly-owned subsidiaries accounted for more than 70 percent of the number of FDIs in manufacturing made by U.S. companies. Thus, while there is a certain preference for wholly-owned subsidiaries among Norwegian companies, it is not as clear as for U.S. companies. Many companies have

apparently not wished to, or been able to, obtain complete ownership control over their foreign subsidiaries. This dissertation will examine why.

Another interesting issue pertains to the question of entry and exit dynamics which, partly because of difficulty in getting data, has largely been overlooked in previous studies. Table 1.6. presents some information on the number of new subsidiaries and the dissolution of existing subsidiaries for various periods from 1969 to 1992. The table is based on data from the surveys undertaken by the Norwegian Industrial Federation (1969, 1974 and 1982) and data collected through inspection of annual reports of the companies (1992)[2]. Although the data do not provide the complete picture, the table clearly indicates that dissolutions, or divestments, have been a rather common phenomenon throughout the period. For example, almost 27 per cent of the foreign manufacturing subsidiaries owned by Norwegian companies in 1974 were divested over a period of only eight years (calculated as $[D_{1982} / A_{1974}] \times 100$, table 1.6.). The exit rate for the following ten-year period was even more dramatic: more than half (53.2 percent) of the manufacturing subsidiaries owned by Norwegian companies in 1982 were divested in the following ten-year period (i.e. $[D_{1992} / A_{1982}] \times 100$). Moreover, it should be noted that the calculations presented here are - due to lack of data on entries and exits in the in-between periods - in fact quite conservative estimates of the actual number of divestments.

Table 1.6. Entry and exit of Norwegian FDI in manufacturing; 1969 to 1992 [*].

	Year			
	1969 (t_1)	1974 (t_2)	1982 (t_3)	1992 (t_4) [**]
A. in existence t_n	86	131	201	-
B. remaining from t_{n-1}	-	70	96	74
C. new during $t_n - t_{n-1}$	-	61	105	-
D. divested during $t_n - t_{n-1}$	-	16	35	107

[*] Based on data from Norges Industri (1969, 1974, 1982) and companies' annual reports (1992).
[**] Data missing on 20 subsidiaries belonging to the 1982-1992 data set.

Theories of the Multinational Enterprise and the Internationalization of Enterprises

Two theoretical perspectives - the "eclectic" theory of international production and the "internationalization process" model - dominate at present in the analysis of FDI and internationalization in general. The so-called "eclectic" theory of international production developed by Dunning (1980, 1988, 1993), draws on industrial organization and transaction cost theory together with elements of location theory in order to provide a general approach to foreign direct investment behavior. This approach places particular importance on the various market imperfections that companies face while undertaking different types of cross-border transactions, and contends that these market imperfections are by-passed by relying on internal instead of external cross-border transfers of input factors, semi-finished goods, and/or finished goods. In order to create an internal channel for such transfers a foreign direct investment must be made.

The behavioral theory of the firm provides the basic conceptual elements underlying the so-called "internationalization process" model developed primarily by Nordic scholars like Luostarinen (1970, 1979), Carlson (1975), and Johanson and Vahlne (1977). The "process" approach looks at the internationalization of companies, including their foreign direct investment behavior, through the lens of organizational decision-making behavior, in which concepts like uncertainty, limited search, and experiential learning are central. The main prediction of the model is that the various aspects of the internationalization of firms take place along a path of gradual development.

Several comprehensive surveys of the theories of foreign direct investment and the multinational enterprise have been undertaken recently (see for example Cantwell, 1991). Also, both Welch and Luostarinen (1988) and Johanson and Vahlne (1990) provide useful overviews of the main work done in the area of the internationalization of the firm. The short

review undertaken here will therefore be confined to outlining the main concepts and ways of reasoning embedded in these two streams of literature.

The "eclectic" theory of international production outlines a generalized framework for explaining the level and pattern of the cross-border activities of firms (Dunning, 1993, p. 79). His framework brings together previous work on foreign direct investment and the multinational enterprise dating back to Hymer (1960). In his seminal work on the multinational enterprise, Hymer observed that indigenous firms, at least initially, have advantages over foreign firms in the domestic market, because of their superior knowledge of the home country and the home market, and because these firms already have undertaken the investments (such as setting up a distribution system) needed for serving the market. In order to compete with domestic firms, foreign companies must therefore have some advantage that compensate for the disadvantages (which can be conceptualized as entry barriers) they face when operating in a foreign environment. A number of advantages, which by nature are of a monopolistic kind, were identified by Hymer and others. Important are superior technology and managerial skills, cheaper access to capital, economies of scale (Hymer, 1960; Kindleberger, 1969), differentiated products and brand names (Caves, 1971), and technological know-how and skills (e.g. Johnson, 1975).

However, possession of monopolistic advantages does not provide a sufficient condition for FDI to arise since one may ask why a firm having such advantages does not attempt to have "the best of both worlds", that is, transferring their technology while avoiding the costs of doing business abroad, by licensing their technology to indigenous firms (Casson, 1987). An answer to this question was worked out by a number of writers, especially MacManus (1972), Buckley and Casson (1976), Magee (1977), Rugman (1981), Williamson (1981), and Hennart (1982), building on the insights regarding the nature of the firm originally put forward by Coase (1937). Although the terminology differs somewhat, the basic point made by all contributors is that transfers of the assets in question - which often are of an intangible nature - are prone to encounter severe problems due to various types of market failure. First, the terms of a contract may be difficult to determine *ex ante* if the asset to be transferred is

complex, and/or if transfers require a close co-ordination of the activities of buyers and seller over a lengthy period of time (for example, the development of a specially designed intermediate product or component). This problem is basically one of uncertainty; it is difficult to foresee future outcomes (it might even be difficult to define accurately the present state-of-nature). Second, even if the terms of a contract were agreed upon, the parties to the contract still are exposed to the hazards that breaches of contract might not be fully compensated. This problem is basically one of opportunism *ex post* (Williamson, 1981), which can be of great importance in cross-border transactions since judicial enforcement often is less effective in an international context. Third, the assets constituting the monopolistic advantages of the firm (e.g. technological know-how) can be difficult to transact due to the "buyer uncertainty" problem, i.e. that the seller knows the value of the asset, while the buyer cannot appraise it *ex ante*. Clearly, a complete disclosure (for example by providing the asset on trial) could of course mitigate that problem. However, since such assets often have an "information good" character, i.e. once disclosed the buyer would no longer have an incentive to pay for the asset since he already has acquired it, on-trial evaluations are not satisfactory. The patent system may of course solve the problem, but to what extent patents are enforced varies considerably across countries. Finally, assets may be of an intangible nature (e.g. tacit knowledge) which makes them difficult to codify (and hence protect by, for example, a patent), and difficult to transfer in an immediate, once-for-all fashion. Whenever any of these circumstances occur the costs of operating in external markets for transactions of these kinds are bound to outweigh the benefits (or external markets may even not exist due to the high costs). Instead, companies develop their own internal organizational structures to achieve internal co-ordination of activities. From this perspective the MNE then becomes a special case of the more general "boundaries of the firm" problem, or to quote Buckley and Casson (1976, p. 45): "a MNE is created whenever markets are internalized across national boundaries".

Still, the question of why a firm would undertake production abroad instead of producing for export from the home country remains unanswered. In other words, what explains the location pattern of international production? According to economic theory, the location of

production is mainly determined by comparative advantages, as in trade theory, and by barriers to trade (Clegg, 1992). The theory predicts that companies would choose locations that minimize the total costs of manufacturing the product and delivering it to the buyer. An important location advantage associated with a particular country is the availability of inputs, such as natural resources, to the firms established in that country. In addition, the costs of producing in a specific location are influenced by numerous other factors including labor cost differentials, transportation costs, realization of scale economies (which can be a function of market size, and consequently of market growth), government policies regarding taxes (or conversely; subsidies), and trade barriers implemented by the governments such as quotas, tariffs and "local content" requirements. These factors influence location costs in a fairly straightforward and - at least in principle - quantifiable way (especially in a static analysis). Finally, the attractiveness of various locations may also hinge on factors that while they have an impact on costs, that may be far more difficult to calculate. In particular, the management of foreign operations is *per se* likely to incur costs (Hirsch, 1976), because of, for example, communication difficulties. Such costs are likely to be less in familiar markets, that is, markets that culturally and socially resemble the home market or markets with which the company has previous experience.

Pulling these streams of research together Dunning (1993) then suggests that the three following factors must be taken into consideration in order to explain why companies are capable of, and would chose to, operate value-added activities (e.g. sourcing, manufacturing, marketing) in foreign countries:

i)   A company possesses net ownership advantages versus firms of other nationalities in serving particular markets. These ownership advantages are firm-specific in the sense that the firm, at least for a period of time, has control over them. They include patents, know-how and possession of superior production technology, control over markets, scale advantages, managerial capabilities, specialized labor skills, etc. These factors determine together the competitive position of a firm in relation to other firms.

ii)   Given that ownership advantages are present, it must be more beneficial to the company possessing these advantages to use them itself rather than to lease them to foreign firms to use, i.e. to internalize the advantages through an extension of its own activities rather than externalize them through arm's-length transactions with some other independent firm. Internalization advantages arise from the existence of various market imperfections as analyzed above.

iii)   Finally, given internalization of ownership advantages, it must be beneficial for the company to use these advantages in conjunction with at least some factor inputs (e.g. natural resources) outside its home country. Otherwise foreign markets would be served entirely by exports, and conversely, the domestic market would be served by local production.

As noted by Buckley (1988), the theory rests implicitly on the assumption that firms rationally take into account the factors included in the theory, i.e. that they in any given situation correctly assess their competitive position relative to other firms, that they can calculate the comparative costs of different governance structures for international resource transfers, and that they chose the least-cost locations for undertaking given value-added activities, and furthermore, that all these considerations are made in conjunction. However, while the "eclectic" theory of international production may provide an explanation - on the basis of rational behavior - to why foreign direct investment takes place, and thereby why MNEs exist, it has little to tell about how companies have achieved a position in which the outlined conditions for FDI apply. Hence, even if one accepts the perhaps overly optimistic view on the degree of rationality implied by the economics approach to FDI, a number of questions remain unanswered. For example, how do firms acquire the advantages necessary to compete in foreign markets, and in which circumstances are firms lead to a situation where they face the decision to make a FDI or not in the first place? In addition, the rejection of the notion of rational decision making, which has been challenged by numerous scholars of business behavior (see for example March, 1978), provides an alternative platform for studies of the international behavior of firms.

A first step towards an understanding of the organizational processes behind the decision to make a FDI and where to make the FDI, was undertaken by Aharoni (1966) in his study of the various steps involved in the foreign direct investment decision process. Aharoni demonstrated that the decision making process resulting in FDI had little resemblance to rational decision making. First, rather than being the outcome of a continuous quest for an optimal fit between the resources and competencies of the company and the opportunities provided by the environment, the process often was initiated by external forces (such as investment proposals presented to the companies by foreign governments, the distributors of the companies' products, or even their customers), the conviction held by some executive that FDI should be made, or was triggered as purely imitative behavior, for example by observing that a competitor had successfully served a market by FDI. Furthermore, Aharoni's study suggested that once a FDI opportunity was identified, the subsequent decision making process involved limited, if at all, evaluation of alternatives. Instead, the companies tended to treat investment opportunities on a singular and dichotomous (invest / do not invest) fashion. Whether decisions were reached as to go-ahead with an investment was dependent on sufficient organizational support for that specific course of action, which in turn was largely determined by who advocated the idea internally and when the proposal was being considered.

Similar notions of constrained decision-making behavior were suggested by findings in a number of studies looking at the export behavior of firms. The decision to start exporting was rarely planned, but rather externally initiated, for example by unsolicited orders (Wiedersheim-Paul et al., 1978; Bilkey and Tesar, 1977) and government export stimulation activities (Wiedersheim-Paul et al., 1978), or triggered by situational internal factors such as surplus production (Tookey, 1969) and the existence of entrepreneurial individuals within the firm (Simmonds and Smith, 1968). Moreover, Lee and Brasch (1978) noted that in many cases such decisions involved little collection of information, and were made without a clear definition of goals. Finally, a number of studies suggested that the internationalization of the firm could be described as a process consisting of a series of small steps, whereby firms gradually increased their international involvement (Welch and Luostarinen, 1988; Bilkey and

Tesar, 1977; Johanson and Vahlne, 1977; Johanson and Wiedersheim-Paul, 1975), rather than full-fledged internationalization from the outset. Several models of how the internationalization of firms proceeds have been presented in the literature, but as pointed out by Andersen (1993) the similarities between the various models outnumber the real differences between them. Taken together these studies established what might loosely be called the "internationalization process framework".

The internationalization process framework is rooted in a behavioral decision making approach. This perspective on the internationalization of the firm applies the concepts of bounded rationality (Simon, 1955), uncertainty avoidance, limited search (March and Simon, 1958), and organizational learning (Cyert and March, 1963) in the analysis of firms' behavior. The stages in the decision process are discussed in detail by Luostarinen (1979 who, building upon Cyert and March (1963), underlines the importance of "lateral rigidity" between the stages in the decision process: limited perception of alternatives and selective search leads to confined choice. Hence, in the initial stages firms are predicted to enter nearby markets by means of low-commitment operation methods such as exporting to a local representative. However, as more knowledge is acquired more alternatives will be considered, and foreign direct investment (as well as other modes of foreign operation) will gradually take place in more distant countries.

One factor of overriding importance is the uncertainty perceived by decision-makers when entering foreign markets. Decisions about expansion into international operations are for most firms, but particularly for those with limited international experience, characterized by a considerable amount of uncertainty. This uncertainty stems from two main sources. The first is a general lack of knowledge about the workings of particular foreign markets in terms of customer behavior, institutional framework and so on. The other is lack of knowledge of how to run a given business operation in an unfamiliar context. In both cases, the type of knowledge involved is typically acquired through a process of "learning by doing" (Carlson, 1975).

Another factor that influences this process is the availability of resources. Welch and Luostarinen (1988, p. 51) point out that "[T]he ability to undertake any form of international operations is clearly limited by the means accessible to the firm to carry it out. For smaller firms, given their limitations in many areas, this is an obvious reason why less demanding directions of international development can be undertaken first, with major commitments only occurring well into the longer run". The impact of company resources on internationalization has been documented in several studies. Studies of firms' export behavior indicate that firm size is positively related not only to the propensity to export (Piercy, 1981), but also to the number of export markets served by an individual company (see for example Calof, 1994). Compared to exporting, foreign direct investments involve an even more substantial commitment of resources, both managerial and financial, to operations that usually are considered as risky. Large firms should, due to their larger resource base, be in a better position than smaller firms to make such commitments, and it is not surprising that many studies report a positive relationship between the propensity to make foreign direct investments and the size of the firms (see for example Caves, 1974; Grubaugh, 1987). Resources are also needed in order to absorb the costs and risk associated with FDI. For a given level of resources committed to an operation, the smaller the firm the more vulnerable it is if such ventures turn out to be unsuccessful. Hence, small firms often take a cautious approach to international expansion (Welch and Luostarinen, 1988).

The process approach seeks to explain - and predict - two aspects of the internationalization of the firm. The first is the step-by-step fashion by which a firm's engagement in a specific country often develops. Although several stages are proposed in the literature, a typical establishment chain could begin with occasional exports, develop into regular exports via independent representatives (agent), followed by setting up sales subsidiaries, and end with fully-owned production facilities abroad. A study conducted by Newbould et al. (1978) on the internationalization of small British firms also showed that firms taking a cautious, stepwise approach generally performed better than firms that "leapfrogged stages". The worst performers were found to be firms that had skipped any intermediate stages and gone directly from not being involved in international operations at all to establishing their own

production operations abroad. Due to the characteristics of the sample of firms studied (43 small and medium-sized companies) the results should of course be regarded as tentative. Nevertheless, these findings underline the importance of knowledge and learning in the internationalization process. Without knowledge of and experience in a foreign market it is difficult to know how to operate there, and the probability of failure increases accordingly.

The second aspect of the internationalization process is that firms are assumed to successively enter markets at an increasing distance from the home country, not only in terms of physical distance but also in terms of differences in economic development, language, culture, political system, etc. Thus, firms are predicted to start their internationalization by moving into markets they can most easily cope with, entering more distant countries only at a later stage. Again, there are some indications that a cautious approach might pay off. For example, in a study of Dutch companies' internationalization, Barkema et al. (1993) report that prior experience in the same foreign country - or even in a fairly similar country (for example Norway and Sweden) - significantly increases the longevity of a foreign venture.

To summarize this brief presentation of the currently dominant perspectives on the international behavior of firms; on one hand, the economics approach looks at companies' internationalization through the lens of a rational decision-making model, and contends that the various aspects of internationalization - like which markets are entered and how - can be regarded as rational, cost-minimizing responses to market imperfections and comparative cost factors. On the other hand, the behavioral approach views the internationalization of the firm from the perspective of organizational decision-making behavior characterized by uncertainty, limited search and experiential learning, and describes the development of the various aspects of the internationalization of firms as one of "evolution" rather than "revolution". These two approaches, which may seem to provide quite different - and perhaps even conflicting - perspectives on FDI behavior, constitute the theoretical basis for the analyzes conducted in the following studies of various aspects of companies' behavior regarding FDIs.

Objectives and Scope of the Studies

The overall objective of this dissertation is to advance the current knowledge about foreign direct investment and divestment behavior by looking at the FDI activities undertaken by Norwegian companies. More specifically, the research conducted tests predictions about various dimensions of FDI behavior taken from both the economics and the internationalization process approaches to the internationalization of firms. The aim is to examine the explanatory value of current approaches, and thereby, if possible, clarify the relative strengths and weaknesses of the two approaches. Moreover, based on the empirical findings the research attempts to identify and suggest possible avenues for better conceptualizations of the issues under study.

One reason for choosing Norwegian FDI as the empirical setting for the studies is that apart from mainly descriptive reports, very few studies have been done on the foreign direct investment behavior of Norwegian companies. Among the exceptions are Karlsen and Randøy's (1991) empirical investigation - based on the "eclectic" theory of foreign direct investment - of determinants of FDI undertaken by large Norwegian companies, Juul and Walter's (1987) study - based on the internationalization process framework - of 12 Norwegian companies' FDI in the U.K. (however, only five of the FDIs studied were made in manufacturing operations), and Smukkestad's (1979) study of Norwegian FDI in Southeast Asia. The scope of previous studies, and consequently the present state of knowledge about Norwegian foreign direct investment, is seemingly limited: they have looked at some isolated aspects of FDI like determinants of FDI, investigated the internationalization process leading to FDI for a very restricted number of companies, and/or focused on FDIs made in particular countries or regions.

However, although the current lack of any comprehensive studies of Norwegian FDI in manufacturing might by itself be considered as a sufficient reason for conducting the research, the main objective of the dissertation is not primarily to describe and analyze Norwegian FDI *per se*, but rather to make a contribution to the literature on the international

operations of companies both theoretically and empirically. Norwegian data are well-suited in this respect. First, even though a number of studies of the FDI behavior of companies from small countries have emerged in recent years[3], the bulk of economic studies of FDI have focused on foreign direct investment in a North American context which - especially due to its characteristics with regards to size - is quite unique. Norwegian FDI provides an interesting empirical context because Norway is a small country with a limited domestic market, and most Norwegian multinational companies are, by international standards, quite small (to illustrate; only one Norwegian company is included in the overview of MNEs compiled by Stopford and Dunning, 1983). Because of the small size of their domestic market, Norwegian companies have often had to expand internationally in order to achieve growth, but since the companies in general are small they have had to do so with rather limited means. Thus, Norwegian FDI constitutes an empirical setting that in many respects deviate from the North American context. This gives an opportunity to assess whether explanations previously tested for U.S. FDI are valid in other contexts as well. Second, the Norwegian setting is also interesting from the viewpoint of the internationalization process framework which by-and-large originated from the findings of various studies of the internationalization of Swedish and Finnish firms. However, the predictions of the model with regard to foreign direct investments have not been tested on Norwegian data previously[4]. Since the Nordic countries are fairly similar in many respects, it is often assumed that the internationalization process of the firms also is similar across the Nordic countries, i.e. that it follows the same general internationalization process model. Again, the Norwegian setting provides an opportunity to test the generalizability of the findings from previous studies.

There are four main limitations in the scope of the research. First, the empirical studies have been limited to deal with foreign direct investments in manufacturing, i.e. FDI relating to extractive, distribution or service activities are excluded. This has been done in order to ensure a certain degree of homogeneity in the unit of analysis. Moreover, establishment of foreign manufacturing operations are of particular interest because of the substantial commitment of resources involved in such FDI. The conventional definition of FDI as ownership of at least ten percent of the stock of a foreign company is applied throughout the

dissertation. Second, the scope of the research is limited in that it only covers investments done up to the mid-eighties. This limitation is largely due to availability of data. Third, the empirical studies focus exclusively on FDIs that have been made. They do not look into the actual FDI decision making process and many of the issues involved in this process like investment and acquisition negotiations, financing decisions, choice and adaptation of organizational structures, and personnel management. Finally, it should be noted that although the question of why and when foreign direct investment is chosen instead of some other form of foreign operation method (for example export) is discussed in some detail in one of the studies (chapter 5), the issue of FDI determinants is not analyzed empirically[5].

Research Questions and Framework for the Studies

The dissertation focuses on three particular aspects of foreign direct investments:

i)   The location and expansion of foreign direct investments: the specific research question that will be examined is whether the location and expansion of foreign direct investments follow a gradual expansion path suggested by the internationalization process framework.

ii)   The operation methods and ownership arrangements of foreign subsidiaries: specifically, which factors determine the choice of ownership structure of Norwegian foreign affiliates in manufacturing? In addition, and more generally, to what extent are the current conceptualizations of the operation methods used by companies - including FDI - and explanations of their choice between the various methods, adequate?

iii)   The divestment of foreign manufacturing operations: which factors determine whether the ownership involvement in a given foreign subsidiary is continued or dissolved over a period of time?

The research questions investigated in this dissertation are "tied" together in that they taken as a whole constitute an - admittedly partial - "life cycle" view of foreign direct investments. The overall structure of the dissertation is depicted in figure 1.1.

Figure 1.1. Framework for the studies.

Internal Factors	**External Factors**
inter alia	*inter alia*
* Resources	* Distance
* Experience	* Economic Growth
* Specific assets	* Political risk
* Relatedness	* Development Level

Internationalization of the Firm

* Location decisions
* Operation method decisions
* Continuation decisions

t_0 Entry	t_1 Development	t_2 Growth or retraction
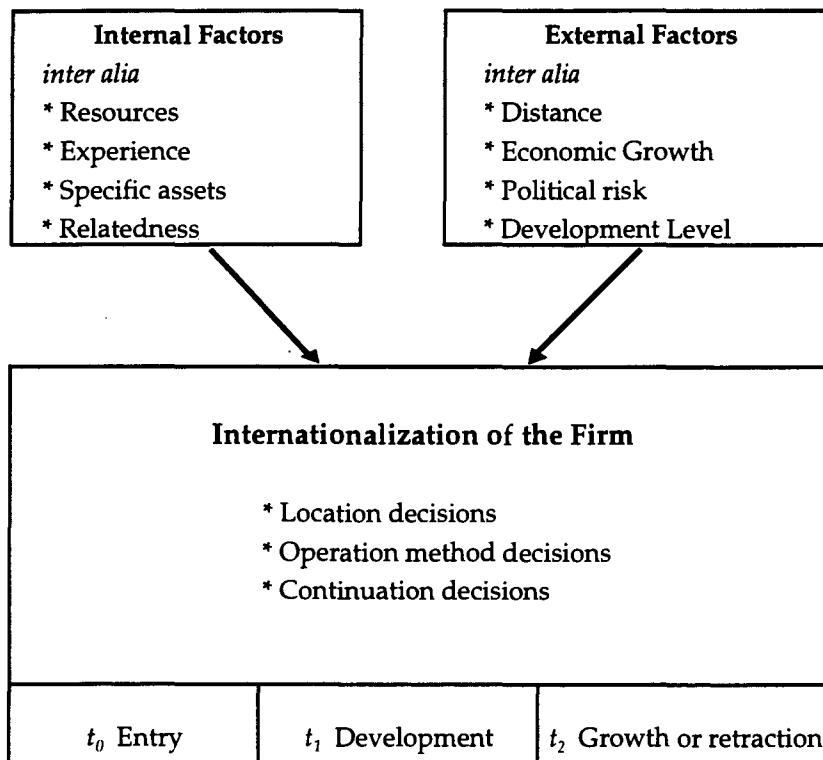
The studies examine the location of the first FDIs undertaken, investigate the subsequent expansion routes taken by the companies with regard to the location of FDI, look at the choice of operation methods in general and the choice of ownership arrangements in particular, and finally, analyze the divestment (or conversely; "survival") of foreign manufacturing operations. As such the dissertation makes an effort toward dealing with the lack of longitudinal or dynamic approaches to foreign direct investments which has been noted by many (e.g. Horst, 1972; Larimo, 1993). More specifically, the longitudinal - or dynamic - dimension is taken into account in three different ways: *i*) chronological sequence of

expansions (chapter 2), *ii*) inclusion of time (establishment year, age) as a variable or indicator in poly-item variable (experience) measurements (chapters 3,4 and 6), and *iii*) collection of data about the same units of analysis at different points in time (chapter 6).

Outline and Brief Summary of the Studies

The dissertation is composed of five individual studies. Two studies examine the location and expansion of foreign direct investments from the perspective of a gradual expansion model. Then follows two studies that investigate and discuss the ways companies operate in foreign markets. One of the studies examines empirically the influence of various factors proposed by received theory on the choice of ownership structure of a foreign affiliate. The other study, which is of a conceptual character, provides an in-depth discussion of current research about foreign operation methods, and proposes some future lines of research. Finally, a study analyzes empirically why some foreign subsidiaries survive while others are divested. In the following, a short description of each study will be given.

The first study in this dissertation focuses on the location and expansion of foreign direct investments. The point of departure is that experience may affect the cost and the uncertainty of operating in foreign markets. Experience and market knowledge may therefore influence the location decisions of FDIs. Economic theory does not, however, predict a general expansion pattern of FDIs across industries. On the other hand, the theory associated with the internationalization process approach highlights the importance of cultural distance, and predicts a movement from "close" to more "distant" locations as more experience is acquired by the firm. Two hypotheses are developed from the internationalization process approach regarding the locations of FDIs. First, it is proposed that the first FDIs undertaken by a company are made in countries that are culturally closer to the home country than later FDIs. Second, it is proposed that the cultural distance to a country where a FDI is made will increase with the number of FDIs previously undertaken by a given company. The alternative hypothesis taken from the economics framework is that no general tendency to move into

distant countries should be expected as more experience is acquired. Instead, FDI location may be regarded as discrete decisions in which the "unfamiliarity" factor does not necessarily dominate other location factors. The hypotheses are tested on a data base consisting of a majority of Norwegian FDIs in manufacturing existing in 1982. In all, 201 foreign direct investments are included in the data base. Cultural distance is measured by an index developed by Kogut and Singh (1988). The statistical results show no support for the notion that the first FDIs in general take place in culturally closer countries than later FDIs. Moreover, for given companies, an expansion into more distant countries is not found as the number of investments increases. Thus, the internationalization process approach to location and expansion does not receive support.

The second study also focuses on the location of foreign direct investments, and hypotheses about the location of FDIs are again drawn from the internationalization process approach. The central tenet of this framework is that location decisions should be regarded as a learning process at the company level. From this framework one would expect to find a close relationship between factors that increase the perceived level of uncertainty (such as distance), factors that serve to reduce uncertainty (such as experience), and factors that reduce the relative impact of the risk inherent in a project (the resources of the investing company), in the observed pattern of location choices. While the model tested in the first study was basically of a bivariate kind, the model tested in the second study is somewhat enlarged in that company resources is included as an additional predictor of firm behavior. Moreover, additional concepts of distance - physical and economic distance - are introduced alongside cultural distance, and two different types of experience - general and specific experience - are taken into consideration. The hypotheses predict a positive relationship between the characteristics of the investing companies (resources and experience) and the distance (in economic, physical and cultural terms) to the chosen FDI locations. The hypotheses are tested on a data set consisting of 203 FDIs made by Norwegian companies in the period 1910 to 1984. The results provide limited support for the internationalization process framework. A positive relationship is found between the level of experience related to prior involvement in foreign manufacturing activities - termed specific experience in the

study - and distance to the chosen locations for FDI. Only weak support is found for a positive relationship between the export ratio of a company - measuring general experience - and distance. Furthermore, no support is found for the hypothesized positive relationship between company resources and distance to where a foreign manufacturing subsidiary is located. The results are very similar across regressions with different specifications of the dependent variable (economic, physical, and cultural distance). However, the clearest results were obtained for physical distance as the dependent variable. Overall, the results suggest that the internationalization process model is a rather partial model, and that it needs to be supplemented by economic and strategic variables in order to explain the location of foreign direct investments.

The third study in the dissertation looks at how multinational enterprises establish foreign subsidiaries. Previous studies on foreign direct investment and multinational enterprises have mainly focused on why companies choose to establish foreign production subsidiaries rather than exploiting their firm-specific advantages by exporting. However, once a company has decided to invest abroad by establishing a manufacturing unit in a foreign country it must also choose an appropriate ownership structure of the subsidiary. The two main alternatives are either a wholly-owned foreign affiliate or a joint venture with another partner. The question of ownership has important ramifications both in terms of the level of control a company has over a foreign operation and the flexibility it has to reallocate the assets if necessary. Hypotheses regarding the choice between wholly-owned and partly-owned subsidiaries are drawn from both economic (transaction cost theory) and behavioral (internationalization process) perspectives. The hypotheses propose that the propensity to choose a wholly-owned subsidiary will *increase*, *i*) the larger the resource base of the firms, *ii*) the more experienced firms are, and *iii*) the higher the importance of proprietary assets. On the other hand, the propensity to wholly-own foreign manufacturing subsidiaries is expected to *decrease*, *i*) the larger the cultural distance to a host country, and *ii*) the higher the political risk of a host country. The hypotheses are tested on a sample of 174 foreign direct investments made by Norwegian companies, and still owned by these companies in 1984. One main finding is that the political risk associated with the host country strongly increases

the probability that ownership of a foreign subsidiary is shared. This result suggests that under risky circumstances companies are willing to trade-off the benefits of control for a higher degree of strategic flexibility. In addition, taking a local partner into a joint venture may also reduce political complications and the risk of being expropriated. Another finding is that large cultural distance between the home and the host countries leads to a higher propensity to enter into joint venture arrangements. This result supports the notion that a large cultural distance increases the uncertainty perceived by decision-makers, and makes it more difficult for an entrant to know how to run an operation successfully. In order to overcome the unfamiliarity with market conditions, cultural traits, etc., knowledge about local conditions is needed which in turn can be made accessible by teaming-up with a local firm. However, as firms get more experience from foreign operations one might expect that they would become less dependent on other firms as providers of the necessary knowledge. The results provide some support for this line of reasoning for investments of a vertical kind. On the other hand, the ownership structure of horizontally related foreign subsidiaries is not influenced by the Norwegian parent companies' level of international experience. Finally, little support is found for a transaction cost approach to the choice of ownership arrangement. The coefficients of the proxies for proprietary content are insignificant (and even in the direction opposite to the one expected) in a majority of the regressions. Overall, the main insight from the study is that the conduct of Norwegians companies appears to be largely determined by external factors, in particular the political risk of the host country.

The fourth study presents a further elaboration on the issue of how companies enter and operate in foreign markets. An overview and critique of the two main approaches to this issue - the economics approach and the so-called internationalization process approach - is undertaken. While considerable progress has been made in both streams of literature, substantial deficiencies still exist. The economics approach is criticized for being a rather restricted and simplifying framework with regard to organizational decision-making behavior and the degree of rationality assumed to characterize decision-makers. Moreover, contributions based on this framework typically treat any given operation method as characterizable in terms of specific and objective levels of control, risk, resource

commitments, etc., which again provide the information required for classification. However, the real-life complexity of actual operation modes often makes it difficult to classify them accurately. Besides, the perceived levels (which even from an economic perspective should be decisive) of control, risk, etc., offered by a given operation method, may in fact vary considerably across different companies. Finally, the economics approach is rather static, focusing foremost on how rational economic actors (are assumed to) choose a more or less "optimal" mode of entry into a given market at a given point in time. Little attention is paid to decisions about changes to the initial entry modes, and to how such decisions interact with other aspects of the internationalization of the firm. The alternative approach - the internationalization process framework - places great emphasis on behavioral factors like experience, knowledge, and perceived risk, as driving forces in the internationalization of firms in general and their use of various operation methods in particular. The framework depicts the "choice of operation mode" as one of gradual development, i.e. a move from low-commitment to high-commitment modes over time, often described as an "establishment chain". Although the internationalization process framework represents a more micro-analytic and process oriented approach to the study of the behavior of firms than the "economics" framework, it does not escape criticism. First, while the economics approach may have little to say about dynamics, the internationalization process framework can - especially in the early contributions - be criticized for describing the development of firm's internationalization in overly deterministic terms. Thus, longitudinal processes (i.e. dynamics) are certainly focused upon, but the general implication of the analysis seems at the same time to have been one of an inescapable incremental path (i.e. determinism). Close attention to the processes at work would most likely show a considerable diversity in the operation methods used by different companies. An increasing number of empirical studies give, not surprisingly, support to the view that the internationalization of firms cannot, in general, be described as one of gradually increasing commitments: "leapfrogging" as well as "reversals" appear to be quite common. Second, the internationalization process approach has paid little attention to how factors beyond those closely linked to the organizational decision-making process *per se* may influence the outcome of such processes. However, many other influences - both internal and external to the firm - may be operative. For example, internal

situational factors like the financial state of a company or the current utilization level of production capacity are likely to shape any decision taken, and so will external factors such as the competitive situation in an industry or market. Finally, the internationalization process framework has, like the "economics" framework, paid little attention to the increasing complexity of the operation methods actually in use. Frequently, companies do not face a choice between (a limited number of) different operation methods. The challenge is rather to put together an appropriate package of methods in order to operate in a particular foreign location. Taken together, the preceding concerns with the existing approaches to the choice of foreign operation mode suggest that a considerable research effort lies ahead. At the conceptual level, a much better understanding of the mechanisms driving both the initial entry modes and the subsequent changes of operation mode packages is needed. Attention should be given to both the internal and the external context in which such decisions are made. Given the complexity and longitudinal nature of these phenomena, qualitative methodologies seem particularly appropriate for future research.

While the first four studies investigate the growth and expansion of companies in international markets, the last study in the dissertation takes a look at the other side of the coin, that is; to what extent and why are foreign units divested? Foreign direct investment represents, in principle, a long-term commitment to a foreign operation. Divestments appear nevertheless to be quite common. For example, Barkema *et al.* (1993) conducted a study of the longevity of foreign direct investments made by the largest Dutch multinational enterprises. They report that of 225 FDIs made in the period 1966 to 1988, only half of these were still in existence in 1988. However, besides the study by Barkema *et al.* (1993) and a few other studies (e.g. Shapiro, 1986) the question of what might influence whether foreign subsidiaries are divested or not is largely unexplored. The study investigates some determinants of Norwegian companies' divestment of foreign manufacturing operations. The perspective taken in the study is that divestments can be regarded as a function of two factors: Incentives to exit from an operation and barriers to exit. The model includes factors that might lower or heighten mobility barriers - and hence increase or decrease the propensity to divest - suggested by industrial organization theory, strategic management literature, and the

behavioral approach to the internationalization of the firm. The study is designed as a ten-year follow-up study with observations taken at two points in time; first in 1982 and then in 1992. Foreign units are considered as divested if they were no longer owned by the same Norwegian parent company at the end of the period. The study shows that more than half of the foreign subsidiaries existing in 1982 were divested within a period of ten years. Among the factors examined in the study, three factors turned out to be of particular importance for the decision to retain or divest foreign units. First, economic growth in the host country increase the probability that operations will be continued. Second, foreign entries by acquisition face a much higher risk than greenfield ventures for subsequent dissolution. Finally, the probability of foreign divestment increases with the size of the parent company.

After the five studies, a final chapter follows where the main findings are discussed. That chapter also contains a discussion of the contributions of the studies and of the limitations of the research. Some suggestions for future research closes the dissertation.

Notes

[1] Notable exceptions in the economic literature are Vernon's (1966) use of a product life cycle model to explain the changing location pattern of international production, and Buckley and Casson's (1981) analysis of the foreign market servicing decision, that is whether to export, license, or make a FDI, as a function of time variant cost and revenue conditions.

[2] Table 1.6. was compiled as follows: For the years 1969 to 1982 data were taken from the various surveys conducted by the Norwegian Industrial Federation (published in *Norges Industri*, various years). For the year 1992 information was collected through inspection of annual reports of the parent companies (see chapter 6 for a closer description of the collection of annual report data). Row A shows the number of Norwegian foreign subsidiaries in manufacturing in existence in 1969 (t_1), 1974 (t_2) and 1982 (t_3). Row B shows subsidiaries existing at a given point in time $(t_2, t_3$ and/or $t_4)$ that also were in existence at a previous point in time t_{n-1}, for example, the 1982 (t_3) entry in row B shows the number of subsidiaries established in 1974 $(t_{3-1}$ or $t_2)$ - and earlier - that were in operation in 1982. The number of "new" subsidiaries established between two points in time are shown in row C. Clearly, for a given point in time t_n, $At_n = Bt_n + Ct_n$. Row D shows the number of subsidiaries that were divested (i.e. no longer identified as being owned by the same Norwegian parent company) between two points in time. Row D is given as $Dt_n = At_{n-1} - Bt_n$. Finally, the exit rate of FDIs for a given period $t_n - t_{n-1}$ can be calculated as $[Dt_n / At_{n-1}] \times 100$.

[3] See for example the studies by Björkman (1989) and Larimo (1993) on Finnish FDI, Pedersen's (1994) study of Danish FDI, Zejan's (1988) study of Swedish FDI, and Van Den Bulcke's (1986) analysis of Belgian MNEs.

[4] Grønhaug and Kvitastein (1992) report a study of strategies of Norwegian firms regarding export expansion decisions.

[5] See Karlsen and Randøy (1991) for a study of the determinants of foreign direct investment undertaken by major Norwegian industrial companies.

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Chapter 2

The Expansion of Foreign Direct Investments: Discrete Rational Location Choices or a Cultural Learning Process? *)

Abstract: It is recognized in the literature that experience may affect the cost and the uncertainty of operating in foreign markets, and experience and market knowledge may therefore influence the location decisions of FDIs. Economic theory does not, however, predict a general expansion pattern of FDIs across industries. On the other hand, the theory associated with the "internationalization process" approach highlights the importance of cultural distance, and predicts a movement from "close" to more "distant" markets as more experience is acquired by the firm. The internationalization process approach is rooted in a behavioral theory of the firm.

In this article two hypotheses are developed from the internationalization process approach regarding the locations of FDIs. The database used for testing the hypotheses includes in principle all FDIs undertaken by Norwegian manufacturing companies up to the midyear 1982. Cultural distance is measured by an index developed by Kogut and Singh (1988). No support is found for the notion that the first FDI in general takes place in culturally closer countries than later FDIs. Furthermore, for given companies, an expansion into more distant countries is not found as the number of investments increases.

Introduction

The decision to undertake a foreign direct investment (FDI) in a particular country is the outcome of a decision process where projected revenues and costs are evaluated. Increased knowledge of a foreign country reduces both the cost and the uncertainty of operating in a foreign market (Buckley and Casson, 1981), and should increase the probability of an investment being made in that country. Experience creates - and is sometimes the only way to achieve - increased market knowledge and uncertainty reduction, and experience is therefore considered an owner-specific advantage in the so-called eclectic theory of international production (Dunning, 1981, 1988). While it is generally recognized in the literature that experience acts as a determinant of location decisions concerning FDIs, the types of experience that are relevant and the role experience plays in the evolution of FDIs over time, are less clear.

In this paper it is argued that two different perspectives on the role of experience in explaining the location of FDIs are offered in the literature. Mainstream economic theory is basically static and treats individual investment decisions as discrete phenomena. Lack of experience from a market is typically treated as a cost component in terms of the cost of controlling foreign operations (Hirsch, 1976). An alternative approach is the process oriented model advocated by Johanson and Vahlne (1977), which claims that the internationalization of the company should be interpreted as a learning process. Our interpretation of this model is that experience is not only related to costs, but also to the consideration set of locations which are evaluated by the decision makers. Initially, only culturally close markets are evaluated as potential locations, but as companies acquire more experience from operating in foreign markets, more distant markets will be regarded as potential locations for the next FDI. As a result, a stepwise expansion pattern of FDIs is expected to evolve for individual companies.

The aim of this article is to develop hypotheses from the internationalization process framework and to test them empirically. Based upon a short review of the literature, two

hypotheses are deduced from the process approach to internationalization. These hypotheses are operationalized and tested on data from Norwegian FDIs in manufacturing. As opposed to most previous studies in this area, which are industry- or even company-specific, the database used contains by and large a complete set of the FDIs undertaken by Norwegian manufacturing companies in the time period covered. The empirical results do not provide support for the process model, thus suggesting that the choice of locations for FDIs is better explained by the competing economics framework.

The Literature

The economic theory of the multinational enterprise focuses on two fundamental aspects of international production; the *ownership* of assets employed in production activities in different countries and the *location pattern* of such activities. The question of why multinational enterprises own and control operations abroad has been analyzed by a number of authors using a transaction cost approach (Buckley and Casson, 1976; Rugman, 1981; Teece, 1986). Similarly, the question of why production is undertaken in different countries has been treated as a question of minimizing what could be termed, in a broad sense, production costs (Vernon, 1966). In both cases the explanation offered by the theory basically has to do with cost minimization.

Economic theory predicts that a company investing in production facilities will choose the location that minimizes total costs, given the distribution of demand in local (national) markets. Labor cost differentials, transportation costs, the existence of tariff and non-tariff barriers, as well as government policy (e.g., taxes affecting the investment climate in a given host country) are generally held to be important determinants of location choice. This basic framework has been extended by several authors. Aliber (1970) takes into account the size of foreign markets as well as the "costs of doing business abroad," and Hirsch (1976) includes the costs of controlling foreign operations. Such costs are likely to be less in familiar markets,

that is, markets that are culturally similar to the home country or markets with which the company has previous experience.

Even if it is recognized that experience may have an effect on the perceived costs and uncertainty of operating in different markets, few empirical studies have explored the relationship between experience and location decisions. Davidson (1980) analyzed the effect of experience and country characteristics on the location of foreign direct investments for a sample of 954 individual new products introduced by fifty-seven U.S. firms in the period 1945-76. Pairwise "entry frequencies" were calculated for twenty countries by determining the percentage of cases in which an FDI in an industry was initiated in one country before each of the others. By comparing subsets of entry frequencies dependent on prior experiences of the parent company in each of the countries involved, Davidson concluded that the presence of an existing subsidiary in a foreign market increases the firm's propensity to make subsequent investments in that market. Furthermore, according to Davidson (1980), the data indicates that "firms in the initial stage of foreign expansion can be expected to exhibit a strong preference for near and similar cultures. Those in advanced stages of foreign operations will exhibit little if any preference for near and similar cultures" (Davidson, 1980, p. 18). This conclusion is not, however, based upon any measure of cultural similarity or a formal statistical test.

Yu (1990) maintains that there are two types of experience that are relevant for firms engaged in international business: country-specific experience and general international operations experience. He estimates a logit model where the dependent variable is 1 if a firm has a manufacturing subsidiary in a given host country and 0 if otherwise. Independent variables include various host country-related factors, three firm-related factors, and the general international experience of the firm measured by the ratio of foreign sales to total sales. The general experience factor was only significant at the 5% level for FDIs of large companies in less developed countries. Country-specific experience was measured by proxy variables in this study. It is argued that if a company has subsidiaries in neighboring countries, its knowledge about the focal country increases. Based upon this assumption, Yu (1990) finds

some support for the notion that country-specific experience exerts influence on the location of FDIs. However, since the validity of both types of experience measures is dubious, the experience effects indicated in this paper should be regarded as tentative.

Both Davidson (1980) and Yu (1990) make references to the seminal paper by Johanson and Vahlne (1977) in discussing the effect of experience and cultural similarity on location choices. The empirical studies conducted by these authors are not, however, based upon the theoretical framework suggested by the internationalization process approach. The framework originally developed by Johanson and Wiedersheim-Paul (1975) and Johanson and Vahlne (1977) explicitly regards the internationalization of the firm as a *process* consisting of a series of small steps, whereby firms gradually increase their international involvement. For most firms, and in particular those without international experience, decisions about expansion into international operations are characterized by a considerable amount of uncertainty. This uncertainty stems from a lack of knowledge about the workings of particular foreign markets in terms of customer behavior, institutional framework and so on, as well as the lack of general knowledge of how to run a given business operation in an unfamiliar setting. In both cases, the type of knowledge involved is typically accumulated through a process of "learning by doing." The framework depicts a process that evolves through an interplay between the development of knowledge about foreign markets and operations on the one hand, and an increasing commitment of a firm's resources to foreign markets on the other.

The process approach seeks to explain - and predict - two aspects of the internationalization of the firm. The first is the step-by-step fashion by which a firm's engagement in a specific country often develops. Although several stages are proposed in the literature, a typical establishment chain could begin with occasional exports, develop into regular exports through agents, followed by setting up sales subsidiaries, and end with fully-owned production facilities abroad. The second aspect is that firms are assumed to successively enter markets at an increasing "cultural distance" from the home country, as measured by differences in language, values, political systems, etc. Thus, firms are predicted to start their

internationalization by moving into those markets they can most easily understand, entering more distant markets only at a later stage.

The internationalization process model is firmly rooted in a behavioral decision making approach. Luostarinen (1980) discusses in detail the stages in the decision process, building upon Cyert and March (1963), and underlines the importance of "lateral rigidity" between the stages in the decision process; limited perception of alternatives and selective search leads to confined choice. As more knowledge is acquired more alternatives will be considered, and foreign direct investments (as well as other modes of foreign operation) will gradually take place in more culturally distant countries.

A considerable amount of empirical research has been done that investigates the internationalization process model. However, the empirical support for the internationalization process model, and variants thereof, is mixed. While Welch and Luostarinen (1988) and Johanson and Vahlne (1990) point out the empirical support for the internationalization process model found in a number of studies, several studies fail to provide corroborative support for the model. Turnbull (1987) undertakes a critical survey of the theory and the empirical evidence, which in his opinion "does not support the proposition that the pattern of export organizational development follows an evolutionary path" (Turnbull, 1987, p. 36). Several recent studies cast additional doubt on the validity of the internationalization process model. In a cross-country study of the forest product industry, Sullivan and Bauerschmidt (1990) found no differences in the perceived barriers to or incentives to internationalization among managers of firms at various stages of internationalization. Engwall and Wallenstål (1988) found only mixed support for the process approach in a study of the international expansion of Swedish banks. In particular, their data did not support the hypothesis that companies tend to start their foreign operations in countries that are culturally close to their own.

Given the lack of support for the process model found in these studies, the generalizability of the model has been questioned along several lines. Recent changes in the nature of

international competition may have weakened the explanatory power of the internationalization process model, suggesting that the theory is time bound (Sullivan and Bauerschmidt, 1990). These authors also point out the possibility of "cultural boundedness," since the original formulation of the model drew upon observed patterns of internationalization by Swedish companies and much of the subsequent empirical work has been done in a Scandinavian (Nordic) setting. Engwall and Wallenstål (1988) question in particular the validity of the theory across industries. They argue that organizations with different tasks in different environments can be expected to operate in different ways. Thus, a theory originating from studies of the behavior of industrial firms may have little to say about the behavior of firms in other sectors of the economy.

A previous study of FDIs made by Norwegian manufacturing companies concluded that the "findings fit in rather well with a cultural distance analysis of the internationalization process" (Walters 1979, p. 12). This conclusion was, however, drawn after investigating the overall pattern of Norwegian foreign direct investments, and with no explicit measure of cultural distance. Aggregate data for all FDIs are not suitable for testing the implications of the cultural hypothesis embedded in the process model. A more appropriate test is the one undertaken in this paper.

Hypotheses

The internationalization process model suggests that international expansion follows an expansion path, whereby companies move from close to more distant markets. This pattern is supposed to apply to all industries, and should therefore show up in a cross-industry study of FDIs over time. The economic theory of multinational production recognizes the experience factor and the costs of operating in an unknown environment. However, the cost of operating in a foreign environment does not necessarily dominate other factors, and even if such costs are increasing with cultural distance the location decision is only marginally affected by such costs.

The internationalization process approach suggests that the first foreign direct investment undertaken by a company typically takes place in a country that is culturally close to the home market, while later investments are made in more distant locations. Therefore, our first hypothesis based upon the process model is:

H_1:   The first FDIs undertaken are made in countries that are culturally closer to the home country than later FDIs.

The alternative hypothesis suggested by the economics framework, is that there is no particular tendency to make the first FDIs in locations closer to the home country than later FDIs.

The process approach to internationalization furthermore suggests that a particular company will tend to move further away from the home market as more experience is acquired. If some companies make their first FDI in relatively distant countries, H_1 may not be supported. Still, a general movement away from the home country may take place as more investments are made. This hypothesis has been formulated as follows:

H_2:   The cultural distance to the country where an FDI is made will increase with the number of FDIs previously undertaken by a given company.

Again, the economics framework suggests that there is no general tendency to move into more distant countries as accumulated experience grows. Each decision is made separately. The probability of investing in a particular country may not be independent of earlier location decisions due to the experience effect, but to the extent that this effect is present it would cause the next investment to be undertaken in the same country as the previous one or in a nearby country in terms of culture.

The two hypotheses put forward have been tested on data regarding the foreign direct investments undertaken by Norwegian manufacturing companies. This means that the test

takes into account the alleged "cultural boundedness" of the process approach, since the FDIs are all made by Scandinavian (Norwegian) companies. If the data from Norwegian FDIs do not support the hypotheses, the process approach is unlikely to provide a general explanation of the location pattern of FDIs over time.

Cultural Distance

Culture, in a broad sense, refers to the social context within which humans live. Culture may be regarded as the set of attitudes and values that are common to a group of people, and that affects the ways that individuals perceive and respond to their environment. It is a kind of collective "programming of the mind that distinguishes the members of one human group from another " (Hofstede, 1980, p. 13). However, it is difficult to actually measure and quantify distances between cultures.

Luostarinen (1980) defines cultural distance as "the sum of factors creating, on the one hand, a need for knowledge, and on the other hand, barriers to the knowledge flow and hence also for other flows between the home and target country" (1980, pp. 131-32).

Some studies have applied objective measures in order to group countries according to their cultural proximity. One example of this approach is provided by Luostarinen (1980) in his study of Finnish firms' international operations. He used indicators such as level of economic development, everyday language, and level of education, in order to operationalize cultural distance. Countries were classified into five groups by cluster analysis, and then assigned values ranging from 1 (very close) to 5 (very distant). Apart from the rough classification of different cultures, the validity of the indicators used may be questioned.

Other studies have used attitudinal data at the individual level in order to map similarities and differences between countries. Ronen and Shenkar (1985) review eight cross-cultural studies of work-related attitudes and values. The variables in these studies were grouped into

four broad categories: (i) work goals importance, (ii) need deficiency, fulfillment and job satisfaction, (iii) managerial and organizational variables, and (iv) work role and interpersonal orientation. Ronen and Shenkar (1985) integrate the results of these studies, and classify countries into culturally similar clusters. Nine country groupings are identified, comprising a total of forty-six countries. The grouping is suggestive of differences between clusters. However, it does not measure cultural distances between clusters, i.e., *how* different the various clusters are.

The most comprehensive research to date on cultural dimensions relevant to work organization, is probably the work conducted by Hofstede (1980, 1984). Hofstede collected data within a large multinational enterprise, at first for its forty largest subsidiaries, and later for more than fifty subsidiaries (Hofstede, 1984). Only employees in similar occupations were compared, and all respondents were employed by the same multinational company, thus controlling for bias from different occupational positions and organizational practices. Based on a factor analysis of thirty-two value statements, Hofstede found that differences in national culture vary along four dimensions. These dimensions were labeled uncertainty avoidance, individuality, power distance, and masculinity-femininity.

The internal as well as the external validity of Hofstede's findings have been questioned (Drenth, 1983; Goodstein and Hunt, 1981). However, this critique may be extended to most of the work done in this area (Drenth 1983). As Kogut and Singh (1988) point out, Hofstede's work has several appealing attributes, such as the size of the sample, the reliability of scores over time, its emphasis on work-related attitudes and values, and the codification of cultural traits along a numerical index. The last point is particularly important, as it makes it possible to compare the relative differences between countries along cultural dimensions.

In order to arrive at a measure of cultural distance among countries, Kogut and Singh (1988) constructed a composite index using Hofstede's indices. Their index is based on the deviation along each of the four cultural dimensions (i.e., uncertainty avoidance, individuality, power distance, and masculinity-femininity) from the score of a given focal (home) country for each

country. The deviations are corrected for differences in the variance of each dimension and then arithmetically averaged. Algebraically, the Kogut-Singh index for cultural distance CD_j is given as:

$$CD_j = \sum_{i=1}^{4} \{(I_{ij} - I_{iN})^2 / V_i\} / 4,$$

where

I_{ij} = index value for cultural dimension i of country j ;

V_i = variance of the index for dimension i ;

N = home country (Norway in this case).

In the present study the Kogut-Singh index is used as a measure of the cultural distance between Norway and the countries where FDIs are made. The actual values of the indices of four cultural dimensions for the various countries are taken from Hofstede (1984). The only relevant country not included in Hofstede's study is Iceland. However, as the other Nordic countries show a considerable degree of similarity on all cultural dimensions, a proxy value for Iceland was computed as the average of the values for the other Nordic countries.

The Database

The database was compiled from a survey of Norwegian FDIs originally published by the magazine *Norges Industri*, and consists of the majority of foreign direct investments in manufacturing undertaken by Norwegian manufacturing companies up to mid-year 1982. Only foreign subsidiaries in operation at the time of publication were included in the survey and therefore in the database. A foreign direct investment is defined as ownership of 10% or more of the equity in a foreign company. However, in a majority of the actual cases the level of ownership is far higher, and 55% of the cases are wholly owned subsidiaries.

In total, the database consists of 201 cases representing investments undertaken by 93 Norwegian companies. The first investment dates back to 1910, but, as shown in Figure 2.1, the majority of investments were undertaken later, and in particular during the 1970s and '80s. The almost negligible number of investments undertaken before 1960, followed by the rapidly increasing number of investments in the 1960s and '70s, reflect the transformation of the Norwegian economy in the last decades. Norway was a poor country at the turn of the century. Economic development, fueled first by hydropower, and later by North Sea oil, has made Norway a prosperous country. Still, the country has few big companies by international standards, and though about 3000 Norwegian firms were engaged in exporting in the late 1980s, only a few of them were truly internationalized in the sense of operating a diverse set of international operations (Joynt, 1989).

Figure 2.1.

Norwegian FDIs in Manufacturing by Year of Investment.

Number of FDIs
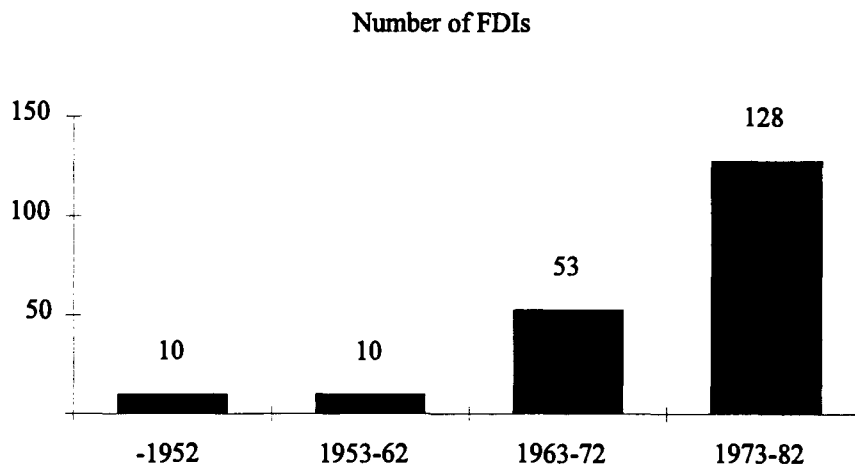
According to official statistics from the Bank of Norway, 291 cases of Norwegian foreign direct investment in manufacturing were registered by the end of 1982 (Norges Bank, 1985). Our database contains 201 cases. However, since our database only covers investments up to the middle of 1982, the figures are not completely compatible. Bearing in mind that the outflow of investments increased steeply during the first part of the eighties, some of the discrepancy could be accounted for by the half-year difference in the termination dates of the

two data collections. In sum, the data used in this study appear to give a satisfactory coverage of the actual number of manufacturing operations in foreign locations owned or partly owned by Norwegian manufacturing companies in 1982.

A further check of how representative the database is has been carried out by comparing the geographical distribution of the FDIs in our sample with official data. For this purpose the countries were divided into three groups. The first group encompasses other Nordic countries (Sweden, Denmark, Finland and Iceland). The second group includes other countries in Europe and North America, while the rest of the countries of the world were lumped together in the third group of countries.

Table 2.1. Geographical Distribution of Norwegian FDIs in Manufacturing.

Region	This Study	Official Data[*]
Region 1	33%	39%
Region 2	47%	42%
Region 3	20%	19%
Total	100%	100%
	(N=201)	(N=365)

[*] 1983-data

Table 2.1 shows a comparison of the geographical distribution of FDIs in our database with the distribution of FDIs according to official data at the end of 1983. A similar geographical distribution was, unfortunately, not available for 1982. Apart from the remarkable increase in FDIs in 1983 (from 291 to 365 according to the official data), the table suggests that the geographical distribution at the end of that year is fairly consistent with the distribution in our sample.

The database lists the location and size of FDIs along with their mother companies. Based on the year of establishment of the FDIs, the sequence of FDIs for a particular company was

determined. In addition, various variables relating to mother companies and FDIs have been compiled and included in the database. In the data analysis the export share of the mother company, the sales of the mother company, the mode of entry used (greenfield vs. acquisition), and the ownership percentage of the FDIs are introduced as control variables.

Results

After sorting the data for FDIs according to sequence of investment for individual companies, it turns out that we have ninety-three observations of the first foreign investment made by a company but only thirty-one observations of a second foreign investment. The number of companies having made more investments is rapidly decreasing with higher order investments. The highest number of FDIs made by one company is eighteen, while the second highest is eleven. The mean cultural distance to the foreign market by investment number is reported in Table 2.2. In this table, investment numbers 5 and higher have been collapsed into one category.

Table 2.2 shows that there are only minor differences in the cultural distances to the markets entered at different stages. Analysis of variance for the data in this table shows that sequence of investment is not related to the cultural distance from Norway to the markets ($F = 0.54$, $DF = 4$, 196). Thus, across companies there is no general relationship between cultural distance to the market and investment sequence. Furthermore, Scheffe's test of pairwise group means indicate that no significant differences exist between any of the groups in Table 2.2. H_1 suggests that the first FDI undertaken is located closer to the home country than later FDIs. The database contains 93 observations of first investments and 108 observations of later investments. To test H_1, the null hypothesis is that the mean cultural distance of the first investments is equal to the mean cultural distance of all later investments. The alternative hypothesis is that the mean cultural distance of later investments is larger than for first investments. A one-tailed t-test shows that the observed difference is not statistically significant at the 5% level ($t = 1.25$; $p = 0.11$). This means that across all observations in the

database, there is no firm evidence that first investments are made closer to the home country than later investments.

Table 2.2. Average Distance of FDIs by Sequence of Investments.

Investment Number	Mean Cultural Distance	Standard Deviation	Number of Cases
1	1.8162	1.4530	93
2	2.1631	1.2698	31
3	2.0711	1.5399	18
4	2.2758	1.9052	11
5 and higher	1.9608	1.3877	48
Total	1.9522	1.4392	201

The second hypothesis deals with the expansion pattern of FDIs after the first investment. The process approach suggests that a movement away from the home country should be observed as more experience is acquired, that is, an increasing number of investments are made. Table 2.2 suggests that such a movement is unlikely. However, these data reveal the location of all investments with a given number in the sequence of investments. A test of H_2 requires that the location of investment n should be related to the location of investment n-1 for each company. If a movement away from the home country is taking place the cultural distance to investment n should be higher than the cultural distance to investment n-1 for a particular company. The cultural expansion may, however, decrease as the number of investments increase. Based upon these considerations the test proposed for H_2 involves estimating a simple regression model:

(1) $$CD_n - CD_{n-1} = a + bI_n,$$

where

CD_n = cultural distance to location of investment number n for a given company;

CD_{n-1} = cultural distance to location of investment number n-1 for a given company;

I_n = investment number n for a given company;

a, b = coefficients.

The second hypothesis derived from the process model implies that the constant a in (1) is positive. A decrease in cultural expansion as the number of investments grows means that the coefficient b in (1) is negative. In total 108 investments in our database are preceded by another investment made by the same company. The estimation of (1) results in:

$$CD_n - CD_{n-1} = \begin{array}{cc} 0.116 - 0.003\,I_n \\ (0.43) \quad (-0.08) \end{array}$$

(2)

$$F = 0.94, \quad \text{Adj. } R^2 = 0.00$$

While the sign of the constant in (2) is in accordance with H_2, the t-values reported in the parentheses show that neither the constant (a) nor the coefficient for the number of investments (b) is significant. Thus, the empirical evidence indicates that the average change in cultural distance between two subsequent investments is not positive and does not vary with the number of investments previously undertaken by the company. This means that H_2 is not supported.

The process approach maintains that a gradual penetration of more distant markets serves to reduce the uncertainty felt by managers. According to this approach the experience from nearby markets will reduce uncertainty and make more distant markets more appealing to managers. Our findings suggest that this process does not play a major role in the choice of locations for FDIs undertaken by Norwegian manufacturing companies. On the other hand, experience may still affect location choices by lowering the perceived cost of operating in well-known cultures. If this is the case, we would expect to find a strong correlation between the cultural distance to a country where an investment is made, and the cultural distance to the

country where the *previous* investment by the same company was undertaken. This turns out to be the case, as the correlation between CD_n and CD_{n-1} is highly significant ($r = 0.40$, $n = 108$; $p < 0.01$).

Since the locations of two consecutive investments are highly correlated, the direction and extent of any movement in cultural distance between two subsequent investments should be related to the location of the first of the two investments. If the starting point is a distant location, we may expect the location of the next investment to be closer to home while the opposite would be expected if the starting point is a culturally close location. A linear regression for the 108 observations preceded by another investment reveals the following relationship:

$$CD_n = 1.31 + 0.38\, CD_{n-1}$$
(3) $$\qquad\qquad (6.26)\ (4.53)$$

$$F = 20.6,\ \text{Adj.}\, R^2 = 0.15$$

Equation (3) shows that there is a strong association between the location of an investment and the direction and extent of the next movement in cultural space. If the cultural distance of the previous FDI (CD_{n-1}) exceeds an index value of 2.13, the regression predicts that the next investment will be culturally closer. In the opposite case, the next investment will tend to take place in a more distant location. Separate regressions for investment number two (thirty-one observations) and all later investments (seventy-seven observations) reveal the same basic pattern.

A close inspection of the database does not reveal any industry-specific differences in the location sequences. Since the choice of location for the first FDI seems important, a number of variables have been investigated that might be correlated with the location of the first FDI. The only significant relationship found is that FDIs located in countries that are culturally distant, tend to be greenfield investments to a larger extent than for FDIs undertaken in culturally closer countries. The explanation is probably that culturally distant countries tend to be less

developed countries where fewer opportunities exist to buy established companies. Export share, ownership percentage and size of the parent company are not correlated with the cultural distance to the country where the first investment was undertaken.

Summary and Discussion

. In this article hypotheses concerning the international expansion of foreign direct investments have been developed from the "process" approach to internationalization. The process approach presents a rich framework for interpreting the internationalization of companies, and this paper covers only one aspect of the theory. Previous studies have tended to be case oriented, and more emphasis should be placed upon developing testable hypotheses.

Our findings do not provide support for the notion that FDIs are, in general, initially made in foreign markets close to the home country, and at a later stage are spread to more distant markets. Across all companies, there was only a weak tendency for the first investments to be made in countries that are culturally closer than those where later investments were made. Furthermore, for given companies, no evidence of an expansion into more distant markets was found as the number of FDIs increases. On the other hand, the locations of subsequent investments are interrelated. It seems that if the previous investment was made in a fairly distant location, there is a tendency to move into a less distant location the next time and vice versa.

In order to explain these findings, it has to be acknowledged that firms move into foreign markets for different reasons. For instance, firms making a foreign investment mainly to take advantage of low labor costs will probably not consider countries culturally close to Norway as viable alternatives. The first investments of such firms are likely to be in distant markets. Still, the question remains why such companies would tend to move to closer locations the next time. Obviously, there are limits to cultural expansion and the chance of selecting a closer location the next time is higher if the starting point is a distant one.

The pattern revealed suggests that the internationalization process does not manifest itself in a gradual expansion of FDIs into culturally more distant locations. Our findings support the notion that location choices are discrete rational choices, and not a cultural learning process. This does not preclude experience effects, but it is the nature of the business that defines the feasible locations. Within the set of such locations the company will expand, sometimes moving into more distant locations while at other times moving into locations closer to the home country.

It may be argued that the hypotheses derived in this paper give an inadequate representation of the internationalization process model. In the sense that the hypotheses are restricted to the expansion path of FDIs, they certainly do not provide a full test of the basic model. The depth of involvement in particular markets is not covered, but how the various stages in involvement should interact with the geographical expansion envisaged by the model is somewhat unclear. In an earlier study of Norwegian exporters (Gripsrud, 1990), it was found that the nature of the products is a determinant of the exporters' attitudes towards a foreign market. In our opinion, this may be the case for FDIs as well in the sense that the evaluation of potential locations hinges on the nature of the products to be produced.

The study reported in this paper is certainly not without limitations. While, in principle, all FDIs undertaken up to mid-1982 and still in operation at that time are included, a number of FDIs may have been made that were no longer operated by Norwegian owners. Exits, due to closure or takeover by other owners, could represent a bias when it comes to the location pattern. It is, however, difficult to imagine why exits, if any, should represent a serious distortion of the locational pattern observed at the end of the period.

It would be interesting to conduct a study of the pattern that has evolved after 1982. Since the number of FDIs by Norwegian companies has increased rapidly in recent years, it would give a larger database for testing our hypotheses. This is particularly important when analyzing higher order investment numbers. In addition, it would make it possible to test any changes in the location pattern over time. Recent changes in communications, and the general tendency

towards global markets, indicate that the impact of cultural and psychological distance is likely to decrease over time. In the "global village," cultural and psychological distances between countries are probably smaller than before, even if they still are not negligible. Since we did not find any support for the internationalization process model in the FDIs undertaken up to mid-1982, it is not likely that FDIs undertaken later are following the pattern envisaged by the process model.

A related line of reasoning deals with the organization of investment activities in MNEs. The "internationalization process" approach deals mainly with the initial phase of foreign operations and direct investments. It is based upon the assumption that the activity is spreading from the parent company to ever more distant locations. Forsgren (1990) has pointed out that this framework is inadequate in interpreting the location decisions of large multi-center firms that have been operating internationally for a long period of time. In such cases each new investment is increasingly linked to a foreign-based center with its own investment program. Our database does not include such large multi-center firms, but the emergence of such firms would make it even less likely that more recent data would support the process model.

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Chapter 3

The Internationalization Process Approach to the Location of Foreign Direct Investments: An Empirical Analysis[*]

Abstract. This paper tests some hypotheses about the location of foreign direct investment drawn from the so-called internationalization process framework. The central tenet of this framework, which is primarily supply-side oriented, is that location decisions should be regarded as a learning process at the company level. From this framework one would expect to find a close relationship between factors that increase the perceived level of uncertainty (such as distance), factors that serve to reduce uncertainty (such as experience), and factors that reduce the relative impact of the risk inherent in a project (company resources), in the observed patterns of location choices. The hypotheses are tested on data material consisting of 203 foreign direct investments made by Norwegian companies in the period 1910-1984. Only limited support is found for the internationalization process model. The results suggest that the internationalization process model is a partial model, and that both demand-side and supply-side factors must be included in order to explain the location of foreign direct investments.

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Introduction

Foreign direct investment (FDI) serves as an important avenue for company growth, and it plays a significant role in transfers of capital, technology and managerial resources between countries. The immense increase in foreign direct investment during the last decades has therefore attracted the attention of scholars from various fields, in particular business, economics and geography. Location decisions are at the core of FDI as a field of investigation. From the perspective of the investor company, which seeks to maximize the returns from an investment, profit streams may depend on where particular subsidiaries are located. From the perspective of host countries, being able to attract incoming FDI is generally regarded as vital in order to maintain and further develop their economies.

Previous work has analyzed the location of FDIs from various perspectives. According to economic theory, decisions about the location of production are predominantly taken on the basis of traditional sources of comparative advantage such as relative wages, market size, and transportation costs (Vernon, 1966; Aliber, 1970; Hirsch, 1976). In addition, impediments to international trade, such as tariffs and non-tariff barriers, may also influence the location of production (Clegg, 1992)[1]. A second strand in the literature, rooted in economic geography and dating back to the classic works by Englander (1926) and Palander (1935), focuses on the importance of agglomeration economies in the location of production facilities (Berry, Conkling and Ray, 1993). Agglomeration economies refer to the advantages of co-locating different economic units (Wheeler and Mody, 1992). The attractiveness of an area is increased by factors such as the quality of infrastructure, the availability of specialized service suppliers and of skilled labor, location related reputational effects, and the development of so-called "industrial clusters" (Porter, 1990). Once location advantages have been achieved they tend to be self-perpetuating. The empirical evidence available suggests that both traditional comparative advantage factors, in particular tariff barriers (Culem, 1988), market size and market growth (Kravis and Lipsey, 1982; Culem, 1988; Veugelers, 1991), and agglomeration factors, such as infrastructure quality and the level of the existing stock of FDI in a country

(Wheeler and Mody, 1992), have an important impact on international investment location decisions.

However, both economic and geographic approaches to location decisions focus primarily on factors that are external to the individual company (markets for input factors and end-users, macroeconomic and environmental conditions, etc.). As pointed out by Buckley (1987), these approaches tend to neglect how location decisions might be shaped by characteristics of the investor companies and of the individuals actually making the decisions. Buckley (1987, p. 54) remarks that: "in the undoubted improvement in the theory of the multinational enterprise, location theory has been curiously stationary. This is partly because theorists believe that there is nothing that has not been said because the "rational manager" in the individual firm is deemed to be able to calculate location costs, including trade and tariff barriers, and on a comparative cost basis to select the optimal strategy...Crucially, communication costs and cultural values are not fully integrated in to the calculus. This lack of interest is unwarranted, and must be rectified through renewed research initiatives". Buckley's comment may certainly describe the "state-of-the-art" in economics, but disregards a strong research tradition in international business, the so-called internationalization process model, which, almost exclusively, focus on precisely internal factors (Vahlne and Nordström, 1993). The internationalization process approach, which builds on the behavioral theory of the firm developed by Cyert and March (1963), has since the pioneering work of Aharoni (1966) constituted the theoretical basis for a large number of studies concerned with various aspects of the internationalization of the firm (e.g., Luostarinen, 1970, 1979; Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977).

The aim of the present study is to test some hypotheses on location decisions drawn from the internationalization process framework. The central tenet of this framework is that such decisions should be regarded as a learning process. Decisions at the company level are undertaken by decision makers displaying a high degree of risk aversion. One should, in particular, expect to find a close relationship between factors that increase the perceived level of uncertainty (such as distance), factors that serve to reduce uncertainty (such as experience),

and factors that reduce the relative impact of the risk inherent in a project (company resources), in the observed patterns of location choices. The article proceeds as follows; the next section presents a sketch of the internationalization process framework and discusses the central concepts investigated in this study, then follows a description of how the study was conducted, a report of the findings, and finally, there is a concluding discussion of the results and some of their implications.

The Process Perspective on Choice of Location

The internationalization of the firm has been described as a process consisting of a series of small steps, whereby firms gradually increase their international involvement (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977; Welch and Luostarinen, 1988). One factor that influences this process is the availability of resources. Welch and Luostarinen (1988, p. 51) point out that "The ability to undertake any form of international operations is clearly limited by the means accessible to the firm to carry it out. For smaller firms, given their limitations in many areas, this is an obvious reason why less demanding directions of international development can be undertaken first, with major commitments only occurring well into the longer run".

Another important factor is perceived uncertainty. Decisions about expansion into international operations are for most firms, but particularly for those with limited international experience, characterized by a considerable amount of uncertainty. This uncertainty stems from two sources. The first is a lack of knowledge about the workings of particular foreign markets in terms of customer behavior, institutional framework and so on. The other is lack of knowledge of how to run a given business operation in an unfamiliar context. In both cases, the type of knowledge involved is typically acquired through a process of "learning by doing" (Carlson, 1975).

The process approach seeks to explain - and predict - two aspects of the internationalization of the firm. The first is the step-by-step fashion by which a firm's engagement in a specific country develops. Although several stages are proposed in the literature, a typical establishment chain could begin with occasional exports, develop into regular exports through agents, followed by setting up sales subsidiaries, and end with fully-owned production facilities abroad. The second aspect is that firms are assumed to successively enter markets at an increasing distance from the home country, not only in terms of physical distance but also in terms of differences in economic development, language, culture, political system, etc. Thus, firms are predicted to start their internationalization by moving into markets they can most easily cope with, entering more distant countries only at a later stage.

The internationalization process model is rooted in a behavioral decision making approach. Luostarinen (1979) discusses in detail the stages in the decision process, building upon Cyert and March (1963), and underlines the importance of "lateral rigidity" between the stages in the decision process: limited perception of alternatives and selective search leads to confined choice. As more knowledge is acquired more alternatives will be considered, and foreign direct investment (as well as other modes of foreign operation) will gradually take place in more distant countries. In the following, the choice of location of FDIs is analyzed using the core concepts in the internationalization process framework.

Distance

The distance to where a foreign direct investment is made may vary considerably from one case to another. Some production operations are set up in locations near the home country, and sometimes firms' choose to establish production subsidiaries in distant locations. What is "near" and what is "distant" can, due to the many facets of the concept of distance, be understood in various ways depending on which particular dimension of the concept one is referring to. At least three different dimensions are of relevance here. Firstly, distance can be understood in a physical sense, i.e. it relates to some objective measure of the space between two or more objects. This is usually termed geographical distance. Secondly, distance can

refer to differences, or the degree of difference, between entities along some chosen characteristic, such as differences in culture between countries (cultural distance) and in the level of economic development (economic distance). Although the role of economic distance has been highlighted by Teece (1977) and Luostarinen (1979), previous studies have above all looked at whether geographical distance (Luostarinen, 1979; Kravis and Lipsey, 1982; Terpstra and Yu, 1988; Yu, 1990; Veugelers, 1991), and cultural distance (Johanson and Vahlne, 1975; Luostarinen, 1979; Davidson, 1980; Kravis and Lipsey, 1982; Engwall and Wallenstål, 1988; Veugelers, 1991; Benito and Gripsrud, 1992) have an impact on foreign direct investment behavior.

Several previous studies suggest that firms tend to start their internationalization by entering countries that are geographically close and that are relatively similar economically and culturally. For example, US firms have usually made their first foreign investments in countries like Canada and the UK (Davidson, 1980), and Finnish firms have tended to go to Sweden when undertaking their first establishment abroad (Luostarinen, 1979). A similar pattern was found for Swedish firms (Johanson and Wiedersheim-Paul, 1975). Several explanations are at hand. First, it has been argued that the development of new products is primarily aimed at customers in the home market (Vernon, 1966). To the extent that a customer base exists in other countries as well, it is likely that the demand for such newly developed products will be found foremost in countries that economically and culturally are fairly similar to the country where the innovation was made (Burenstam-Linder, 1961). Thus, the first foreign markets to be supplied, either by exports or (if export for some reason is not feasible) by local production, are likely to be near ones.

Another explanation is that similarity in culture and economic development makes it easier for a firm manage a subsidiary abroad. Important components of the FDI package, especially the transfer of technology and managerial competence, are made easier when the countries in question are not too dissimilar (Teece, 1977; Kedia and Bhagat, 1988). Furthermore, closeness may alleviate problems in conducting actual business operations, for example by making it easier to monitor and coordinate production and marketing activities in the various

locations. This is of particular importance in the early stages of internationalization when firms often are small and face severe resource constraints.

Finally, countries close to the home country in geographic, economic and/or cultural terms may be the preferred choice as sites for the first investments because the knowledge needed does not differ substantially from the knowledge already acquired. They may therefore be looked upon as being the least uncertain locations. However, such perceptions are likely to change as experience is gained. As indicated by Davidson's (1980) study the strong preference for close and/or similar countries weakens as firms acquire experience from operating abroad.

Experience

The decision to undertake a foreign direct investment can be regarded as a strategic decision whereby the firm attempts to achieve the best possible fit between the capabilities of the firm and opportunities and demands in the environment. However, decisions are made by decision makers prone to act cautiously faced with the complexity and the riskiness of such ventures (March and Simon, 1958; Cyert and March, 1963; March, 1978). The environment in which foreign operations are conducted is in principle unknown to the novice international firm (Welch and Luostarinen, 1988). In order to cope with new environments a learning process, whereby knowledge and information is acquired, has to take place. Moreover, the choice of a new environment, that is which country to enter and how, also hinges on past learning. Cyert and March (1963) contend that limited search is an important characteristic of this process. When confronted with a problem organizations tend to start their search for solutions among alternatives that are quite close to solutions that have been tried previously. Search is expanded into unchartered territory only if familiar alternatives do not provide satisfactory solutions. In sum, firms are, from this perspective, assumed to experiencially learn which aspects of their environment to focus on, how to operate in that environment, and how to search for solutions to problems that emerge (Björkman, 1990).

Various types of experience might shape the internationalization of the firm. One type of experience relates to the extent to which a company has been exposed to international activities in general. Many - probably most - firms already have some international experience, usually in the form of export activity, when they make their first foreign direct investment. This type of experience can be termed general international experience. By dealing with foreign distributors and/or customers a company acquires knowledge about operating in an international context. Although that knowledge may not always be readily transferable to other settings and other types of operation, it serves to reduce the perceived risk of undertaking international operations beyond those which the company is already familiar with. In addition, such knowledge may facilitate the speed and quality of acquisition of knowledge relating to new international settings and operations. The value of general international experience lies in a higher preparedness for new international ventures: organizational belief and norm systems become less parochial, organization structures change in order to facilitate management of foreign operations, information systems are designed to provide relevant and reliable multi-country information, employees are trained to deal with foreign customers, etc. Hence, previous research (Terpstra and Yu, 1988; Yu, 1990) has shown that there is a positive relationship between measures of general international experience - such as the ratio of foreign sales to total sales - and firms' propensity to make a foreign direct investment.

Another type of experience is often termed country-specific experience (Yu, 1990), i.e. the extent to which a firm has conducted business in a given country[2]. Country-specific experience relates to familiarity with the particularities of a given country; e.g. knowledge of the institutional and legal framework, knowledge about customers and market structure, and insight into the *modus operandis* of business conduct. The decision to enter a given country may, due to economies of learning and gradual reduction of perceived uncertainty, therefore reinforce future market presence in that country. For example, Davidson (1980) reports that the presence of an existing subsidiary in a foreign market increases the firm's propensity to make subsequent investments there. Johansen and Wiedersheim-Paul (1975) found that manufacturing operations tend to be located in countries in which the firm already had some

presence (usually a sales subsidiary). Finally, the studies of Benito and Gripsrud (1992) and Yu (1990) suggest that experience from neighboring or culturally similar countries (i.e. transferable country experience) has an impact on the location of subsequent FDIs.

From the perspective of the internationalization process approach, one would expect that "hands-on" experience from conducting a specific type of activity is a particularly valuable type of experience. Much of the uncertainty surrounding the internationalization of firms relates to the basic unfamiliarity of a non-domestic context, and may be overcome by general international experience. However, specific experience may be an equally important source of knowledge. Thus, even though experience from export activity might contribute in increasing firms' preparedness for other types of international activities, certain aspects of conducting, for example, foreign manufacturing activities are rather unique, and require specific learning. Examples are the organization of the foreign subsidiary, human resource management, and the coordination between the subsidiary and the parent company. Learning about the particularities of managing foreign manufacturing units is easier to do when other sources of uncertainty are kept at a minimum, i.e. in countries that are not too dissimilar and which are easily reached from the home country. This seems to provide a strong rationale for starting the expansion of foreign direct investments in nearby locations. However, although there is empirical evidence to support this line of reasoning (e.g. Johanson and Wiedersheim-Paul, 1975), some recent studies conclude otherwise. For example, in a study of Norwegian FDI in manufacturing Benito and Gripsrud (1992) found no support for the hypothesis that the first FDIs are made in countries that are culturally closer to the home country than later FDIs. Furthermore, the cultural distance to the country where a FDI is made did not increase with the number of FDIs previously undertaken by a given company. One might argue, however, that the number of investments previously undertaken is a somewhat crude proxy for experience, and that the results should therefore be regarded as tentative.

Resources

The impact of company resources on internationalization has been investigated in several studies. Studies of firms' export behavior indicate that firm size is positively related not only to the propensity to export, but also to the number of export markets served by an individual company (see for example Calof, 1994). Compared to exporting, foreign direct investments usually imply an even more substantial commitment of resources, both managerial and financial, to operations that are considered as risky. Large firms are, due to their larger resource base, often in a better position than smaller firms to make such commitments. Thus, it is not surprising that many studies report that there is a positive relationship between the propensity to make foreign direct investments and the size of the firms (e.g. Caves, 1974; Grubaugh, 1987). Resources are also needed in order to absorb the costs and risk associated with FDI. Clearly, for a given level of resources committed to an operation, the smaller the firm the more vulnerable it is if such ventures turn out to be unsuccessful. Hence, small firms often take a cautious approach to international expansion (Welch and Luostarinen, 1988). Accordingly, since the resource base of the firm is likely to influence the perceived risk of a project, one might expect that the readiness to engage in manufacturing operations in distant locations - which are associated with a higher perceived risk - is dependent on the availability of resources[3].

Hypotheses

Based on the preceding discussion of the relationship between experience, resources, and distance to the location of a FDI, three hypotheses are put forward:

H_1: There is a positive relationship between the economic distance between the home and the host country of a FDI and the level of general international experience, the operation specific experience and the resources of the investing company.

H_2: There is a positive relationship between the cultural distance between the home and the host country of a FDI and the level of general international experience, the operation specific experience and the resources of the investing company.

H$_3$:   There is a positive relationship between the geographic distance between the home

and the host country of a FDI and the level of general international experience, the

operation specific experience and the resources of the investing company.

Methodology

Data

The unit of analysis in this study is a given FDI in manufacturing. Data on foreign direct

investment are taken from a survey carried out by the Norwegian Industrial Federation on

Norwegian companies' foreign manufacturing establishments. The survey covered operative

manufacturing subsidiaries in 1984 in which the Norwegian parents' stake was at least ten

per cent. In addition, information on a number of variables relating to the parent companies

and the host countries have been compiled from various sources and included in the data

base. In total, the data base consists of 254 cases representing investments made by 104

Norwegian companies. Unfortunately, missing data on various variables reduced the usable

sample to 203 cases. The final sample covers approximately sixty per cent of total Norwegian

foreign direct investment in 1984 (Hansen, 1984).

Operationalization of variables

The dependent variable in this study is distance between the home country of an investor

company and the location (i.e. host country) of a given foreign investment. Distance is a

multifaceted concept, and this study focuses on three particular dimensions of distance,

namely geographic, cultural and economic distance. Of these, cultural distance is probably

the most complex and therefore problematic dimension to measure empirically. The approach

taken in the present study is to follow several recent studies (e.g. Erramilli, 1991; Benito and

Gripsrud, 1992) and use an index for cultural distance developed by Kogut and Singh (1988).

The Kogut-Singh index, which is based on the study conducted by Hofstede (1980) on

cultural dimensions of work organization, measures cultural distance as the sum of variance-

corrected score differences along four cultural dimensions (i.e. uncertainty avoidance,

individuality, power distance and masculinity-femininity) for each country pair (i.e. the home

country of the parent company and the host country of a given subsidiary). The Kogut-Singh index for cultural distance is defined as,

$$Cultural\ distance_j\ =\ \sum_{i=1}^{4}\ \{(I_{ij} - I_{iN})^2 / V_i\}/4,$$

where I_{ij} = index value for cultural dimension i of country j, V_i = variance of the index for dimension i, and N = Norway (the home country in this study). Scores on the four dimensions for the various countries were obtained from Hofstede (1984).

Geographic distance was operationalized as the air distance in 1,000 kilometers between Oslo, the capital of Norway, and the capital of a focal host country. A similar measure has been used in several other studies (e.g. Terpstra and Yu, 1988; Yu, 1990; Veugelers, 1991). The values for this variable were taken from *IATA's Air Distance Manual* (1986).

Economic distance refers to disparities between countries in terms of standards of living, development of infrastructure etc. Following Teece (1977) this variable was operationalized as the absolute value of the difference in GNP per capita in a given year (in 1,000 US$) between Norway and a host country j ,

$$Economic\ distance_j\ =\ \mid GNPcap_{Norway, 1983} - GNPcap_{j, 1983} \mid$$

Data for this variable (for the year 1983) were taken from *European Marketing Data and Statistics* and *International Marketing Data and Statistics*, both published by *Euromonitor*.

Turning to the explanatory variables, experience is according to the internationalization process framework an important determinant of firm behavior (Johanson and Vahlne, 1990). Firms with scant international experience are expected to act cautiously, and to be unwilling to take any great risks in the development of their international operations. The internationalization process approach suggests that the first international operations

undertaken by a company typically take place in a country that is close to the home market. Accumulation of experience gradually expands the set of opportunities taken into consideration by a company, and entry into more distant markets may therefore take place as more experience is acquired. Two types of experience are examined in this study. One type of experience relates to the extent to which a company has been exposed to international activities in *general*. General international experience was operationalized as the ratio of export sales to total sales for a given parent company in the year prior to undertaking a focal foreign direct investment. These data were taken from the annual publication *Norges Største Bedrifter* (Norway's Largest Companies).

The other type of experience investigated here is of a more *specific* kind in that it relates to experience acquired through management of manufacturing subsidiaries in foreign locations. Operation specific experience was measured by two indicators; *i*) the number of years since a company undertook its first foreign direct investment in manufacturing, and *ii*) the number of foreign direct investments undertaken by the company prior to a focal investment. The relatively high correlation ($r = 0.71$) between the two indicators suggests that they map the same underlying construct, but somewhat different aspects of it. In order to arrive at a single measure for operation specific experience, an index composed of both indicators was constructed. Standardized scores (mean = 0, std.dev. = 1) were used due to the different scales of the indicators[4]. The variable is thus given as,

$$Operation\ specific\ experience\ =\ (\ Z_1 + Z_2\ ) / 2$$

where Z_1 denotes the first standardized indicator (number of years), and Z_2 the second indicator (number of investments). The reliability measure - coefficient alpha - for this two-item variable is 0.83.

Finally, foreign direct investment is a risky undertaking that involves a substantial commitment of financial and managerial resources. Thus, resources are hypothesed to influence the location choices made by internationalizing firms. The resource base of the

parent company was measured by two size indicators; *i*) total sales, and *ii*) number of employees. These data were collected from *Norges Største Bedrifter* (Norway's Largest Companies) for the year prior to a focal investment[5]. The Pearson correlation coefficient between the indicators is 0.82. The standardization procedure used for the experience index was also applied for the resource index. Again, the reliability coefficient for this variable is very high (coefficient alpha = 0.91).

Method

The hypotheses can be expressed in three equations;

(1) $\quad Y_1 \quad = \quad \alpha_1 + \beta_{11} X_1 + \beta_{12} X_2 + \beta_{13} X_3 + \epsilon$

(2) $\quad Y_2 \quad = \quad \alpha_2 + \beta_{21} X_1 + \beta_{22} X_2 + \beta_{23} X_3 + \epsilon$

(3) $\quad Y_3 \quad = \quad \alpha_3 + \beta_{31} X_1 + \beta_{32} X_2 + \beta_{33} X_3 + \epsilon$

where,

Y_1	=	Economic distance: difference in GNP per capita
Y_2	=	Cultural distance: Kogut-Singh index
Y_3	=	Geographic distance: kilometers between capital cities
X_1	=	General international experience: export sales/total sales
X_2	=	Operation specific experience (index)
X_3	=	Resources (index)
α, β	=	Coefficients
ϵ	=	Error term

Equations (1)-(3) were estimated by ordinary least squares regression analysis. According to the hypotheses all βs are expected to be positive.

Results

Table 3.1 reports means, standard deviations, and the correlation matrix of the variables included in equations (1)-(3). Inspection of the correlations between the dependent variables reveal, not unexpectedly, that the various dimensions of distance are quite interrelated; in other words, the countries most similar to Norway in terms of culture tend, overall, to be other affluent countries located nearby. However, the correlations suggest that the fit between different measures of distance is far from perfect. Culturally and/or economically similar countries may lie far from each other in geographical terms (a good example is Norway and New Zealand), and conversely, considerable cultural and economic differences may be found between countries that are relatively close geographically (the case of Norway and Turkey illustrates this point).

Table 3.1. Means, standard deviations, and Pearson correlation coefficients ($n = 203$).

	Mean	SD	Y_1	Y_2	Y_3	X_1	X_2	X_3
Y_1	4.75	3.10	-					
Y_2	1.90	1.42	0.69	-				
Y_3	3.22	3.34	0.58	0.72	-			
X_1	44.02	29.65	-0.07	-0.03	-0.05	-		
X_2	0.00	1.39	0.08	0.09	0.07	0.22	-	
X_3	0.00	0.96	-0.12	-0.10	-0.17	0.42	0.59	-

Turning to the independent variables the correlation matrix shows that, apart from the relatively high correlation between resources and operation specific experience ($r = 0.59$), there is no apparent reason to suspect serious problems due to intercorrelation. Nevertheless, although it may not be surprising that large companies have more experience from managing foreign subsidiaries than smaller companies, the magnitude of the correlation between these variables indicates that a confounding problem might be present. Moreover, collinearity can affect the estimation of the parameters. Therefore, the values for the tolerance of a variable,

an often used measure of collinearity, were inspected[6]. It turned out that the lowest tolerance found was 0.56, which does not suggest any serious collinearity problems.

The results of the regressions are shown in table 3.2[7]. Since the data material includes cases where individual parent companies may have made several FDIs, the question of serial correlation must be addressed. The estimated Durbin-Watson statistics are 1.60, 1.45, and 1.65 for equations (1), (2) and (3) respectively. The Durbin-Watson test is therefore - using a 0.01 level of significance - inconclusive with regard to the null hypothesis that serial correlation is not present in equation (3). On the other hand, positive serial correlation is indicated in equations (1) and (2). The estimated parameters in these equations must therefore be interpreted with caution, and the results should be regarded as tentative.

Table 3.2. Multiple regression of equations (1)-(3). OLS-estimation ($n = 203$).

Independent variables	Coefficients (t-values)		
	(1)	(2)	(3)
α	4.441[b]	1.621[b]	2.693[b]
	(9.724)	(7.191)	(5.262)
Log (X_1)	0.031	0.096	0.086
	(0.428)	(1.328)	(1.198)
X_2	0.224[a]	0.229[a]	0.257[a]
	(2.614)	(2.686)	(3.058)
X_3	-0.265[b]	-0.267[b]	-0.351[b]
	(-3.038)	(-3.069)	(-4.093)
$F =$	3.486 ($p = 0.017$)	3.946 ($p = 0.009$)	5.996 ($p = 0.000$)
$Adj\ R^2 =$	0.04	0.04	0.07
$D\text{-}W =$	1.60	1.45	1.65

Notes: a) $p < 0.05$ (one-tailed); b) $p < 0.05$ (two-tailed).

Since the F-statistics are significant, a closer examination of the regression coefficients is warranted. It should be noted, however, that the quite modest R^2 statistics imply that the proportion of variance in the dependent variables actually captured by the models is fairly

low, thus suggesting that location decisions are influenced by - probably many - factors not taken into account by the internationalization process model.

Turning to the significance of the various variables, the results only give mixed support to the hypotheses[8]. First, general international experience does not seem to have any decisive impact on the various dimensions of distance. Although the coefficients for this variable are positive in all regressions, as was expected, they are not significant in equations (1) and (3) and only weakly significant ($\beta_{21} = 0.096$, $p < 0.10$) in equation (2). Second, all coefficients for the operation specific experience variable are positive and highly significant. This result is in accordance with the hypothesis that companies seek out more distant locations as they gain experience from conducting foreign production activities. In particular, strong support is found for a positive relationship between operation specific experience and geographic distance to FDI locations ($\beta_{32} = 0.257$, $p < 0.01$). Finally, the coefficients for the resource variable are negative in all regressions. This suggests that the effect of company resources on the distance to a foreign establishment may be in the opposite direction of what was expected.

As noted earlier, however, there might be confounding problems associated with the resource and the operation specific experience variables. An inspection of the correlations between the indicators used in constructing the indexes reveals that there is a high correlation between the number of investments undertaken by a company prior to a focal investment and the two size indicators ($r = 0.74$, and $r = 0.66$), while the number of years since the first investment was made is not particularly highly correlated with size ($r = 0.48$, and $r = 0.39$). A closely related problem is that the number of investments undertaken by a few large multinationals is far higher than the average. For example, four companies in our sample owned ten or more foreign manufacturing subsidiaries, while the average number of subsidiaries owned by a company in our sample was considerably lower (2.4 subsidiaries per company). It is therefore probable that location strategies specific to a limited number of large companies may influence the overall location patterns observed in the data material.

In order to control for such effects, additional regressions including only the first five investments undertaken by any company were conducted. Although this procedure must admittedly be considered as rather ad hoc, it turns out that it remedies any potential intercorrelation problem quite well[9]. In addition, the Durbin-Watson statistics improve considerably. The null hypothesis that serial correlation is not present is accepted for equations (1) and (3) using a 0.01 level of significance. The Durbin-Watson test is, however, still inconclusive for equation (2). The regressions are presented in Table 3.3.

Table 3.3. Multiple regression of equations (1)-(3) for subsample consisting of FDIs with investment number five or less. OLS-estimation (n = 147).

Independent variables	Coefficients (t-values)		
	(1)	(2)	(3)
α	4.447[b]	1.670[b]	2.790[b]
	(8.796)	(6.447)	(4.747)
Log (X_1)	0.024	0.106	0.082
	(0.275)	(1.249)	(0.979)
X_2	0.079	0.136	0.187[a]
	(0.926)	(1.610)	(2.236)
X_3	-0.067	-0.038	-0.144
	(-0.764)	(-0.444)	(-1.685)
F =	0.409 (p = 0.747)	1.407 (p = 0.243)	2.370 (p = 0.073)
$Adj\ R^2$ =	0.00	0.00	0.03
D-W =	1.79	1.58	1.73

Notes: a) $p < 0.05$ (one-tailed); b) $p < 0.05$ (two-tailed).

The estimations for the subsample provide some interesting results. First, it is clear that the performance of the models drops considerably. In fact, as seen from the estimated F-values only equation (3) calls for any further examination. Secondly, the signs of the coefficients are unchanged when compared to the regressions reported in table 3.2. Again, the partial regression coefficient for general international experience - measured as a firm's export ratio -

shows a positive sign in accordance with hypotheses, but the coefficient is not significant. In a similar vein, the coefficient for the operation specific experience index remains positive, and is significant ($\beta_{32} = 0.187$, $p < 0.05$). On the other hand, the sign of the parent company resource index coefficient is still negative, but the coefficient is only weakly significant ($\beta_{33} = -0.144$, $p < 0.10$, two-tailed test) when higher-order investments are excluded from the analysis. This suggests that the strong negative relationship between resources and distance reported in table 3.2 is indeed partly due to the particular location strategies followed by some large companies. When the influence of these companies on the overall pattern is controlled for, the results are no longer clearly contradictory to the hypotheses.

Summary and Discussion

This study has taken an empirical look at the internationalization process approach to decisions regarding the location of FDIs. The internationalization process framework is a general model that explains various aspects of firms' internationalization - including location choices - as the outcome of a continuous process of learning and commitment of resources to international markets (Vahlne and Nordström, 1993).

Overall, this study gives limited support to the internationalization process approach. The findings support the notion of a positive relationship between the level of experience related to prior involvement in international production activities - termed operation specific experience in this study - and distance to the chosen locations for FDIs. Only weak support was found for a similar relationship between general international experience (measured by the export ratio of a company) and distance. Moreover, no support was found for the hypothesized positive relationship between company resources and distance to FDI sites. Various specifications of the dependent variable - economic, cultural, and geographic distance from the home country to the host country - provided basically the same results. However, the clear results were found for geographical distance as the dependent variable.

Since this study only provides limited support for the internationalization process model, and some other recent studies also find only weak or no support at all for the model (Benito and Gripsrud, 1992; Engwall and Wallenstål, 1988), the validity of the internationalization process model as a general explanation of firms' internationalization behavior must be questioned. In order to explain the lack of support reported in recent studies, Vahlne and Nordström (1993) argue that the process model is probably more valid in the early stages of the internationalization process of a company. Although this argument may have some intuitive appeal, it is not corroborated by our findings. A notable finding in this study is that the results for the subsample containing only the first five FDIs made by any given company, give even less support to the process model than the results obtained for the total sample.

Nevertheless, our results show that there is a positive relationship between operation specific experience and, in particular, geographical distance. This suggests that experience may act as a determinant of location decisions regarding FDIs. Thus, the internationalization process model provides a contribution towards understanding location choices. However, as indicated by the low explanatory power of the regressions, the internationalization process model is apparently - perhaps not surprisingly - a rather partial model.

While traditional economic and geographic approaches to FDI focus primarily on factors that are external to the individual companies, such as demand conditions and competitive structure in the various markets, and factor availability and production costs in different locations, the internationalization process model focuses almost entirely on factors that are internal to the company. In other words, the process model is mainly supply-side oriented. Basically, the model relies on the assumption that company growth is the driving force behind FDI, and predicts that growth takes places along an experiential path. Little attention is paid to the underlying motives for FDI. Thus, the reasons for undertaking a FDI in a given situation instead of, for example, exporting are not accounted for. The same applies to the question of why a given market or country was targeted in the first place.

Both demand-side and supply-side factors must be included in order to explain the location of FDIs. In particular, it has to be acknowledged that firms move into foreign countries for different reasons. Some FDIs are based on resource-seeking considerations, and investments are made in order to gain control over important - often immobile - inputs to upstream activities. Other FDIs are of an "export substituting" kind, where foreign production activities serve to supply a market with finished goods in the presence of trade barriers such as high tariffs and/or transportation costs. Still other FDIs are predominantly motivated by cost considerations; production activities are moved to another country mainly to take advantage of low labor costs in that country. Clearly, the set of countries considered as potential locations for a foreign direct investment is likely to vary depending on the motive for investment. For example, a Norwegian firm that is planning to make a foreign direct investment in order to achieve lower production costs will probably not consider countries close to Norway - regardless of how the concept of distance is measured - as viable alternatives. Experience effects may of course influence the actual choices made by companies, but mainly to the extent that a given site belongs to the set of feasible locations defined by the nature of the business and the rationale for foreign investment. Experience effects, as well as the effect of company resources, may therefore be difficult to detect in a cross-industry study like the one presented here. Our findings should accordingly be regarded as preliminary. This limitation in our study provides an opportunity for future research based on the internationalization process model that controls for different types of foreign direct investment.

Notes

[1]It should be clear, however, that determinants of location do not alone explain why an FDI is undertaken since the question of who owns the productive assets is left unanswered. Thus, the theory of international production must explain both location choices and why companies would own and control operations abroad. The latter question has been analyzed quite successfully by a number of scholars using an "internalization" (Buckley and Casson, 1976) or a transaction cost approach (Rugman, 1981; Williamson, 1981; Teece, 1986). A general economic framework encompassing both location and ownership aspects of international production is set out in Dunning's (1981, 1988, 1993) so-called "eclectic theory".

[2] Although we acknowledge that country-specific experience can be an important location determinant, the effect of such experience will not, due to limitations in our data, be examined empirically in the present study.

[3]An additional reason why larger firms can be expected to be more "adventurous" is that if a distant location is to be considered at all, a firm must possess a certain "market scanning capability".

[4] Standardized scores (Z_i) are calculated as,

$$Z_i = (X_i - \overline{X}) / \ \sigma$$

where σ is the standard deviation.

[5] Data from different years were used. The total sales (TS) figures had to be adjusted in order to make them comparable over time. Using the consumer price index (CPI) for 1979 as the base year the following adjustment was made;

$$TS_{adjusted} = TS_{nominal} / CPI \times 100 .$$

[6] The tolerance of a variable i is defined as $1-R_i^2$, where R_i is the multiple correlation

coefficient when the ith independent variable is predicted by the other independent variables. A low tolerance value means that a variable is a linear combination of the other independent variables (see, for example, Hair *et al.*, 1992).

[7] Inspection of normal probability plots revealed some deviation from normality for the general experience variable (X_1). This was solved by a logarithmic transformation.

[8] In assessing the significance of the individual coefficients, we use one-tailed tests when the coefficient is in the predicted direction, and two-tailed tests if the direction of the coefficient is opposite to the one predicted.

[9] The correlations between number of investments and the size indicators (sales and employees) drop to 0.31 and 0.28 respectively, when only the first five investments made by any company are included in the analysis. The correlation between the operation specific experience variable and the resource variable drops correspondingly to 0.21.

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Chapter 4

Ownership Structures of Norwegian Foreign Subsidiaries in Manufacturing [*]

Abstract: This paper explores how Norwegian multinational companies select ownership structures for their foreign manufacturing subsidiaries. Hypotheses are drawn from various theoretical perspectives on the choice of wholly-owned versus partly owned affiliates. The hypotheses are tested on a sample of 174 foreign direct investments made by Norwegian companies. One main finding is that political risk of the host country strongly increases the probability that ownership of a foreign subsidiary is shared. The results also suggest that cultural distance between the home and the host countries leads to a higher propensity to joint venture. Other results were less conclusive and little support was found for a transaction cost approach to choice of ownership structures.

Introduction

The literature on foreign direct investment (FDI) and the multinational enterprise has mainly focused on the question of why manufacturing companies would choose to establish foreign subsidiaries rather than exploiting their firm-specific advantages by exporting[1]. However, once a company has decided to invest abroad by establishing a manufacturing subsidiary in a foreign country it also faces the choice of ownership structure of the subsidiary. The main alternatives are either a wholly owned foreign subsidiary or an equity joint venture with another (often local) partner.

The issue of ownership structures of foreign subsidiaries has received increasing attention in recent years. Several explanations have been put forward, in particular in terms of transaction cost analysis (Anderson and Gatignon 1986; Buckley and Casson, 1988; Hennart 1988), bargaining power (Gomes-Casseres, 1990; Nygaard and Dahlstrom, 1992), and business strategy (Kogut, 1988; Hill, Hwang and Kim, 1990) and behavioral approaches (Björkman, 1990; Johanson and Vahlne, 1992), while recent empirical studies include Gatignon and Anderson (1988), Kogut and Singh (1988), Gomes-Casseres (1989), Hennart (1991a), Kim and Hwang (1992) and Agarwal and Ramaswami (1992). The available empirical knowledge is, nevertheless, still very limited. Previous empirical studies of companies' choice of ownership structure of affiliates abroad have, with very few exceptions[2], focused on the U.S., either studying ownership strategies of large U.S. multinational companies or investigating how foreign companies have entered the U.S. market. However, given the size of the U.S. market and the vast financial, managerial and technological resources available to many U.S. multinationals, the insights learned from these studies cannot be readily transferred to contexts that deviate strongly from the U.S. The range of options available to small multinationals may generally be more restricted due to limited financial and managerial resources. Also, small MNEs from small countries may face severe behavioral constraints in terms of their bargaining position vis-á-vis governments and business actors in foreign countries.

The purpose of this paper is to analyze the determinants of choice of ownership structure of foreign affiliates. It offers the first large-sample study of the choices made by Norwegian manufacturing companies between full or partial ownership of their subsidiaries abroad. Norwegian FDI provides an interesting empirical context because Norway is a small country with a limited domestic market, and most Norwegian multinationals are, by international standards, relatively small. Due to the small size of their domestic market, Norwegian companies have strong incentives to expand internationally, but since the companies generally are quite small they have to do so with rather limited means. In addition, they have to do without a powerful national government - such as the U.S. - to support and facilitate their international operations (e.g. threat of retaliation if discriminatory or even hostile actions are taken). In sum, Norwegian FDI is an empirical setting which is very remote from the North American context, and which therefore provides an opportunity to assess whether the hypotheses that have been put forward, and mostly been tested for U.S. FDI, are generally valid.

The present study investigates foreign direct investment in vertical and horizontal integration separately. Little attention has been given in previous empirical studies to the type of integration actually undertaken by the companies under study[3]. In fact, most studies do not make it clear what type of integration that has been investigated. In contrast, the analysis presented here provides an opportunity to assess the importance of various factors in shaping ownership strategies of multinational companies in these different contexts.

The paper is organized as follows. The next section gives a short overview of the literature on multinationals' choice of ownership structure of foreign affiliates. Then follows a description of methodology and of the variables used in the empirical investigation. The following section reports the findings. Finally, there is a concluding discussion of the results and their implications.

The choice between joint ventures and wholly owned subsidiaries

Why does ownership structure matter?

Whether to operate in a foreign market by means of a joint venture with a local partner or by setting up a wholly owned subsidiary is a key strategic decision. The importance of choosing an appropriate ownership structure lies to a great extent in its impact on the *level of control* held by a company over the use of its assets. Control, which refers to authority over operational and strategic decision-making (Anderson and Gatignon, 1986; Hill, Hwang and Kim, 1990), makes it easier for a firm to coordinate actions, to implement and revise strategies, and to resolve conflicts and disputes by fiat (Williamson, 1985). As a joint venture entails sharing control with venture partners, the level of control is normally higher in wholly owned subsidiaries than in joint ventures[4].

There are several reasons for why firms would prefer an operation mode that gives a high level of control. In the short run, control may simply be regarded as a way to obtain a larger share of the profit generated by the foreign operation. More importantly, in the long run control not only enables the firm to capture the rents stemming from the firm's specific assets in-use, but also provides an avenue for safeguarding, and incentives for further development, of those assets which constitute the competitive advantage of the firm. Investments in research, in the development of new products and production processes, and in non-standard production equipment (e.g. special tools) are likely to suffer if the investing firm cannot secure the revenue streams generated by such investments. The less control, the more exposed the firm will be to the risk that firm-specific advantages in know-how might gradually erode as the venture partner gains access to them, and the more vulnerable the firm will be to possible hostile (or opportunistic, see Williamson, 1985) actions undertaken by its partner. On the other hand, there are also drawbacks associated with a high degree of control (Harrigan, 1983). Insisting on a high level of control implies in many circumstances that the firm forgoes the opportunity of pursuing strategic actions that for various reasons, e.g. lack of financial and/or managerial resources, lie beyond the capabilities of one firm alone. Choosing a wholly owned subsidiary is ideal only if the company already has all the

necessary resources and skills for entering a foreign market. Thus, the gains from retaining control must be evaluated against the possible gains from linking up with another firm.

Another important aspect of the ownership structure decision relates to the *level of commitment* of resources involved in a foreign operation. A FDI in manufacturing involves some degree of investment in dedicated assets, i.e. assets which cannot be redeployed to alternative uses without substantial loss of value. In many cases such investments can be quite large, for example the making of specialized manufacturing equipment or the erection of a plant in a particular site. Such resource commitments represent a barrier to exit from a operation in a foreign market, and hence reduces the strategic *flexibility* of the firm. By going alone, i.e. setting up a wholly owned subsidiary, a company has to bear all costs of opening and serving a foreign market, and the firm will alone bear the risks associated with the operation (Auster, 1992). Alternatively, some cost-sharing and risk-sharing could be achieved by taking in a local partner into the venture. In addition, the presence of a local partner might serve to reduce the venture's exposure to political risk (Kobrin, 1980; Hennart, 1988; Akther and Choudhry, 1993).

A short review of the literature

The issue of ownership structure of foreign subsidiaries has been analyzed from four different perspectives in particular which have proposed various factors that are believed to have a strong influence on such decisions. Although the approaches differ in many respects, particularly in terms of the emphasis put on the various explanatory factors, they do not provide clearly conflicting predictions. Thus, they should be regarded as complementary rather than conflicting.

The focus of the *behavioral approach* is on the decision-making units' knowledge of foreign markets, and the perceptions, opinions, beliefs and attitudes born out of this knowledge (Aharoni, 1966; Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977, 1992). Generally, the behavioral approach suggests a positive relationship between the decision-making unit's knowledge of foreign markets and the level and pace of the firm's resource

commitments to these foreign markets (Welch and Luostarinen, 1988). The reason is that lack of information and knowledge about particular markets and/or how to operate business functions in unfamiliar settings creates uncertainty and heightens the risk perceived by decision-makers. Thus, decision-makers, who are regarded as being highly risk-averse, are cautious about committing substantial resources to a foreign market. The level of perceived uncertainty is increased when there are large cultural differences between home and host countries, but decreases as more knowledge is acquired. Market knowledge, which often is of a experiential and tacit nature, can be acquired either through actual operational experience in foreign markets (this process however takes time), or by teaming-up with a local firm in a particular foreign country. A joint venture provides access to knowledge of the local market and serves to bridge cultural differences. Accordingly, the behavioral approach predicts that a joint venture is more likely to be the preferred choice when the host and home countries are highly dissimilar in terms of culture, and when the foreign investor is inexperienced in international business operations. In contrast, a high level of resource commitment, i.e. wholly owned subsidiary, is more likely in markets highly similar to the home market and when the investing firm already has substantial international experience (Björkman, 1990).

The *strategy approach* regards the issue of ownership structure primarily as a question of the level of control that is needed in order to coordinate global strategic action (Hill, Hwang and Kim, 1990). In contrast to a so-called multidomestic strategy, where all or most of the value chain takes place in every country, a key feature of global strategy is that the value chain of the firm is configured in such a way that value added at each stage is maximized (Hout, Porter and Rudden, 1982; Porter and Fuller, 1986; Yip, 1989). In the presence of location-specific scale economies this leads to breaking up the value chain so that the various activities are conducted in different countries (Yip, 1989). As pointed out by Hill, Hwang and Kim (1990), achieving coordination of an interdependent global manufacturing system seems to require a high degree of control over the operations of subsidiaries located in different countries. The various subsidiaries must accept centrally determined decisions as to what, how much and to what price they should produce. Such terms do not constitute an

appropriate basis for cooperation, and are hardly likely to be accepted by any joint venture partner. In a similar vein, when an industry is highly concentrated globally, competitive moves may be taken on the basis of strategic objectives that go beyond the narrow calculus of choosing the most efficient mode of operation in a particular market (Doz, 1986; Hill, Hwang and Kim, 1990). For example, a company may undertake an aggressive entry into the home market of a competitor in order to inducing the latter into a fervent defense of its home market position. The rationale behind such an entry is not profitability in a strict sense (as it often involves fierce price competition), but it may nevertheless be consistent with maximization of global profits. The loss taken on operating in the home market of the competitor is simply part of the cost of deterring the competitor from entry elsewhere. To the extent that firms in industries with a limited number of players actually engage in such games, it follows that firms will prefer to have a high degree of control over the behavior of their subsidiaries, partly because competitive moves have to be coordinated but also because certain subsidiaries are likely to run at a loss (which probably will not be acceptable to a venture partner). In sum, companies are likely to have a pronounced preference for wholly owned subsidiaries if they pursue a global strategy, and/or the configuration of an industry is one of global oligopoly.

Transaction cost theory has long constituted a mainstream explanation of the MNE, the essence of the theory being that MNEs evolve as a response to market imperfections for various types of cross-border transactions (see e.g. Buckley and Casson, 1976; Rugman, 1981; Williamson, 1981; Teece, 1986; Hennart, 1991b). The central tenet of transaction cost theory is that firms choose governance structures in order to promote asset utilization while safeguarding against hazards (Williamson, 1985). The starting point in the theory is that markets, by means of the price mechanism, provide efficient outcomes if competition is strong. However, in a complex and uncertain world populated by economic actors of bounded rationality, with incomplete information and opportunistic tendencies, positive transaction costs exist. These costs are the costs of drafting, negotiating, monitoring, and enforcing an agreement between economic actors (Williamson, 1985). The presence of positive transaction costs in the market provides an incentive to organize transactions within hierarchial structures (given, of course, that

bureaucratic costs are less than the costs due to deficiencies in the market). Basically, the MNE is a firm that finds it efficient to integrate business functions across national boundaries. Integration, however, is a matter of degree; the question is not simply whether to integrate or not, but to what extent one should integrate (Anderson and Gatignon, 1986; Gomes-Casseres, 1989).

The hallmark of an equity joint venture is that it combines the services of assets held by two or more separate firms (Buckley and Casson, 1988; Hennart, 1988). From a transaction cost perspective, a necessary condition for a joint venture to exist is that markets for intermediate goods (such as know-how, raw materials, parts and components) held by both potential partners simultaneously fail (if not, the parties would simply coordinate their interdependence through market exchange or through contract). In such situations, incentives for opportunistic behavior, like charging inflated prices or supplying inferior goods, are reduced by making the parties co-owners of the venture (Hennart, 1991b). Both parties should have an interest in maximizing the profits of the venture since they are paid for their contribution in the form of a share of the profit actually made by the venture. However, as noted by Hennart (1988, 1991b) the presence of failing markets for intermediate goods is not sufficient for joint ventures to emerge. Opportunism can also be lowered if one of the parties takes full control, for example through acquisition of or merger with the other party. In fact, one basic problem with partial ownership is that the incentives for a firm to contribute to the venture are not as strong as when it has full ownership (Gomes-Casseres, 1989).

Because complete integration comes at a cost, joint ventures are sometimes an efficient way of organizing. This seems to be the case in two particular instances (Buckley and Casson, 1988; Hennart, 1988). First, a joint venture is likely to be the preferred choice when the non-marketable assets are a small and inseparable part of the total assets held by both potential partners. Second, a joint venture may also be the preferred alternative if a merger or complete acquisition increases management costs to unacceptable levels, which is particularly likely to happen if cultural differences between parties are very large[5]. A joint venture may then provide an avenue for bridging cultural gaps (Gatignon and Anderson, 1988; Hennart, 1988).

The bottom-line in transaction cost theory is nevertheless that a high level of control is crucial if valuable specific assets are present. Thus, when a MNE exploits types of knowledge and goodwill which are difficult to protect it is less likely to accept partial ownership of a foreign subsidiary. Likewise, when the link to a subsidiary involves sourcing from (or supplying to) the subsidiary intermediate goods which otherwise would be transferred through channels prone to market failure, a MNE is likely to insist on full ownership.

The decision regarding an appropriate ownership structure of a foreign subsidiary can be regarded as a question of evaluating the costs and benefits associated with each of the ownership options available (Contractor and Lorange, 1988). The advantage of full ownership versus a joint venture is that all the hassles and compromises emerging from joint ownership are avoided. On the other hand, full ownership implies sole responsibility for the entire risk and cost of the investment. Therefore, availability of resources as captured by the size of the investing firm (both in absolute and in relative terms, i.e. size of the firm in relation to size of the foreign operation) is likely to play a role when the firm considers the potential burdens of full ownership. Additionally, in an international context companies are confronted with a particular form of risk; political risk, i.e. the extent to which a country's political, legal, cultural, and economic environment threatens the stability of a business operation (Davidson, 1982). Joint ventures with local firms are often regarded as a strategy pursued by MNEs in order to reduce political complications, risk of expropriation etc. in foreign countries.

Besides the foreign investor's own preferences for a given ownership option (usually, but not necessarily, the full ownership option), the interests of host country governments may also influence the ownership arrangement (Kobrin, 1988; Gomes-Casseres, 1990), either through restrictive legislation or by negotiating with the prospective investor. Several studies of international joint ventures do in fact view them as MNEs' response to host-government demands (Franko, 1971, 1987; Beamish, 1985). A firm may prefer full ownership, but if the host government's policy is to encourage joint ventures, then the final ownership structure of the subsidiary is likely to be determined in negotiations between the two parties (Doz, 1986). In this process, the relative bargaining power of the parties may affect the outcome

(Gomes-Casseres, 1990; Nygaard and Dahlstrom, 1992). Thus, the choice of ownership structure for a foreign subsidiary seems to hinge on two sets of factors. The first set of factors relates to the firm's preferred ownership structure for a subsidiary, and the second set of factors determines what the firm can get. From the literature it seems clear that the behavioral approach, the strategy approach, and the transaction cost approach, focus mainly on the first set of factors (respectively, the capabilities of the firm, its strategic needs, and the transaction costs of different arrangements for international transfers of capabilities and resources). The *bargaining approach*, on the other hand, focus on factors related to host governments such as the attractiveness of the market to inward FDI, and the alternatives available to each of the actors.

In previous empirical studies political risk, legal restrictions on foreign ownership, and cultural differences have generally been found to favor partnerships (Anderson and Coughlan, 1987; Gatignon and Anderson, 1988; Kobrin, 1988; Kogut and Singh, 1988). The role of specific assets has been studied in a number of studies (Kumar, 1987; Gatignon and Anderson, 1988; Zejan, 1988; Gomes-Casseres, 1989; Hennart, 1991a; Kim and Hwang, 1992). The available empirical evidence gives, however, rather mixed support to the transaction cost argument that high level of asset specificity favors high control modes, i.e. full ownership. While Kumar (1987) and Gatignon and Anderson (1988) report that R and D intensity (a commonly used proxy for proprietary assets) leads firms to favor full ownership modes, insignificant results were reported by Zejan (1988), Gomes-Casseres (1989), and Hennart (1991b). Results for another proxy, advertising intensity, have also been mixed. Using a psychometric approach Kim and Hwang (1992) found that the value of firm-specific know-how did not affect firm's choice of entry mode, while the degree of tacitness of know-how increased the likelihood for firms to choose either wholly owned subsidiaries or joint ventures over licensing agreements (the effect of this variable for the choice between full or partial ownership was not reported). Host country firms' possession of intangible assets that may be valuable to an entrant as been examined in two studies (Zejan, 1988; Gomes-Casseres, 1989), but only Gomes-Casseres found a positive effect of this variable on the probability to joint venture.

The experience factor, acting as a moderator of perceived uncertainty, has been investigated in many studies (Gatignon and Anderson, 1988; Kogut and Singh, 1988; Gomes-Casseres, 1989: Hennart, 1991a). The findings from these studies generally support the contention that less experienced firms often prefer partial ownership over full ownership, suggesting that joint ventures' provision of a risk-sharing arrangement, faster access to the market, and business knowledge of a particular country, are of substantial benefit to the novice entrant. Finally, most studies report that firm size (or alternatively the size of the parent company relative to the size of the foreign affiliate) increases the probability that a subsidiary is wholly-owned (Gatignon and Anderson, 1988; Kogut and Singh, 1988; Agarwal and Ramaswami, 1990).

Hypotheses

The present study looks into factors that shape the choice between wholly-owned and partly-owned foreign subsidiaries in manufacturing. The review of the literature suggested that a large array of factors may influence such choices. However, some of these factors fall short of the empirical investigation in this study. Specifically, the strategy approach will not be considered further. This study only covers foreign investments undertaken by Norwegian companies (very few of them are, by any definition, global players) up to the mid-eighties (that is at a time when global strategies were far less common than today). Thus, the strategy approach appears to be of little relevance for the empirical context under study.

From the literature review it is proposed that the propensity to choose a wholly-owned manufacturing subsidiary will *increase*, *i*) the larger the resource base of the firms, *ii*) the more experienced firms are, and *iii*) the higher the importance of proprietary assets. On the other hand, the propensity to wholly-own foreign manufacturing subsidiaries is expected to *decrease*, *i*) the larger the cultural distance to a host country, and *ii*) the higher the political risk of a host country.

Empirical Analysis

The data

The data material used in the empirical tests presented here are based on information from several sources. The "backbone" of the data base is taken from a survey of Norwegian foreign direct investment originally undertaken by the Norwegian Industrial Federation and subsequently published in the magazine *Norges Industri* in 1984[6]. In addition, information on a number of variables relating to mother companies, industries and host countries have been compiled from various sources and included in the data base.

The data include manufacturing subsidiaries in which the Norwegian parents' stake was at least ten percent. The first investment dates back to 1910, but the majority of investments were undertaken much later, in particular during the 1970s and 1980s. In total the data base consists of 254 cases representing investments undertaken by 104 Norwegian companies[7]. Since this study focus on vertical and horizontal integration, ten cases related to conglomerate expansion were excluded from the analysis. Along with missing variables, this reduced the sample to 174 cases. 125 cases, in other words a clear majority of the foreign operations in the final sample, were horizontally related to the mother companies.

Dependent variable

The dependent variable in the study is the ownership structure of foreign subsidiaries. Ownership is captured by a dummy variable which takes a value of one if the Norwegian parent owned 95 percent or more of the subsidiary's equity, and zero otherwise. The choice of 95 percent as cutoff point is undeniably somewhat arbitrary. 51 percent (Zejan, 1988; Contractor, 1990), 90 percent (Kobrin, 1988) and even 100 percent (Gatignon and Anderson, 1988) have been used as cutoff-values in some studies. By using 95 percent as the cutoff-point this study is in line with several previous studies of ownership choices by multinational companies (Gomes-Casseres, 1989, 1990; Hennart, 1991a)[8]. Yet another alternative would be to use the actual percentage of equity owned by the company. However, as pointed out by, among others, Gomes-Casseres (1990) and Hennart (1991a), one must then assume that the

intervals are constant over the entire range of ownership levels, which obviously is a rather unrealistic assumption. It should be clear that moving from a 50 to a 51 percent stake in a venture has considerable greater consequences for control than moving, for example, from 10 to 11 percent (Hennart, 1991a).

Given the chosen specification of the dependent variable, it turns out that 74 (42.5 percent) of the cases in the sample are joint ventures, whereas the proportion of joint ventures in the original data base is 47.5 percent. Thus, it seems that the final sample is fairly representative of the larger set with respect to the distribution of the dependent variable.

Explanatory variables

The independent variables for the model were suggested in the previous discussion. Some of the variables in the model are characteristics of the mother companies and of the foreign subsidiaries, while others pertain to industry and host country characteristics. This section describes the independent variables in the model, and how each one of them is measured.

Country characteristics

The concept of cultural distance can be defined as "the sum of factors creating, on one hand, a need for knowledge, and on the other hand, barriers to the knowledge flow and hence also for other flows between the home and target country" (Luostarinen, 1979, pp. 131-132). Cultural distance, being such a vague and multifaceted concept, is clearly not easy to measure and quantify[9]. The approach taken in the present study has been to follow some recent studies (Erramilli, 1991; Benito and Gripsrud, 1992) and use an index for cultural distance developed by Kogut and Singh (1988). Thus, cultural distance (*CULTDIST*) between Norway and the host country of a given subsidiary was measured by a composite index based on Hofstede's (1980) four factor framework of cultural dimensions. For a given pair of countries the Kogut-Singh index measures cultural distance as the sum of variance-corrected score differences for the two countries along each of the four cultural dimensions (i.e. uncertainty avoidance, individuality, power distance, and masculinity-femininity). For the purpose of the present study, the actual values of the indices of the four cultural dimensions for the various

countries were taken from Hofstede (1984). Algebraically, the Kogut-Singh index for cultural distance is given as:

$$CULTDIST_j = \sum_{i=1}^{4} \{(I_{ij} - I_{iN})^2 / V_i\}/4,$$

where I_{ij} = index value for cultural dimension i of country j, V_i = variance of the index for dimension i, N = home country (Norway in this case). A large cultural distance heightens the uncertainty perceived by decision-makers and makes it more difficult for an entrant to know how to run an operation successfully. In order to overcome the unfamiliarity with market conditions and with values and operating methods in a host country, knowledge about local conditions is needed. Although this could be done through careful accumulation of "hands-on" experience (e.g. by means of setting up a small operation, for example a sales office, to start with), typically this takes a considerable amount of time. One frequently suggested way of getting access to such knowledge is therefore to team-up with a local firm (Hennart, 1988; Kogut, 1988; Kogut and Singh, 1988). Hence, it is expected that degree of control and cultural distance are negatively related.

Political risk, like cultural distance, is difficult to quantify. Despite the widely held recognition of the existence of political risk, there is no unanimity as to what constitutes that risk and how to measure it (Shapiro, 1991). Although the concept is generally understood to mean the extent to which various economic, social and political factors in a country threatens business' operations there (Davidson, 1982; Gatignon and Anderson, 1988; Ring, Lenway and Govekar, 1990), there is controversy as to whether political risk is primarily a country level (the macro approach) or a firm level (micro level) phenomenon (Kobrin, 1979; Goddard, 1990; Phillips-Patrick, 1990). Several empirical studies (e.g. Truitt, 1970; Farge and Wells, 1982; Phillips-Patrick, 1990) suggest that a country's political risk can in fact vary considerably from one firm to another, even within the same industry.

Although a micro approach may provide a better measure of the political risk facing a given business operation than the more general macro approaches, one of the problems associated with a micro approach is the lack of appropriate data readily obtainable from secondary sources. The present study is no exception. Therefore, the generalized approach used in Gatignon and Anderson (1988), which was based on Goodnow and Hanz (1972), is also used here is order to measure political risk $(POLRISK)$[10]. According to their classification countries are sorted into three clusters: 1 = low risk, 2 = moderate risk, and 3 = high risk. Most countries in the OECD area are considered as "safe" countries. The "moderate risk" group consists mostly of "middle income" countries, NICs and some relatively stable Latin American (such as Mexico, Costa Rica and Venezuela) and Caribbean countries, whereas most LDCs are in the "high risk" category. Although surprises can be found by today's standards (for example, Lebanon and Yugoslavia are in the "moderate risk" group, Saudi Arabia and Turkey are in the "high risk" group), the classification appears credible for the relevant period of time (up to the mid-eighties). Therefore, no changes were made to the original classification. A negative relationship between degree of control and political risk is expected.

Industry characteristics

The concept of proprietary assets is central to transaction cost theory. The essence of FDI is the transfer of a "package" consisting of a combination of financial resources, technology, and knowledge, particularly regarding products and marketing, to another country. Market or contract transactions are, for several reasons, highly unsatisfactory for such transfers; *i*) is it difficult to determine the value and hence the price of "information goods", *ii*) the transfer of tacit knowledge does not take place in an immediate, once-for-all fashion, and *iii*) proprietary knowledge may, if shared, lead to a small-number bargaining situation which is exposed to the threat of opportunism. Thus transaction cost theory proposes that a high degree of control is appropriate when highly specific or proprietary assets are an important part of the FDI package.

Ideally, the degree of proprietary assets should be measured at the firm level (Hennart, 1991a). However, due to lack of appropriate data at the firm level the approach taken here

emulates the bulk of previous empirical studies by using industry-level proxies (e.g. Lall and Siddharthan, 1982; Kumar, 1987; Gatignon and Anderson, 1988; Kogut and Singh, 1988; Gomes-Casseres, 1989). The most commonly used proxy for proprietary content is research and development intensity of the industry of the parent company (*R&D*). The present study uses a classification of Norwegian industries according to their research and development intensity (1 = low, 2 = medium, and 3 = high) that was originally presented in Fagerberg (1987).

In addition to the traditional R and D proxy, another measure - the proportion of non-production workers in an industry - was also tried out in the empirical tests. The rationale behind using this proxy is that a high ratio of "white-collar" employees (sales and marketing people, engineers etc.) should indicate a correspondingly high degree of knowledge assets for firms in that industry (Lall and Siddharthan, 1982). The ratios of non-production workers to total employment (*NONPROD*) in the various industries (at the three-digit SIC level) were gathered from *Industrial Statistics* published by the Central Bureau of Statistics in Norway. From the preceding discussion follows that a positive relationship is expected between both of these variables and the degree of control over a foreign subsidiary.

Company characteristics

From the perspective of the behavioral approach to firms' internationalization, experience is thought to greatly influence the actions taken by a firm. Firms with little international experience, in particular experience from running foreign subsidiaries, are expected to be more willing to team-up with a partner with the necessary knowledge. On the other hand, firms that have made many previous investments, that have operated abroad for a long period of time, and/or that have considerable experience from export sales (which often entails building a network of contacts abroad), can be expected to have accumulated a much larger portion of the required knowledge in-house. Experienced firms are thus less likely to feel a need to share the ownership of their foreign subsidiaries.

Although experience is a multifaceted concept, most previous studies have used simple proxies for international experience (usually the number of investments previously undertaken by a company). The approach taken here is somewhat more elaborate, and arguably better. International operations experience was measured by two indicators; *i*) the number of years since the establishment of a given parent company's first foreign direct investment, *ii*) and the number of foreign direct investments undertaken by the company prior to a focal investment. In order to arrive at a single measure for international experience with respect to foreign manufacturing, an index composed of both indicators was constructed. Since the indicators have different scales, standardized scores (mean = 0, std.dev. = 1) were used[11]. Thus, the variable measuring international operations experience (*INTEXP*) is given as:

$$INTEXP = (Z_1 + Z_2) / 2$$

where Z_1 denotes the first standardized indicator, and Z_2 the second.

Export activities may also contribute to the accumulation of international experience in a firm. Therefore, an additional measure of international experience, the ratio of export sales to total sales for a given parent company (*EXPORT*), was also employed. These figures were taken from the annual publication *Norges største bedrifter*, for the year 1984. Foreign direct investment in production facilities usually involve a substantial commitment of financial and managerial resources. Small firms may not have all the required resources. Furthermore, small firms are more vulnerable if the venture is unsuccessful. Thus, it is expected that the bigger the resource base of a firm, the more likely it is that the firm will choose a wholly-owned subsidiary. The resource base of the Norwegian parent company (*SIZE*) was measured as total sales of a company[12]. The data source for this variable is *Norges største bedrifter*, 1984 edition.

Controlling Variables

A foreign direct investment can be made in the form of a greenfield investment or by acquiring a local firm. One might argue, on theoretical grounds, that ownership structure (wholly-owned versus joint venture) should be independent of the mode of entry (greenfield or versus acquisition) since the required level of control (and flexibility) can be attained in either a greenfield investment or an acquisition (Hennart and Park, 1991). Nevertheless, Stopford and Wells (1972) report that partial ownership appears to be more common in acquisitions than in greenfield investments. One possible explanation for this finding is that acquisitions may, particularly in very unfamiliar contexts, increase management costs to unacceptable levels since "double acculturation" is required (Hennart, 1991b). On the other hand, in a greenfield investment the firm has to build everything from scratch, and it takes time to get the venture fully operational. Thus, if rapid entry is desired (and acquisition for various reasons is not viable) the firm should be willing to share ownership. Therefore, although this variable (*MODE*; 1 = greenfield, O = acquisition) is included in the model, no prediction is made on the sign of *MODE*.

Another controlling variable included in this study relates to economic conditions in a host country. The income level of a host country is measured by the country's GNP per capita in 1983 (*GNPCAP*). Data for this variable were taken from *European Marketing Data and Statistics* and *International Marketing Data and Statistics*, both published by *Euromonitor*. This variable attempts to capture the extent to which host country firms can bring valuable intangible assets of their own to a joint venture. The assumption here is that as a country becomes richer, the level of sophistication of its market economy rises accordingly. As a result, local firms have commercial experience that may be valuable to a foreign entrant (Zejan, 1988; Gomes-Casseres, 1989). The above argument suggests that the probability for taking in a local partner should increase with the level of income in the host country. On the other hand, affluent countries tend to provide stable economic environments where the additional safeguard of taking in a foreign partner into the venture is usually not necessary. Hence, no prediction is made for this variable.

Model and Method

The determinants of the probability of full ownership suggested by the previous section are summarized in equation (1). Table 4.1 summarizes the predicted signs of the variables.

Table 4.1. Summary of Hypotheses on Choice of Wholly-Owned Subsidiaries.

Variables	Description	Predicted direction
POLRISK	Political risk (Goodnow and Hanz, 1972)	Negative
CULTDIST	Cultural distance (Kogut and Singh, 1988)	Negative
GNPCAP	GNP per capita, 1983	No prediction
NONPROD	Proportion of non-production employees	Positive
R&D	R and D intensity (Fagerberg, 1987)	Positive
SIZE	Total sales of parent company, 1983	Positive
INTEXP	International experience index	Positive
EXPORT	export sales / total sales, 1983	Positive
MODE	greenfield entry (1) versus acquisition (0)	No prediction

(1) $OWN = a + B_1\,CULTDIST + B_2\,POLRISK + B_3\,GNPCAP + B_4\,NONPROD + B_5\,R\&D + B_6\,SIZE + B_7\,INTEXP + B_8\,EXPORT + B_9\,MODE$

where $OWN = \begin{cases} 1 \text{ if ownership} \geq 95\%, \\ 0 \text{ otherwise.} \end{cases}$

Because the dependent variable is dichotomous, a logistic regression analysis has been used[13]. The regression coefficients estimate the impact of the independent variables on the probability that the subsidiary will be wholly-owned, i.e. that the Norwegian parent owns 95 percent or more of the equity. The logistic regression model can be written as,

(2) $P\,(OWN = 1) = 1 \,/\, (1 + \exp\,-(a + X_i B))$,

where *OWN* is the dependent variable, X_i is the vector of independent variables characterizing the *i*th observation, *a* is the intercept parameter, and *B* is the vector of regression parameters. These parameters are estimated by using a maximum likelihood iteration procedure.

Table 4.2 shows descriptive statistics for the variables in the model. Two of the independent variables (*POLRISK* and *R&D*) are categorical variables that have more than two categories. These variables were recoded into dummies. *POLRISK* was split into one dummy variable for the moderate country risk group and another dummy for the high country risk group. Similarly, *R&D* is represented by one dummy for industries with medium level of R and D intensity and one dummy for highly R and D intensive industries.

Table 4.2. Descriptive Statistics (Total Sample, *n* = 174).

Variable	Mean	SD	Distribution	
CULTDIST	1.9	1.4		
GNPCAP	8854.2	4148.5		
NONPROD	29.2	14.2		
SIZE	2254.3	5091.5		
INTEXP	0.0	1.4		
EXPORT	44.0	29.7		
OWNERSHIP			Full:	57.5%
			Joint:	42.5%
POLRISK			High:	8.3%
			Moderate:	18.5%
			Low:	73.2%
R&D			High:	11.4%
			Medium:	40.9%
			Low:	46.4%
MODE			Greenfield:	56.2%
			Acquisition:	43.8%

Results

The correlation matrix of the independent variables, reported in table 4.3 does not reveal severe multicollinearity problems. However, the table shows that the correlations between variables related to country characteristics (*POLRISK, CULTDIST* and *GNPCAP*) are relatively high. Therefore, in addition to regression results for the complete model, specifications of the model including only one of the country characteristic variables were also explored.

Table 4.3. Correlations Among Independent Variables (Total Sample, $n = 174$).

	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9
	Spearman correlation coefficients							
X_1	0.56	-0.59	0.11	0.24	-0.09	0.01	-0.22	-0.39
X_2		-0.67	0.07	0.19	-0.13	0.06	-0.10	-0.40
X_3			-0.17	-0.18	0.21	0.04	0.11	0.36
X_4				0.41	0.08	0.20	-0.07	-0.04
X_5					-0.23	-0.26	-0.15	-0.18
X_6						0.52	0.37	0.22
X_7							0.22	0.11
X_8								0.16

$X_1 = POLRISK;$ $X_2 = CULTDIST;$ $X_3 = GNPCAP;$ $X_4 = NONPROD;$ $X_5 = R\&D;$
$X_6 = SIZE;$ $X_7 = INTEXP;$ $X_8 = EXPORT;$ $X_9 = MODE.$

The results of the logistic regression are presented in tables 4.4, 4.5 and 4.6. Table 4.4 shows the regression results for the full sample. Tables 4.5 and 4.6 report the results for the horizontal expansion and vertical expansion subsamples respectively. There are several ways to assess whether or not a logistic regression model fits the data (it should be noted, however, that none of the various goodness-of-fit measures that have been suggested are universally accepted, see Kennedy, 1992). Here two goodness-of-fit measures are reported; the model chi-square and the percentage of cases correctly predicted by the model. Judging by the model chi-squares, it seems that the model performs rather well[14]. All regressions are significant for the total sample as well as for each of the subsamples. The model also performs well in terms

of ability to predict correctly, the percentage of correct predictions ranging from almost 96 per cent (vertical expansion subsample) to 67 per cent (horizontal expansion subsample) when all variables are included in the model. Generally, regressions that include POLRISK give far better fit to the data than regressions without that variable.

Inspection of the parameter estimates in the regressions for the total sample (table 4.4) shows that all significant variables have the predicted sign (in assessing the significance of the individual coefficients, one-tailed tests are used when the coefficient is in the predicted direction, while two-tailed tests are used if the direction of the coefficient is opposite to the one predicted or if no prediction has been made for the variable)[15]. Both dummies for political risk (POLRISK) are consistently negative and highly significant (at $p < 0.01$). This finding suggests, as expected, that companies are reluctant to bear the risks alone when entering countries that are considered as risky. In contrast to Gatignon and Anderson (1988), who found political risk to be significant only for the high risk dummy, the results here indicate that even moderate political risk plays a role in determining ownership strategies. The coefficients of the SIZE variable are positive and significant in all regressions for the total sample. It seems that larger companies are more willing, and more able to, set up wholly-owned subsidiaries abroad. CULTDIST - the cultural distance as measured by the Kogut-Singh index between Norway and a given host country - has negative signs in both regressions where it was entered, but the coefficient (-0.263) is only significant (at $p < 0.05$) when the other country variables are removed from the model (regression III). The results indicate, as expected, that companies are more eager to take in local partners when they enter unfamiliar countries. Finally, the dummy for greenfield entries versus acquisition entries (MODE) is consistently negative, even though the coefficient (-0.596) is significant (at $p < 0.1$) only in regression IV. No prediction was made for this variable, but the results indicate that entry by greenfield increases the probability of sharing ownership.

Table 4.4. Results of Logistic Regression: Maximum Likelihood Estimation Wholly-Owned Subsidiary versus Joint Venture (Total sample, n = 174).

		Coefficients (t-statistics)			
		I	II	III	IV
Constant		3.481 [b]	1.212 [b]	1.262 [b]	0.159
		(2.311)	(2.171)	(2.214)	(0.218)
POLRISK	Moderate	-2.191 [e]	-1.711 [e]		
		(-3.255)	(-3.543)		
	High	-4.567 [e]	-3.275 [e]		
		(-3.283)	(-3.031)		
CULTDIST		-0.208		-0.263 [d]	
		(-1.061)		(-2.039)	
GNPCAP		-0.0002 [b]			7E-05
		(-2.000)			(1.617)
NONPROD		-0.023	-0.017	-0.018	-0.014
		(-1.458)	(-1.122)	(-1.288)	(-1.025)
R&D	Medium	0.147	0.055	-0.131	-0.235
		(0.340)	(0.135)	(-0.332)	(-0.614)
	High	0.609	0.555	0.320	0.299
		(1.040)	(0.948)	(0.594)	(0.561)
SIZE		0.0001 [c]	0.0001 [c]	0.0001 [c]	0.0001 [d]
		(1.290)	(1.429)	(1.428)	(1.650)
INTEXP		-0.078	-0.107	-0.143	-0.173
		(-0.503)	(-0.709)	(-0.978)	(-1.186)
EXPORT		-0.004	-0.002	-0.004	-0.004
		(-0.534)	(-0.243)	(-0.537)	(-0.574)
MODE		-0.184	-0.159	-0.484	-0.596 [a]
		(-0.457)	(-0.409)	(-1.356)	(-1.730)
Model χ^2		46.11	43.52	22.19	19.36
		p=0.000	p=0.000	p=0.005	p=0.05
Correctly classified		72.4%	73.1%	64.0%	60.3%

[a] $p < 0.1$, two tail; [b] $p < 0.05$, two tail;
[c] $p < 0.1$, one tail; [d] $p < 0.05$, one tail; [e] $p < 0.01$, one tail.

The coefficients for the remaining variables turn out to be insignificant. Some of the results are nevertheless interesting. First, from the point of view of transaction cost theory it is worth noting that one of the indicators for specific assets, NONPROD - while not significant - is negative is all regressions. Given that this indicator, the ratio of non-production workers to total employment in an industry, really captures some dimension of the degree of knowledge and skills, these results are not in accordance with the theory. The results for the other proxy for proprietary assets, R and D intensity of an industry, are more in line with the prediction of transaction cost theory. However, the coefficients are consistently positive (but not significant) only for the high R and D intensity dummy. Second, across all companies the experience hypotheses suggested by the behavioral framework are not supported. The results reveal (with two exceptions) negative signs for the coefficients where positive signs were predicted, but none of the coefficients,of the experience variables (INTEXP and EXPORT) are significant. Finally, mixed results are found for the GNPCAP variable. Probably due to the possible collinearity between the country characteristics variables (POLRISK, CULTDIST, and GNPCAP), the sign of the coefficients for this variable changes from negative in regression I to positive in regression IV (where only GNPCAP is included). However, none of the coefficients are significant.

Turning to the regressions for the subsample of horizontal foreign investments (table 4.5), it turns out that the results of the regressions basically reproduce the results for the total sample. Again, POLRISK appears to be the most influential variable in explaining the choice of ownership structure for foreign subsidiaries. All coefficients for the POLRISK dummies are negative and significant, suggesting that the probability of sharing ownership increases when manufacturing operations are undertaken in countries not belonging to the low political risk group. The coefficients for CULTDIST are also negative. The effect of this variable is again more apparent when the other country variables (POLRISK and GNPCAP) are removed from the model (regression III). The MODE dummy is also consistently negative, and significant in regressions III and IV. These results indicate that companies prefer to include a foreign

Table 4.5. Results of Logistic Regression: Maximum Likelihood Estimation Wholly-Owned Subsidiary versus Joint Venture (Horizontal Integration Sample, $n = 125$).

| | | Coefficients (t-statistics) | | | |
		I	II	III	IV
Constant		3.207 [a]	0.945	1.580 [b]	0.747
		(1.820)	(1.409)	(2.313)	(0.795)
POLRISK	Moderate	-1.917 [d]	-1.615 [e]		
		(-2.338)	(-2.740)		
	High	-3.662 [e]	-2.644 [d]		
		(-2.369)	(-2.281)		
CULTDIST		-0.349 [c]		-0.316 [d]	
		(-1.487)		(-1.981)	
GNPCAP		-0.0002			3.6E-05
		(-1.296)			(0.725)
NONPROD		-0.0002	0.003	-0.002	-0.001
		(-0.01)	(0.179)	(-0.089)	(-0.032)
R&D	Medium	-0.099	-0.269	-0.600	-0.756
		(-0.184)	(-0.518)	(-1.203)	(-1.552)
	High	0.532	0.451	0.127	0.0002
		(0.777)	(0.670)	(0.200)	(0.018)
SIZE		-0.0001	-9.9E-05	-0.0002	-0.0001
		(-0.722)	(-0.726)	(-1.125)	(-1.042)
INTEXP		-0.029	-0.084	-0.092	-0.128
		(-0.161)	(-0.486)	(-0.543)	(-0.749)
EXPORT		-0.005	-0.005	-0.001	-0.001
		(-0.536)	(-0.597)	(-0.063)	(-0.126)
MODE		-0.266	-0.285	-0.778 [a]	-0.944 [b]
		(-0.561)	(-0.612)	(-1.853)	(-2.300)
Model χ^2		28.47	26.00	18.10	13.66
		$p=0.003$	$p=0.002$	$p=0.02$	$p=0.09$
Correctly classified		66.9%	68.0%	64.8%	57.3%

[a] $p < 0.1$, two tail; [b] $p < 0.05$, two tail;
[c] $p < 0.1$, one tail; [d] $p < 0.05$, one tail; [e] $p < 0.01$, one tail.

partner when they enter a foreign market by greenfield investment. For the remaining variables the results are quite similar (and still insignificant) when compared to the total sample regression runs. Again, it is noteworthy that the R&D dummies are positive only for highly research and development intensive industries.

Table 4.6 provides the logistic regression estimations for the subsample comprised of foreign investments of a vertical kind. The results reveal some interesting deviations from the results obtained for the horizontal investment subsample. First, all significant effects of the company related variables (*SIZE, INTEXP*, and *EXPORT*) are in the hypothesized direction. Taken together the results suggest, as predicted, that for vertical investments increasing levels of company resources and experience increase the probability of choosing wholly-owned foreign subsidiaries. In contrast, the signs of these variables were consistently negative, but not significant, in the horizontal subsample regressions. Second, the estimates for the industry level variables (*R&D* and *NONPROD*) are even less in accordance with the theoretical predictions. A notable finding is that while the negative coefficients for *NONPROD* were not significant in the horizontal investment regressions, they turn out significant in the vertical investment regressions. Third, the results show that whether a foreign entry was made in the form of a greenfield investment or an acquisition (*MODE*) does not have any clear effect on the ownership structure of vertically related foreign subsidiaries. Conversely, a negative effect was found for horizontally related subsidiaries, i.e. the probability of joint ownership increases when horizontal foreign entries are made by greenfield investments. Finally, as to the effects of the country characteristics *POLRISK* and *CULTDIST*, they are somewhat less pronounced for vertical investments than for horizontal investments. In particular, cultural distance does not seem to influence the choice of ownership structure of vertically related subsidiaries. On the other hand, while *GNPCAP* did not have any clear impact on the ownership structure of horizontal ventures, the results for the vertical investments subsample indicate a positive relationship between the income level of a host country and the probability of choosing wholly-owned subsidiaries.

Table 4.6. Results of Logistic Regression: Maximum Likelihood Estimation Wholly-Owned Subsidiary versus Joint Venture (Vertical Integration Sample, $n = 49$).

		Coefficients (t-statistics)			
		I	II	III	IV
Constant		20.360	14.118 [b]	0.403	-1.699
		(1.414)	(2.171)	(0.268)	(-0.974)
POLRISK	Moderate	-10.694 [c]	-6.361 [d]		
		(-1.647)	(-2.099)		
	High	-29.864	-21.884		
		(-0.448)	(-0.333)		
CULTDIST		1.296		-0.236	
		(1.592)		(-0.751)	
GNPCAP		5.4E-05			0.0005 [b]
		(0.077)			(2.523)
NONPROD		-0.295 [a]	-0.210 [b]	-0.059 [a]	-0.080 [a]
		(-1.994)	(-2.062)	(-1.911)	(-1.847)
R&D	Medium	-3.725	-2.122	0.121	-0.345
		(-1.481)	(-1.155)	(0.130)	(-0.303)
	High	-4.798	-3.102	1.161	-0.2400
		(-1.371)	(-1.244)	(0.738)	(-0.126)
SIZE		5.7E-05	-3.4E-06	0.0002 [c]	6.6E-06
		(0.305)	(-0.032)	(1.300)	(0.044)
INTEXP		1.417 [c]	1.429 [d]	0.338	0.916 [d]
		(1.577)	(1.980)	(0.788)	(1.723)
EXPORT		-0.058	-0.021	0.028 [c]	0.022
		(-1.261)	(-0.595)	(1.599)	(0.992)
MODE		-3.470	-1.364	0.726	0.935
		(-1.291)	(-0.743)	(0.706)	(0.813)
Model χ^2		39.92	35.03	13.87	22.82
		p=0.000	p=0.000	p=0.09	p=0.004
Correctly classified		95.8%	85.4%	77.1%	81.3%

[a]) $p < 0.1$, two tail; [b]) $p < 0.05$, two tail;
[c]) $p < 0.1$, one tail; [d]) $p < 0.05$, one tail; [e]) $p < 0.01$, one tail.

Summary and Discussion

The research presented here offers the first large sample empirical study of the factors which influence the choice by Norwegian companies to establish wholly-owned or partly-owned foreign manufacturing subsidiaries. As such it has provided an opportunity to contrast the insights gained in previous studies, which for the most part have been conducted in a North-American context.

The hypotheses investigated in this study have primarily been drawn from transaction cost theory and from the so-called "behavioral approach". Transaction cost reasoning places great emphasis on retaining control if proprietary assets are at risk. The theory suggests that complete integration of foreign operations is more likely if the basis of the MNE's advantage lies in areas such as valuable product brands, and complex products and production processes, or when the establishment of a manufacturing subsidiary in a foreign location involves investment commitments that greatly increase switching costs. The behavioral approach on the other hand is primarily concerned with the effects of uncertainty and lack of knowledge in shaping the actions taken by companies when entering foreign markets. From this perspective the choice of ownership structure depends basically on two factors; the unfamiliarity of a given foreign context, and companies' prior experience from foreign operations.

The transaction cost hypotheses receive, at best, very weak support. The proxies for proprietary content (*NONPROD* and *R&D*) were in a majority of the regressions insignificant, and many of the signs of the coefficients were opposite to the expected. These results are by no means unique. Several other studies also fail to corroborate the hypothesis that high levels of proprietary assets increase the probability of wholly-owned foreign subsidiaries (Zejan, 1988; Hennart, 1991b). One finding that was contrary to expected and which calls for further comments, is the consistently significant negative coefficients for *NONPROD* in the vertical investments regressions. One possible explanation for this finding is that vertical investments in many cases relate to backward integration. Foreign investments are made in order to

source various resources and intermediate goods, while the final production stages take place in the home country. In such cases, it is quite probable that the actual transfer of specific assets to the foreign affiliate is in fact rather limited, and that the specific assets are mostly employed at home. The need for control due to specific assets is hence low. The need to secure reliable supplies of particular intermediate goods and services may of course still provide a motivation for retaining some degree of control over the foreign unit, but complete integration is apparently not regarded as crucial by the parent companies.

Although the results for the behavioral approach also were rather mixed, in general the results are more supportive of the behavioral hypotheses than the transaction cost hypotheses. In particular, some support was found for the notion that, on one hand, the probability of joint ventures increases as more culturally distant countries are being entered, and, on the other hand, that the probability of wholly-owned vertically related subsidiaries increases the more experienced the firms get. Some indication of a positive relationship between the size of the investing firm and the degree of control over foreign affiliates was also found.

The factor that really seems to have a clear-cut impact on the ownership structure of Norwegian companies' foreign manufacturing subsidiaries is country risk. As expected, in highly risky countries, firms avoid outright ownership of their subsidiaries. A perhaps more surprising result was that even moderate levels of country risk strongly increase the probability of choosing partial ownership over full ownership. As mentioned earlier, the study by Gatignon and Anderson (1988) of U.S. multinationals reported that only high political risk had an impact on their ownership strategies. One explanation for the finding here could be that Norwegian firms, being quite small firms from a small country, are, and must be, far more sensitive to the potential hazards of host governments' hostile actions against foreign enterprises than, above all, U.S. multinational enterprises. To the extent that the *POLRISK* measure also captures some aspects of host governments policies towards inward FDI and their relative bargaining position vis-á-vis foreign enterprises, this results thus provides some indirect support to the bargaining approach. One lesson from this study

is at any rate that the conduct of Norwegian firms appears to be more shaped, perhaps even determined, by *external* factors than their, often much larger, U.S. counterparts.

The study reported here is, of course, subject to limitations. The measurement of some of the variables is open to criticism, especially the proxies for proprietary assets. Clearly, better measures, preferably using multiple indicators at the firm or SBU level, would give more accurate results. Another limitation of this study is that backward vertical investments are, due to limitations in the data material, not treated separately from forward vertical investments. It should be noted, however, that the total number of vertically related investments is quite limited (only 48 cases). Thus, it would probably not be possible to conduct any further statistical analysis based on subdivisions of the vertical investment sample, even if such information were available. Nevertheless, firms' strategies may differ depending on the type of investment being made, and future research should study this more closely.

Notes

[1] For recent surveys of this literature, see Calvet (1981), Cantwell (1991), Dunning (1988), Rugman (1986) and Teece (1986).

[2] Among the exceptions are Zejan's (1988) study of Swedish multinationals and Buckley, Pass and Prescott's (1991) study of a sample of UK manufacturing firms.

[3] Vertical integration into marketing activities, i.e. the institutional arrangements chosen for international distribution, has been studied by Anderson and Coughlan (1987), Klein, Frazier and Roth (1990), and Grønhaug and Kvitastein (1993). However, the focus of the present study is on manufacturing activities.

[4] The relation between ownership and control is not clear-cut. Control can be gained by other means than ownership. A joint venture may feature different levels of control, e.g. low, medium or even high control, depending on other characteristics of the actual arrangement (Schaan, 1988). For example, a licensing agreement in association with a joint venture may be an important means of raising the effective level of control in the venture (Luostarinen and Welch, 1990).

[5] An additional reason for why full ownership of complementary assets is not always the most efficient solution is that full integration can distort the incentives of managers of the acquired firm (Grossman and Hart, 1986). Williamson (1985) argues that a large organization may find it difficult to replicate the incentive structures of smaller entrepreneurial firms. By leaving some of the equity with the entrepreneurs, partial ownership arrangements may maintain incentives that would be lost in a full acquisition (see Pisano, 1989).

[6] The Norwegian Industrial Federation completed a total of four surveys of Norwegian foreign direct investment (1969, 1974, 1982 and 1984). Each survey gives a fairly good coverage of the actual foreign involvement in manufacturing by Norwegian companies in each of these years. Data for 1984 are used here because they are the most recent.

[7] According to official statistics from the Bank of Norway, 385 foreign subsidiaries in manufacturing were owned or partly owned by Norwegian companies by the end of October 1984 (Hansen, 1984). The data base used here covers only investments up to the middle of 1984. The figures are therefore not completely compatible. As the outflow of Norwegian FDIs increased steeply during the eighties, some of the discrepancy could be accounted for by the difference in the termination dates of the two data collections. Nevertheless, although the coverage is quite good - about 2/3 of the total population - it should be noted that the data base is not necessarily representative for the population of Norwegian FDI in 1984.

[8] Some studies have also used multiple categories of ownership (Gatignon and Anderson, 1988; Agarwal and Ramaswami, 1990). However, as reported by Gatignon and Anderson (1986) little seems to be gained by using multiple instead of dichotomous categories. Various operationalizations of ownership were also tried by Hennart (1991a). In general, the results from these studies appear to be quite robust with respect to the specification of the dependent variable.

[9] For a discussion of the problems associated with measuring cultural distance, see Benito and Gripsrud (1992).

[10] Goodnow and Hanz (1972) collected data on fifty-nine political risk indicators for one hundred countries during the 1960s.

[11] Standardized scores (Z_i) are calculated as:

$$Z_i = (X_i - \overline{X}) / \sigma$$

where σ is the standard deviation.

[12] A number of other measures, such as firm's assets (Kogut and Singh, 1988) or number of employees (Grønhaug and Kvitastein, 1993), have been used in previous studies. These indicators tend to correlate strongly with total sales.

[13] An alternative technique is discriminant analysis. The logistic regression model was chosen because it requires fewer assumptions and is more robust to violations of the underlying assumptions than discriminant analysis (Press and Wilson, 1978).

[14] The chi-square is the test-statistic for the null hypothesis that all of the coefficients are zero. This is comparable to the overall F-test for OLS-regression (Norušis, 1992).

[15] The ratio of a coefficient to its standard error can be treated as a t-statistic (Engelman, 1988).

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Chapter 5

Foreign Market Servicing: Beyond Choice of Entry Mode [*)]

Abstract: This article focuses on the operation method (or entry mode) that a company utilizes in developing its involvement in a foreign market. An overview and critique of "economics" and "process" approaches to this issue is undertaken. It is argued that both approaches use relatively constrained frameworks of influences on mode choice, and have yet to come to terms with the frequent reality of operation modes in combination. Methodological and conceptual issues arising out of the analysis are considered as a basis for moving forward the research in this area.

Introduction

The foreign market servicing decision has been the subject of considerable attention by researchers recently - even being described as a "frontier issue" in international marketing (Anderson and Gatignon, 1986; Kogut and Singh, 1988; Welch and Luostarinen, 1988; Hill, Hwang, and Kim, 1990). What appears to be emerging from the many strands of research is a recognition that foreign operation mode (or entry mode) decisions are critical in establishing ·the basis of a firm's foreign market penetration capacity and that effective internationalization may well require the use of a broader array of operation modes (Luostarinen and Welch, 1990). For example, research into the activities of U.S. "cutting edge" and "Fortune 500" firms indicated a trend toward "more flexibility and imagination in overseas operations," including greater use of contract manufacturing, joint ventures, and licensing (Ryans, 1987, p. 153). Since the mid-1980s there has been a noticeable rise in the use of international strategic alliances and other cooperative modes in international business operations (Ohmae, 1989). Likewise, the growth of franchising activities in many countries, beyond the United States, has begun to filter through into increased global use of franchising as a means of internationalization (Welch, 1990).

In this article the foreign market servicing decision is examined first by reviewing the two main approaches to this issue: a so-called "economics" stream, and a behavioral/process stream that could be loosely termed "internationalization theory" (Johanson and Vahlne, 1977, 1990). While considerable progress has been made in both streams, substantial deficiencies still exist, for example, in dealing with foreign market servicing as a choice of modes in combination rather than on a singular basis. The methodological and conceptual issues raised by this analysis are then considered as a basis for moving forward the depiction and explanation of the choice of foreign market servicing modes.

Choice of Operation Mode: An Economics Perspective

Internationalization exposes companies to an array of new challenges, including deciding on appropriate arrangements for organizing their business activities in foreign markets. The alternatives are, at least in principle, numerous. Apart from the location effect differentiating exports from other servicing methods (Buckley, 1989), foreign market servicing methods have been characterized along several dimensions: degree of control (Anderson and Gatignon, 1986; Root, 1987), level of risk and resource commitment (Hill, Hwang, and Kim, 1990), and skill requirements (Grønhaug and Kvitastein, 1993). Also, from the viewpoint of the individual company, the various market servicing methods represent different levels of involvement and organizational commitment to a foreign market (Johanson and Vahlne, 1977; Welch and Luostarinen 1988).

Several frameworks of the choice of foreign market servicing method have been advanced in the literature - a recent overview is provided by Young et al. (1989). Much of the reasoning has been rooted in economics. Anderson and Gatignon (1986) developed a model of choice of mode based on transaction cost theory. Focusing mainly on control considerations, they suggested that the degree of control inherent in a given operation method is a function of ownership structure. Thus, licensing and various other contractual arrangements are low-control modes, while a fully owned subsidiary would allow the internationalizing firm to enjoy a high degree of control over a foreign operation. Anderson and Gatignon (1986) then proposed that factors likely to cause high transaction costs - asset specificity, external and internal uncertainty and free-riding potential - should be positively associated with the level of control offered by the market servicing method chosen by a company. Hill, Hwang, and Kim (1990) introduced some additional explanatory factors. They argued that modes differ not only in their level of control, but also with regard to resource commitments and dissemination risk; that is, the risk that firm-specific advantages in knowledge will be expropriated by a foreign partner. In their model, the market servicing decision is treated as a function of three broad groups of variables: strategic variables, environmental variables, and transaction cost variables. Strategic variables, such as the extent of scale economies and

global concentration, influence the mode decision primarily through control requirements. For example, firms that pursue global strategies are, *ceteris paribus*, likely to prefer a high-control mode - i.e., fully owned subsidiaries. The resource commitment aspect of mode choice is influenced by environmental variables. For instance, when country risk is high and/or when cultural distance is large, firms are likely to select low-resource commitment methods in order to retain strategic flexibility. Finally, the dissemination-risk aspect of operation methods is mainly influenced by transaction cost variables such as the value of firm-specific knowledge assets and the nature of this know-how. Thus, the more valuable and/or tacit the know-how, the greater the probability that the firm will choose a mode involving low dissemination risk, such as a fully owned subsidiary.

The above economics approach indicates an attempt to build a more comprehensive model of operation mode choice, although still within a highly constrained decision-making framework.[1] Despite this widening, perhaps inevitably, concerns have still been raised about the limitations of the assumptions underlying the frameworks, such as their rather simplistic view of organizational decision-making behavior and the degree of rationality assumed (Macharzina and Engelhard, 1991; Calof, 1993). For example, one simplifying assumption is the notion that different modes entail different (objective) relative levels of control, resource commitments, risk, etc., which again are regarded as largely a function of ownership. Control, however, can also be gained by means other than ownership. A joint venture may feature different levels of control - high, medium or even low control - depending on other characteristics of the actual arrangement (Schaan, 1988). A licensing agreement in association with a joint venture may be an important means of raising the effective level of control (Luostarinen and Welch, 1990). Such combinations have rarely been dealt with in the literature as the frameworks do not encompass bundles or packages of methods for servicing a foreign market as viable alternatives. Moreover, the *perceived* levels of control, risk, etc., offered by a given operation method, may vary considerably across different firms.

In addition, there has been a lack of attention to the dynamics of foreign market servicing in the economics approach because of a primary focus on how firms, as rational economic

actors, arrive at a more or less "optimal" mode of *entry* into a particular foreign market at a given point in time. Less attention has been paid to *changes* to the initial entry decisions, to how relationships between entities *evolve* over time and influence the decision-making process, and to how market servicing decisions *interact* with other aspects of the internationalization of the firm. In a review of foreign market servicing theories, Buckley (1989, p. 83) has noted: "The preceding theoretical frameworks have a limited dynamic content and it is in this direction which theory must develop to encompass the complexities of market servicing strategies." This echoes a much earlier concern about the lack of dynamic considerations in foreign direct investment theory - one that still remains to be adequately addressed (Horst, 1972; Hirsch and Meshulach 1991). A similar concern has been evident in the strategic change field; and in a review of research, Johnson (1988, p. 58) has argued that "we no longer need to demonstrate that the rational models are inadequate descriptions of process."

Choice of Operation Mode: A Process Perspective

The alternative main approach to foreign operation mode decision making involves a process perspective. Here there is a strong emphasis on behavioral factors as driving forces over time in internationalization, of which any given step is seen as an integral part of the overall process. While the operation (or entry) mode dimension is only one aspect of internationalization, it has been the subject of considerable research because it is one of the most overt signposts of the unfolding pattern for individual companies - as compared to, say, the human resources dimension (Welch and Luostarinen 1988). Various patterns of operation mode development over time - "establishment chains" - have been revealed by diverse empirical studies. The most consistent pattern is one of "evolution rather than revolution" - i.e., from low-commitment to high-commitment modes gradually over time (Johanson and Vahlne, 1990; Buckley and Ghauri, 1993). More recently, though, there is evidence of firms leapfrogging some steps used in past establishment chains, and a general speeding up in the whole process (Nordström, 1991).

The more holistic research on internationalization and its various component steps has not been specifically focused on each foreign market servicing decision but rather on determinants of the overall process. Of course, if such overall process influences are of significance, they must therefore be important factors at particular points when operation mode decisions are in prospect, in combination with any distinctive situational influences. Nordic researchers, particularly, have been responsible for much of the early research on internationalization as a process, and for exploring the impact of such variables as learning activities, which provide a feedback link from past to current international operations (Johanson and Vahlne, 1977, 1990; Johanson and Wiedersheim-Paul, 1975).

Experience, Knowledge, Control, and Risk Factors

The Nordic explanation of internationalization has placed particular stress on the contribution of knowledge and experience. The greater the depth of knowledge and experience in a foreign market, it is argued, the more confident a firm tends to be about making commitments, and about its judgment of the degree of risk exposure. Relevant knowledge and experience is, however, acquired preeminently through actual foreign marketing activities, providing an important feedback loop in the process. Without appropriate experience and knowledge, from the decision maker's perspective, there tends to be a stronger sense of risk and uncertainty, which is likely to constrain the market servicing decision. At the same time though, perceived risk exposure can be altered by the choice of foreign operation mode: for example, high risk might be counterbalanced by the use of a low-commitment mode such as licensing. As an illustration of these factors, in a study of small exporting and nonexporting U.S. firms, Yaprak (1985, p. 81) concluded: "The primary implication of these findings is that the export behavior of smaller firms follows a learning curve with competence, knowledge, and confidence increments accumulated marginally in successive phases."

Nordic research also indicated how control concerns could affect the choice of operation form and were connected with risk, knowledge, and experience factors. Without knowledge of and experience in a foreign market it is clearly difficult to achieve effective control of operations.

Therefore, the firm tends to be less prepared to operate in ways that require stronger involvement and control, instead depending more on locals with the requisite local knowledge and networks. Deeper experience can of course shift the balance and allow deeper commitment. For example, the Australian multinational Brambles, which specializes in the security and materials handling area, has stressed the role of experience in modifying its approach to European operations, shifting from "lower risk" joint ventures initially to wholly owned subsidiaries over time (Thomas, 1988, p. 127).

However, research by Erramilli (1991), on U.S. service companies, has shown that such connections are not necessarily straightforward, having found that the desire for control of foreign operations was relatively high for firms with little experience, low for firms with moderate experience, but rose to a high level again for firms with extensive international experience. It might be argued that the drop in desire for control is explained partly by the nature of service companies' international operations whereby it is easier and cheaper in many cases to establish an entry point in a foreign market than to set up, say, a full manufacturing facility. Initially, in culturally similar markets, companies are probably more able and prepared to assume control, but as they move into less familiar locations, there tends to be less confidence and a stronger feeling of needing local partners in order to successfully adapt. This was the case when McDonald's took on a joint venture partner for its Japanese operations (Erramilli, 1991; Love, 1986).

In a similar vein, earlier research indicated that some firms perceive higher levels of risk and uncertainty as internationalization proceeds, in response to increased information and knowledge (Welch and Wiedersheim-Paul, 1980). Decision makers with an entrepreneurial orientation and a strong focus on international market opportunities may have limited awareness at the outset of the more practical demands or "problems" of foreign market penetration. Such ignorance may also flow from the fortuitous, unplanned way in which so many firms achieve a start in foreign operations (Bilkey and Tesar, 1977). As companies gain experience and seek external information and advice, they may become more conscious of and concerned about the problems and risks of international involvement; in general, the

tendency may well be to induce greater care and caution in subsequent foreign moves. In some cases this will lead to reversals of foreign market involvement or even total withdrawal (Welch and Wiedersheim-Paul, 1980; Smith and Zeithaml, 1993).

Figure 5.1.
International Experience and Foreign Market Commitments:
A Hypothetical Example.

Foreign Market
Commitments

International Experience/Knowledge Development
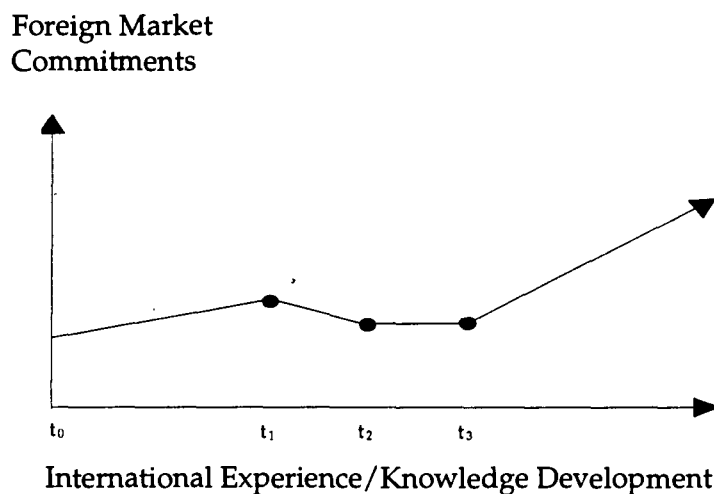
Figure 1 illustrates an example of reversal in foreign market involvement. In the initial stages (t_0 to t_1) the company expands its foreign market commitments and, through related activities, increases its international experience and knowledge. However, at t_1, because of what it has learned about the requirements of international operations, it decides to reduce its commitments - perhaps withdrawing from some markets. From t_2 to t_3 its reduced foreign market position is maintained, although knowledge and experience continue to develop. After t_3, the company feels assured enough to resume expansion of its foreign market commitments. Clearly, many pattern variations on this example are likely to be found in actual cases. In general they illustrate that although greater international experience and knowledge normally empower a company to expand its international activities, it may also act in seemingly perverse ways to constrain forward steps at some stages of the overall process.

Networking

An integral part of the process of internationalization is the establishment, maintenance, and expansion of networks of relationships in foreign markets. In fact, much of what is involved in international operations could be characterized as networking activity. Relationships have to be built with a wide range of organizations and individuals - foreign customers, intermediaries, banks, government officials, and the like. Extensive European research has demonstrated just how widespread and long-standing the resulting networks may become (Håkansson, 1982; Ford, 1990; Forsgren and Johansen, 1992). Much of the critical information and knowledge about foreign markets is contained in the networks that a company is able to develop - anchored by key actors within them. Contacts between people, both formally and informally, in social and work situations, form the heart of networking activity (Cunningham and Homse, 1986). As such, people can add or remove network connections and knowledge as they move to new positions. Overall then, network development, in its many facets, emerges as an additional explanatory factor in the ability and preparedness of a company to expand its foreign market servicing commitments.

Resources

While resource availability has not been a particular focus of much of the research on internationalization, it has nevertheless been shown to be an important issue facing companies at various stages when operation mode decisions are being contemplated. For example, smaller firms, given their limited financial resources, can be expected to face a narrower set of viable foreign market servicing options than larger firms (Bonaccorsi, 1992). Numerous studies also report, as expected, that the likelihood of using daughter-companies in order to service particular foreign markets increases with the resource base of the firm (Horst, 1972; Grubaugh, 1987; Terpstra and Yu, 1988; Agarwal and Ramaswami, 1992).

The *human resources* dimension is one element of the broader resources question that has been increasingly drawn into the analysis of foreign market servicing. One study even concluded that human resources policy ought to be leading rather than following overall international strategy (Luostarinen and Svärd, 1982). A shortage of persons with appropriate skills,

knowledge, and international orientation can be a brake on internationalization-while appointing the wrong person to manage operations in a given foreign market can have disastrous consequences for some time in that market (Tung, 1982; Dowling and Welch, 1988). Research has also shown that managerial succession can be a key factor in explaining major new steps in a company's internationalization process - including "leapfrogging" over intermediate steps directly to the more advanced entry form of a foreign direct investment (Björkman, 1989, 1990; Björkman and Eklund, 1991). The examples noted above illustrate that resource development, in its many forms, can have a significant impact on whether and how a company takes on foreign market commitments. Resource availability to carry on international operations, though, is affected not just by specific decisions to support development but also by the ongoing process of internationalization and its outcomes.
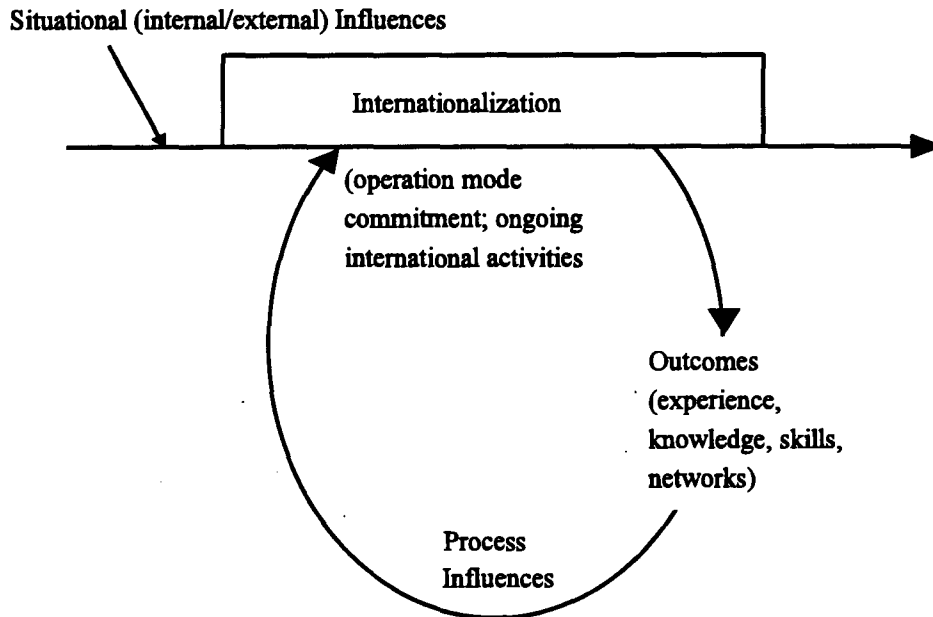
The Process Perspective and Situational Influences

The research on internationalization has focused on better understanding the process by which a company builds its international operations, with an emphasis on the key variables driving forward momentum. A number of variables are active in the process - typically interconnected - and act at times to constrain additional steps forward, but over time may change in ways that make a company better able and more willing to extend international involvement. Such factors not only influence internationalization and its component parts, including foreign operation modes, but are also affected by the process, thereby providing a mechanism for positive (and negative) feedback loops through time, as shown in Figure 2.

When considering the operation mode step as part of internationalization, process variables, however important in any particular case, are unlikely to provide a full explanation of any decision undertaken. Many other influences may be operative; in general, they can be labeled as situational (see Figure 2), deriving from the company's internal and external context (Pettigrew, 1988). Internal situational variables that could be important are the financial state of the company, decision-maker attitudes, and the degree of utilization of production facilities. Because of internal problems, a company may opt for a low commitment mode in response to a foreign market opportunity.

Figure 5.2.

Process and Situational Influences on Internationalization.

Situational (internal/external) Influences

Internationalization

(operation mode
commitment; ongoing
international activities

Outcomes
(experience,
knowledge, skills,
networks)

Process
Influences

External context or environmental variables can also be important in mode choice. Pettigrew (1988, p. 6) argues that in the strategy change field process researchers have tended to "de-emphasize the explanatory role of outer context variables," whereas they require more complete incorporation into models of change. It could similarly be argued that process models of internationalization need to take greater account of external variables - despite recognition of their influence. The sometimes erratic character of internationalization for individual firms appears to be related to the seeming randomness with which opportunities and threats relevant to international activity arise in a company's external environment. This is often due to the action of external change agents, as indicated by research into licensing (Lowe and Crawford, 1982), exporting (Bilkey and Tesar, 1977) and franchising (Welch, 1990). Required on such occasions is a rapid response to an opportunity that arises in a very specific form (Cullen, 1986). As a result, it may not be a question of considering the alternatives available - of operation modes, locations, and so on. Rather, it could well be that the critical issue is how a specific option fits the current and future objectives of the company, judged

from the perspective of its current situation and past international operations. Research into the foreign direct investment move by Finnish companies indicated a restricted choice range (Larimo, 1987). Likewise, in a study of a sample of Canadian companies, it was found that only 18 percent had considered alternative modes in the decision-making process when changing foreign operation modes (Calof, 1993).

In attempting to understand and explain the decision process itself, there is a danger of overfocusing on the particular stimulus or stimuli that started consideration of a particular project, as this may obscure the underlying reasons for the interest and ultimate go-ahead if it occurs (Macharzina and Engelhard, 1991). For example, a common triggering cause of companies shifting from the use of agents to setting up sales subsidiaries in foreign markets is difficulties encountered with particular agents. The preparedness to make this move is often explained by emerging control concerns, but this will be typically linked to better knowledge of and accumulated experience and skills in the foreign market. In general, there fore, the decision represents a response to a conjunction of emerging process influences and triggering events - often external to the firm.

Some models of operation mode choice incorporating process elements as well as internal and external context influences have been developed, although they have tended to focus on specific steps in internationalization - for example, exporting and franchising (Wiedersheim-Paul, Olson, and Welch, 1978; Welch, 1990). Even at the initial international step, important process influences were evident, although closely linked to external and, even more so, internal behavioral factors.

Pattern Change - Impact on Explanation?

One direction of empirical research on internationalization has been further study of patterns of foreign market servicing over time in different foreign environments. While earlier research in other countries indicated similarities to the Nordic pattern (Johanson and Vahlne, 1990), increasingly this has been challenged, even from within the Nordic countries, as different studies reveal many exceptions to the incremental path (Hedlund and Kverneland,

1985; Björkman and Eklund, 1991; Nordström, 1991; Benito and Gripsrud, 1992). To some extent the research in this area has taken on a "straw man" quality, with departures from the "typical" establishment chain of operation modes - i.e., from no exports to exporting via an agent, then a sales subsidiary, then a production subsidiary, being taken as disproving the "Nordic internationalization model" (see for example Turnbull, 1987). Clearly though, the notion of what is an incremental international step in one context may vary considerably in another - yet the same internal driving forces may have been in operation. Much depends on individual decision-maker perception.

As a general impression, companies in the 1980s seem to have been more prepared to utilize experience and knowledge gained from one foreign environment and apply it to other environments in a way that has enabled more widespread leapfrogging of the establishment chain shown in Nordic research, but with incrementalism still apparent (Nordström, 1991). Better understanding of the process, though, probably requires a move away from simplistic pattern measures, from which wide-ranging inferences about process are sometimes drawn. For example, the categories of agent and sales subsidiary are relatively broad, masking a wide range of feasible variation in types of operation within them (Bonaccorsi and Dalli, 1990). Also, more account needs to be taken of other forms of operation that may complement or sometimes replace the traditional steps used in measuring the establishment chain.

Clearly then the measuring sticks of internationalization, typically focused as they are on major operation mode steps, need both broadening and deepening if further light is to be shed on the debate about this topic. What is probably required is not just a charting of the main steps in the process, but the measurement of smaller steps in between, such as the appointment of additional staff, which may be less apparent but nevertheless important in advancing the process, and in understanding more substantial and obvious changes in foreign market servicing.

Operation Modes in Combination

In modeling the entry mode or foreign market servicing decision, from both economics and process perspectives, there has been a focus on the choice of individual modes rather than the prospect of using a combination of modes in a foreign market at a point in time. For example, in a recent review of earlier studies, Kim and Hwang (1992, p. 29) noted: "Common to existing studies . . . is their assumption that each entry decision is made in isolation." While this reduction of the decision-making situation has simplified model building and eventual testing, it has been at the expense of reflecting the reality of the situation that companies frequently face - of not simply choosing one method versus another, but rather of putting together the most appropriate *package* of methods for penetrating a foreign market.
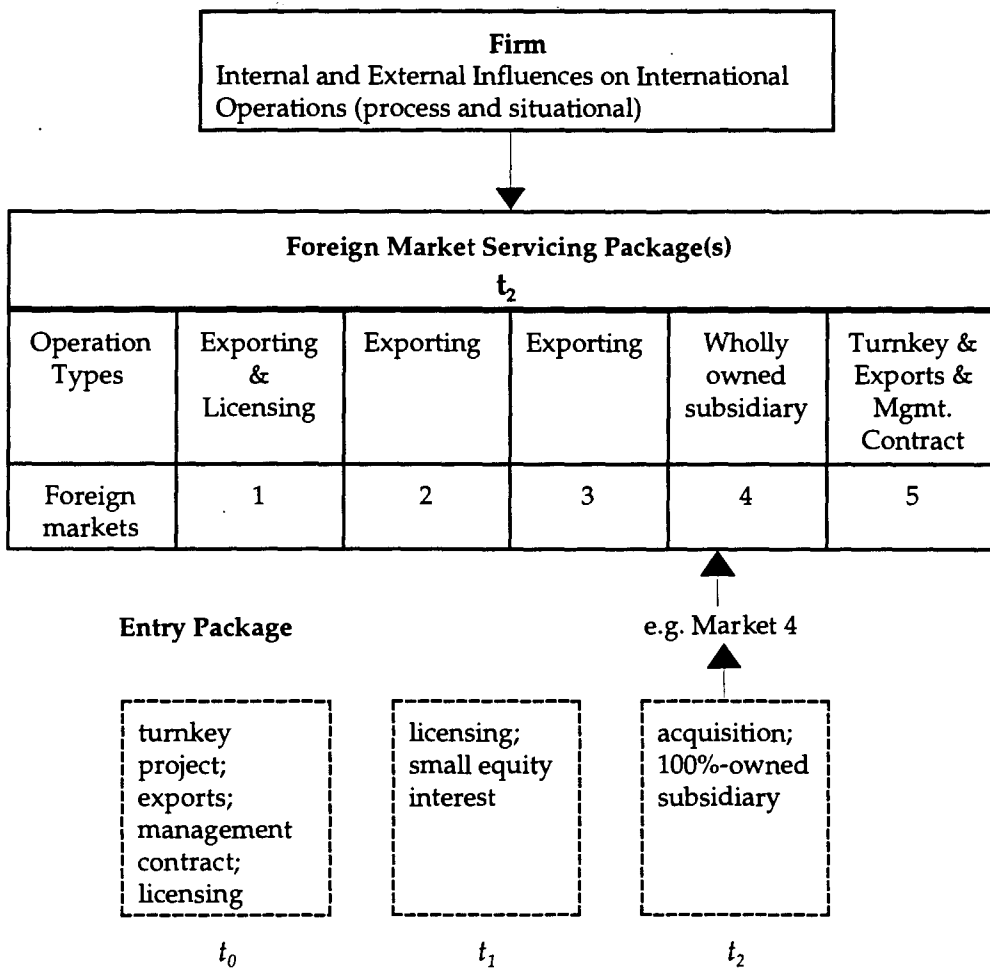
Figure 3 presents an illustrative example of the range of foreign market servicing methods that a company might use in different foreign markets at a given point in time (t_2), in response to the type of internal and external influences noted previously. While in some markets a single mode may be used (markets 2, 3, and 4), in others a combination or package of modes might be employed (markets 1 and 5). The firm's foreign market servicing pattern shown at time t_2 could be the outcome of a number of package alterations during preceding periods, as illustrated for Foreign Market 4. In this market, the company is shown as using a broad package at its entry point (t_0), which led to an altered package at time t_1, then full acquisition of the operation at time t_2.

Research into the use of management contracts in international operations, for example, has shown that most management contracts are used in connection with other modes of operation (Brooke, 1985). In one case a Swedish company entered a Middle Eastern market via a turnkey operation at the outset, but also took a small equity position in the foreign venture, along with a management contract involving management of the continuing operation (a dairy farm and milk processing unit). As a result of its insider position, the Swedish company was not only able to maintain its place as principal supplier to the venture of spare parts, equipment, and the like, but later won the contract for a new turnkey project that represented

an extension of the earlier one (Sharma, 1984). The management contract's full role and significance in this case, from the perspective of foreign market penetration, were developed within the context of the total package of foreign market servicing activity by the Swedish company. Likewise, the contribution of different parts in the overall package differed over time-although ultimately fitting into a cohesive whole. However, only in the longitudinal perspective is it fully clear what roles the different parts of the foreign operation package play.

Figure 5.3.

Foreign Market Service Packages.

Firm Internal and External Influences on International Operations (process and situational)

Foreign Market Servicing Package(s) t_2				
Operation Types	Exporting & Licensing	Exporting	Exporting	Wholly owned subsidiary	Turnkey & Exports & Mgmt. Contract
Foreign markets	1	2	3	4	5

Entry Package   e.g. Market 4

turnkey project; exports; management contract; licensing	licensing; small equity interest	acquisition; 100%-owned subsidiary

t_0 t_1 t_2

In general, therefore, from a company's perspective, an important question is not only the fit and contribution of the different parts of an operation package at a particular point in time,

but also the fit and contribution over time. The longer term potential of a given market and, more particularly, of different combinations of operation packages to exploit it may not be foreseen or even considered in decision making at the outset; therefore, alterations over time will often take on the character of emergent strategies (Mintzberg and McHugh, 1985). In his study of foreign licensing activity by Swedish companies, Svensson (1984, p. 223) found that where a stepping stone strategy from licensing to other operation modes was used it "was seldom intended from the beginning but emerged as the firm's financial resources and management production and marketing skills increased." However, the ability of a company to respond to any possibilities that emerge may be affected by the form in which the initial foreign entry package is constructed - as the case of the Swedish company in the Middle East noted above demonstrates. A licensing and/or joint venture arrangement might of itself restrict the ability of a firm to switch to other operation forms.

If the choice of any particular foreign operation mode is undertaken in a package context, the decision to actually use it may have little to do with its normally assumed foreign marketing role, but rather could be explained by the way in which it contributes to the functioning of a broader package. An illustration is the way in which licensing activity is often linked to foreign direct investment. Despite its potential as an independent contributor to foreign market penetration, its primary purpose in this context may be as a means of achieving more effective control over a joint venture partner, to transfer funds from the subsidiary, and/or to reduce taxation payments in the country concerned (Luostarinen and Welch, 1990). In such situations, the choice setting commonly employed in studies of entry mode choice noted previously becomes highly inappropriate.

Accepting the broadened choice situation poses a significant problem for economics-based models of entry mode choice because of its attack on the assumption of isolated choice between single modes (Kim and Hwang, 1992). Additionally, the issue has not been accounted for in process-oriented studies, which are typically based on relatively restricted measures of internationalization, as noted previously. In fact, tracing the influence of process-related variables through time becomes much more difficult when packages of modes

are involved, as their impact may be more diffused (and less obvious) through parts of the package. For both economics and process approaches though, an extended range of questions associated with the packages themselves becomes important in the mode choice context; for example, why do companies use single versus multiple modes of operation and why do they move into and out of these formats over time (see Figure 3)?

A Way Forward? Methodological Issues

The preceding analysis of the two main approaches to foreign operation mode choice has exposed a number of issues that need to be confronted in order to advance models of the decision-making process, and in general to enhance understanding of an important question in effective international business operations. The issues can be broadly classified as methodological and conceptual, although there are some connections between them. Both economics and process-oriented approaches have been criticized for their lack of dynamics - perhaps surprisingly so in the latter case. It can be argued that not only is the time factor poorly integrated into explanations (Andersen, 1993), but the process of moving from lower to higher commitment modes in international operations is not adequately developed. To some extent, such problems have been accentuated by the type of empirical methodology used in this area, i.e., typically cross-sectional studies that are not very well designed to pick up the longitudinal processes at work (Macharzina and Engelhard, 1991; Melin, 1992). In commenting on their survey of Finnish foreign direct investment in Germany, Björkman and Eklund (1991) observed that "so far little in-depth case research has been conducted on the internationalization process of the firm." They added that there was a need for case studies to be conducted "preferably carried out on-time as the processes evolve" (Björkman and Eklund, 1991, p. 818). In a recent study of the internationalization process of Swedish companies, Nordström (1991) also called for a return to exploratory research and in-depth longitudinal studies as a way of building new descriptions and understanding of the process.

Such an approach does, of course, become more difficult as the complexity of a firm's international operations increases - especially when it involves a number of subsidiaries in diverse locations. Staff at headquarters do not necessarily have a complete picture of what is driving the company's global developments as some subsidiaries may be able to build operations, even in third countries, independently from headquarters direction (Forsgren, 1990; Forsgren and Holm, 1991). As a result, tracing decision-making processes through time in large international companies, even on an individual-case basis, is bound to be a very demanding exercise.

An emphasis on "in-process" investigations appears to be particularly appropriate when analyzing the operation method decision given the importance of timing of events. Foreign market servicing decisions seem to require a coalition of forces (Calof, 1993), interacting over time in ways that make it difficult to pin down primary determinants, and are often sparked by outsiders and outside events. Reconstructing patterns and influences after the event is always difficult. The subtleties of processes and interactions can be easily missed. Key individuals may not be able to recall all aspects of past events, and might even have a vested interest in "rewriting" history (Mintzberg and McHugh, 1985). Commenting on studies of strategy change, Van de Ven (1992, p. 181) has argued that it is "widely recognized that prior knowledge of the success or failure of a strategic change effort invariably biases a study's findings" - thus the strength of in-process investigations in actual settings. In the end this is the only way to understand the dynamic processes facing managers.

The issue of choice between packages of operation modes, rather than choice among individual modes, has already been noted as a significant problem at both conceptual and methodological levels, which is yet to be adequately addressed. Research indicates that as companies become internationalized they tend to use a wider array of operation modes, thereby developing a facility to operate with mode combinations (Welch and Luostarinen, 1988). Once mode packages are accepted in a decision-making context, complexity is inevitably increased; in empirical research there are a variety of new questions to be confronted connected with the role and linkages *within* packages as well as between packages

through time. While the same package is used during a given period, the roles played by the parts may well change. In this context, obtaining reliable longitudinal data becomes particularly difficult, providing a further argument for in-process empirical investigations, and in general for qualitative methodologies more appropriate for building new conceptualizations (Patton, 1990; Yin, 1989).

A Way Forward? Conceptual Issues

While there is perhaps a clear-cut message on the methodological front, the path to improved conceptualization of foreign operation mode choice appears to be much more uncertain with many, although interrelated, lines of development being suggested by the preceding analysis. Further development of the conceptual framework will depend on the outcome of future, extended qualitative research.

Change Factors

In both economics and process approaches, there has been a call for the introduction of a stronger dynamics emphasis in operation mode choice models. In general this reflects a concern to deal more effectively with the change process in which the mode decision is embedded. Clearly the process-oriented approaches start with this perspective, but, as has been noted, while considerable progress has been made, with some broad process influences identified, much remains to be accomplished. The mechanisms of change, through time, have yet to be fully explained - particularly while a given mode is being used (Bonaccorsi and Dalli, 1990). The broad influences noted, especially in the Nordic research (Johanson and Vahlne, 1990), have yet to be taken down to a more operative level, specifying the type of changes that develop within the firm as a result of, for example, the learning process. To some extent the problem is about the linkages between the broadly identified process factors and other influences, internal and external to the firm, as noted in Figure 2, which are also important in foreign market servicing decisions. Because of the behavioral orientation of process approaches, it is important to establish the extent to which the perception of other

influences is tied to process variables. The timing of developments becomes particularly important once it is accepted that operation mode decisions require a conjunction of forces.

Internal Context

The linkage between process variables and the company's internal context (Pettigrew, 1988) has been surprisingly poorly developed, considering that the process emphasis is on the effect of internationalization within the firm. Examination of the process effects almost stops at the outer edge of the firm, leaving many of the internal pathways and influences unexplored. As an illustration, although we know a great deal about the types of information that companies use in exporting activities, and what types are considered most useful (Benito, Solberg, and Welch, 1993), many internal process-oriented questions remain, for example:

- exactly how do individuals within the firm acquire appropriate information?

- how does information penetrate the firm and which individuals are involved?

- what are the connecting paths (networks) for information transfer - from outside and within the firm?

- how is information translated into management decisions regarding foreign market servicing?

- how does knowledge build within the firm over time (individuals, routines, etc.) and in response to changes such as staff transfers and departures?

In tracing the pathways of international information flow and influence, considerable groundwork has been laid in the networks field, which has been concerned with both inter-company and related intra-company linkages (Forsgren and Johanson, 1992). Although research has not been applied to internationalization theory and the operation mode decision as such, the networks field provides an avenue for exploring not only process and internal context connections, but also internal/external connections, given that international business activity inevitably involves networking in one form or another. In general, there is considerable scope for extending the study of organizational behavior in its relation to decision-making for internationalization.

External Context

One of the strengths of the Nordic approach to internationalization has been its focus on a set of process-related variables, with feedback loops, which help to explain how a company is moved forward in international operations, without being tied to specific external events or broad industry considerations. However, external factors may have a bearing on foreign market servicing decisions, not just in independent ways but also in connection with the ongoing process influences. In models of particular operation mode decisions (Welch, 1990) the external role is frequently represented as a factor in sparking a change in thinking about foreign operations - for example, a change in government policy, action by a competitor, or an unsolicited foreign order. Especially in behaviorally oriented models the external impact typically ends there, with other factors, such as decision-maker influence, taking over and determining the response by a company. Essentially the external role is disconnected, but there are situations where it can act in a more involved way, and be linked to process influences. For example, it has been argued that "a highly internationalized context may to a greater degree pull a purely domestic firm into an internationalization process" (Mattsson, Kjellberg, and Ulfsdotter, 1993, p. 19. See also Johanson and Mattsson, 1988; and Welch and Luostarinen, 1993). Research on small Italian companies has revealed that a critical context for internationalization is the industrial district to which a company belongs, with export commitment being affected by the group experience of exporting (Bonaccorsi, 1992). In such cases the external context not only affects the likelihood of international contacts, but also affects the thinking of decision makers about foreign market possibilities. A challenge therefore is to include the external context in models of operation mode decision making in a more meaningful way, and particularly to link it with process factors.

Operation Mode Packages

The process dimension has perhaps proven to be the most difficult issue to grapple with in conceptual frameworks, yet the most ignored has been that of operation mode packages. While the focus of the economics approach has been upon how a choice is made, under certain conditions, on efficiency grounds between different entry (or operation) modes, there has been limited discussion of what constitutes an "entry" mode. Once the concept of

operation mode packages is accepted, it poses a significant challenge to both economics and process approaches to mode choice, requiring a basic reformulation of conceptual frameworks and of the research object under study.

Overview

Taken together, the preceding concerns with existing approaches to conceptualization of foreign operation mode choice indicate that much is yet to be achieved, although clearly the boundaries are continually being stretched, as in Kim and Hwang's (1992) introduction of some strategic variables into the economics approach. Process issues, while demonstrably important, have yet to be adequately linked to the company's internal and external context (Pettigrew, 1988) and it would appear that considerable scope exists in this direction for developing a more comprehensive approach. In the end, however, it may be questioned as to whether it is feasible to aim for some all-encompassing model, covering all stages of internationalization (from initial exporter to large multinational), the various types of foreign market servicing packages, and the full array of often subtle process factors. In addition, instead of an overall, comprehensive model a more reasonable aim could be a series of connected sub-models covering different stages and dimensions of internationalization. Rather than limited extensions of existing models, with early testing, the greater need would appear to be a return to exploratory research as a basis for more far-reaching conceptualizations.

Notes

[1]A number of empirical studies, typically using a cross sectional design, provide corroborative support for several of the propositions advanced in the various economic frameworks (see for example Davidson and McFetridge, 1985; Anderson and Coughlan, 1987; Agarwal and Ramaswami 1992; Kim and Hwang 1992).

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Chapter 6

Divestment of Foreign Production Operations [*]

Abstract: Foreign direct investment represents a long-term commitment to a foreign operation. Divestments are nevertheless quite common, but few studies have taken a closer look at what might influence whether foreign subsidiaries are divested or not. This study investigates some determinants of Norwegian companies divestment of foreign manufacturing operations. The study shows that more than half of the foreign subsidiaries existing in 1982 were divested within a period of ten years. Among the factors examined in the study, three factors turned out to be of particular importance for the decision of retain or divest foreign units. First, economic growth in the host country increases the probability that operations will be continued. Second, foreign entries by acquisition face a much higher risk than greenfield ventures for subsequent dissolution. Finally, the probability of foreign divestment increases with size of the parent company.

Introduction

Foreign direct investment (FDI) is defined as a cross-border investment made by a company for the purpose of acquiring a lasting equity interest in a foreign enterprise, and thereby exert a considerable degree of influence on that enterprise's operations. A FDI represents a long-term commitment to a foreign operation. Exits - or divestments - seem nevertheless to be a quite common occurrence. For example, in the years 1967 to 1975, while the 180 largest U.S. based multinationals added some 4,700 subsidiaries to their networks, a total of more than 2,400 affiliates were divested (Boddewyn, 1979). More recently, Padmanabhan (1993) identified 421 foreign divestments made by U.K. companies in the 1983-1992 period, and Barkema, Bell, and Pennings (1993) conducted a study of the longevity of FDIs made by large Dutch multinationals; of 225 FDIs made in the period 1966-1988 just over half of them were still in existence in 1988.

While a vast theoretical and empirical literature examining the determinants of entry into foreign operations has emerged in recent years - a recent review is provided by Cantwell (1991) - considerably less attention has been given to the decision to exit. Difficulty in getting data may, in part, explain why relatively few studies have been conducted on divestment. Longitudinal data sets are notoriously difficult to obtain (Audretsch and Mahmood, 1994). Moreover, exits are often regarded as admittance to failure. Consequently, companies tend to treat divestment issues with secrecy (Hamilton and Chow, 1993). Therefore, even cross-section studies at the company level are difficult to conduct. However, given the magnitude and importance of foreign divestment studies about this issue are warranted. From the viewpoint of a investor company more knowledge about which factors that are likely to influence the longevity and success of a foreign venture may contribute to a better assessment of potential FDI projects. Likewise, incoming FDI is generally regarded as vital in order to develop an economy. Host countries want to retain the stock of FDI in the country, and if possible, to attract new foreign investment. Again, knowledge about determinants of divestment should provide useful cues about adequate policy measures and appropriate government action.

The purpose of this study is to investigate some determinants of Norwegian companies' divestment of foreign manufacturing operations. A multitude of factors may underlie the decision to unwind a foreign operation. It is clearly beyond the scope of a single study to uncover all possible factors. A limitation of the study presented here is that although it covers a number of factors at the country, industry, and company levels, some potentially important determinants of divestment will not be taken into account. In particular, economic variables such as price-cost conditions, which in turn may have an impact on the competitive advantage of various foreign locations, are not included in the analysis. The remainder of the paper is organized as follows: the next section surveys the existing literature on divestment, and gives a discussion of the variables investigated in the study. The data collection and the measurement of variables are then described. Following this there is a section reporting the results of the data analysis. A discussion of the results and their implications closes the paper.

Background and hypotheses

Literature on divestment

The unwinding of foreign production operations can come about in various ways. It is useful to distinguish between forced and deliberate divestiture. Forced divestments refer to the seizure of foreign-owned property, i.e. actions referred to as nationalization, socialization, expropriation, and confiscation, in which change of ownership is forced upon the investor (Kobrin, 1980; Akhter and Choudhry, 1993). Deliberate divestment on the other hand, is based on strategic considerations leading to the voluntary liquidation or sale of all or of a major part of an active operation (Boddewyn, 1979). The focus of the present study is on deliberate divestment.

Closing down a foreign plant, or selling it off to another company, is the end result of strategic decisions regarding i) reallocation or concentration of productive resources at a national, regional, or global level, ii) change of foreign market servicing mode, e.g. from local production to export, or iii) a complete withdrawal from a host country. The reasons, or

triggers, underlying such strategic decisions, and more specifically, why divestment in some cases is chosen as the course of action, are of course numerous. In a recent overview of the literature on divestment, Chow and Hamilton (1993) identify three main streams; industrial organization, finance, and corporate strategy.

The industrial organization (IO) literature has been concerned with on one hand incentives to exit, and on the other hand impediments to exit (Siegfried and Evans, 1994). Although the empirical evidence is, partly because of measurement problems, not conclusive (Siegfried and Evans, 1994), the most obvious incentive to exit is low profits, or outright unprofitability, which in turn is due to high costs, permanent decreases in demand, or the entry into an industry by aggressive, more efficient new competitors. The existence of specific assets, i.e. assets which do not have valuable alternative uses (Williamson, 1985), constitute on the other hand an important impediment to exit (Caves and Porter, 1976). Even though sunk costs may, from a purely economic perspective, be seen as an "irrational" barrier to exit, in reality they function as a perceptual exit barrier (Staw, 1981). Shapiro and Khemani (1987) argue that the role of such investments is often to deter entry by signalling a credible *ex ante* commitment by incumbents to stay in an industry or market. However, what serves as an entry deterrent, also deters exit *ex post* (Eaton and Lipsey, 1980). Specific assets can be either tangible or intangible. In general, the empirical evidence suggest that durable tangible specific assets, such as high sunk cost in machinery, discourage exit (Siegfried and Evans, 1994). In a similar vein, intangible assets such as goodwill, advertising and research and development intensity, firm-specific human capital, and even emotional attachment to the firm and/or industry, can also operate as exit barriers by raising the perceived cost of leaving the arena (Caves and Porter, 1976). An additional exit barrier is interrelatedness between units, such as joint production and distribution facilities, which may prevent an, in a strict sense, unprofitable unit from being divested because it may contribute positively to the company's overall activities. Finally, the IO literature suggest that divestment may depend on diversification. Caves and Porter (1976) argue that owners of independent plants have a lower opportunity cost and are therefore willing to accept a lower rate of return than operations belonging to a multi-plant/multi-industry company would be expected to achieve. Moreover, divestment

is facilitated in diversified companies since decisions are likely to be made by top-managers which are geographically and/or emotionally remote from the units candidating for divestiture (Wright and Thompson, 1987).

Several contributions to the divestment literature have taken a strategic management perspective. Harrigan (1980) looks at divestment through the lens of a product life-cycle approach, and argues that divestment is one of several strategic options for "declining" industries. In particular, she advocates divestment as an appropriate route in "end game" situations characterized by high volatility and uncertainty regarding future returns. Others treat divestment from a corporate portfolio perspective: a company can be regarded as a portfolio of assets, products, and activities, which should be continuously under review from both financial and strategic points of view (Chow and Hamilton, 1993). The contention that poorly performing units are likely candidates for divestiture, is supported in a number of studies (Duhaime and Grant, 1984; Hamilton and Chow, 1993). Moreover, these studies also suggest that corporate level financial performance influences divestment. For example, in their study of 208 divestments made by large New Zealand companies during 1985-90, Hamilton and Chow (1993) report that the necessity of meeting corporate liquidity requirements was among the most important objectives motivating divestment. However, in addition to the narrow financial considerations, which are undoubtedly important, strategic considerations also play an important role in the decision to divest. In particular, following Rumelt's (1974) study on the relationship between strategy and performance, empirical studies consistently find that corporate expansion into related industries leads to better performance and superior survival rates than expansion into unrelated industries (Bane and Neubauer, 1981; Lecraw, 1984; Morck, Shleifer and Vishny, 1990; Pennings, Barkema, and Douma, 1994). Similarly, interview based studies report that low interdependency between units (Duhaime and Grant, 1984), and the need to focus on core activities (Hamilton and Chow, 1993), strongly motivate the decision to divest. Thus, although there are examples of companies that have evolved into large conglomerates, in general studies suggest that firms are inclined to, and probably better off by, staying close to their specific competencies. Taking a transaction cost approach to strategic management,

Reve (1990) even argues that besides the need for protecting the assets constituting the strategic core - which always should be governed within the boundaries of the firm - there are, since all complementary assets can be secured by means of various forms of alliances, no compelling economic reasons for corporate expansion through ownership.

Finally, a third strand of literature - financial studies of divestment - has primarily looked at the effects on share prices of divestments decisions. Although the available evidence is limited, particularly for foreign divestments, it appears that divestments often increase the market value of a company (Padmanabhan, 1993). One obvious reason is that divested units simply are poor performers. Another, and somewhat more subtle, explanation is offered by Fatemi (1984) who argues that monitoring and bonding costs are higher for international operations than for domestic ones. Foreign divestments may, by reducing such costs, affect shareholder wealth positively. An explanation closely linked to the strategy literature is provided by Weston (1989) who points out that operations might be divested for other reasons than poor performance. As already noted, corporate diversification strategies appear to be particularly likely to foster divestiture as time passes by. For example, the synergistic value of units that were originally acquired in order to achieve synergies with a company's core business, may weaken, or even disappear, over time. In a similar vein, highly diversified companies may reach a point where a greater degree of relatedness between units is needed. In such cases, both the original acquisition and the subsequent divestment may have a positive impact on the market value of a company.

Foreign versus domestic divestment

Most of the literature on divestment deals with divestment in a domestic context. Boddewyn (1983a) argues that the main differences between domestic and foreign divestments are that *i*) performance appraisal is less straightforward and more ambiguous in a foreign context making it more difficult to know both when to retain an unit and when to divest, *ii*) foreign barriers to exit are lower because *a*) most FDIs are relatively small when compared to their domestic counterparts, *b*) alternative ways of serving a foreign market usually exist (importing, licensing, management contracts, etc.), *c*) the emotional involvement in any given

foreign subsidiary is normally lower than for domestic plants, *d*) divestment decisions are taken at headquarters located at a longer distance from the divestment candidate, and *iii*) it is easier to gain acceptance and justification for foreign divestments throughout the organization since divestment can be rationalized by motives, such as perceived political risk, that are difficult to verify, and because the "victims" are far away - both spatially and emotionally - hence making divestment more impersonal. Overall then, it appears that foreign divestment can be an easier course of action when compared with domestic divestment (this is corroborated by for example Pennings, Barkema and Douma (1994) in a study of Dutch companies). The main insights gained from studies of domestic divestment should nevertheless be applicable to foreign divestment as well (Shapiro, 1986). As noted previously, divestment can be regarded as a function of incentives and barriers to exit. However, the particularities of foreign operations will probably shape the actual content and importance of the various determinants. Specific hypotheses are outlined in the following section.

Hypotheses

Boddewyn (1983b) contends that the economic underpinnings of divestment can be seen as the reversal of FDI. Analogous to deterioriation of the performance of a domestic unit, the adequacy and profitability of FDI as an operation method might erode. Taking Dunning's so-called "eclectic theory of international production" (see e.g. Dunning, 1980) as the starting point, Boddewyn argues that foreign divestment takes place whenever any of the necessary conditions for FDI set out in Dunning's theory cease to be present. More specifically, foreign divestment is likely if *i*) a firm loses its net competitive advantages over firms of other nationalities, i.e. the ownership advantage factor has eroded, or *ii*) even if the firm retains net competitive advantages, it no longer finds it beneficial to use them itself rather than sell or rent them to foreign firms, i.e. internalization benefits are no longer present, and/or *iii*) the firm no longer finds it profitable to utilize its internalized net competitive advantage outside its home country since it is cheaper to serve foreign markets by exports and/or the home market by local production, i.e. foreign location advantages are no longer present (Boddewyn, 1983b, pp. 347-48).

Ownership advantages are largely due to investments in research and development, which result in a number of rent-yielding assets possessed by the firms, including superior products and production processes, valuable brand names, and special managerial and marketing skills (Buckley and Casson, 1976). Markets for such assets are typically imperfect because of uncertainty problems and the public, information, and intangible good nature of the assets. Hence, instead of relying on market transactions in order to capture the rents inherent in the assets, firms by-pass imperfections in external markets by internalizing those operations that employ such assets. FDI is then a special case of integration in general; the internalization of markets across national boundaries results in FDI (Balasubramanyam, 1985). However, while research and development intensity, as predicted, in some studies has been found to encourage FDI (e.g. Grubaugh, 1987), industries that are research and development intensive constitute at the same time rapidly changing competitive environments (Audretsch, 1994). Advantages gained at any point in time may disappear fairly rapidly (Shapiro, 1986). Moreover, further investments in R and D undertaken in order to retain a competitive edge may, due to the high risks involved in R and D projects, in fact increase the risk of subsequent failure. Paradoxically, strategic action to promote survival exposes the firm to great risks (Hannan and Freeman, 1984). On the other hand, it is quite obvious that "jumping off" the technology and product development race is not a viable alternative for firms in rapidly changing, technology intensive, industries. That would probably terminate their presence in such industries even faster. In sum, the nature of the industry seems to be an important determinant of divestment. Thus, the following hypothesis is formulated:

H_1:   The higher R and D intensity of an industry the higher the propensity to divest foreign subsidiaries.

According to the "eclectic theory" of international production a host country needs to have specific locational advantages that lead the firms to invest in that country rather than in another country or produce at home and export. There are various types of locational advantages. First, trade barriers and transport costs, which increase the costs of exporting from a home base, give rise to country or location specific advantages that favor FDI (Culem,

1988). Conversely, barriers to factor movements and factor usage, such as controls on repatriation of profits, local content requirements, and restrictions on ownership, shifts the relative profitability of market servicing modes in favor of exports. Finally, as shown in many studies countries enjoying favorable economic conditions are in general more attractive to inward FDI. In particular, findings from survey research (Majundar, 1980) as well as econometric studies (Kravis and Lipsey, 1982; Meredith, 1984; Culem, 1988; Veugelers, 1990) suggest that market size and market growth have an important impact on international investment location decisions.

The last decade has witnessed a development toward both fewer trade restrictions and fewer impediments to FDI, which in turn has resulted in an immense growth in trade as well as FDI. However, fewer restrictions on FDI, while clearly beneficial to new FDI, should not affect the existing stock of FDI in a host country. Hence this factor is of little relevance here. On the other hand, trade liberalization should, in theory, lead to a greater propensity to divest. Nevertheless, since the most significant developments toward freer trade have taken place at a global level (GATT), any increasing tendency to divest operations motivated by liberalization of trade is probably fairly uniformly distributed across countries. Thus, although a upward trend of divestment can be expected, it seems difficult to make any well-grounded predictions on which operations that are likely to be divested. Therefore, the focus in this study with regard to locational factors is on market-related economic variables. In particular, one may expect that the ability of a host country to remain attractive for FDI is dependent on the growth of its economy. Since the initial investments were undertaken on the basis of a given market size, which at that point in time was considered as sufficiently attractive for FDI, further growth would, *ceteris paribus*, make a given site even more attractive. Host countries compete with each other for FDI. In order to retain FDI a host must therefore attain growth rates that are sufficiently high relative to other potential locations. Hence it is proposed that:

H_2:   The survival of foreign ventures is positively related to economic growth in the host country.

One major difference when compared to domestic operations is that in a foreign context the competitive ability of a firm is to a very large extent dependent on actions and events that lie beyond its scope of control, in particular the behavior of given host countries with regard to economic policy, discriminatory government action, and other adverse changes in the regulatory environment. In general, FDIs face higher risk due to potential abrupt changes in the economic, social, and political conditions of a host country. One may, of course, argue that country risk or political risk is primarily a matter of concern *ex ante*, i.e. when the foreign investor is scanning various potential locations for making a FDI but before an actual commitment to a particular site has been made. Clearly, FDIs are less likely to be made in countries with high political risk than in countries considered as "safe" (Agarwal, 1980): in order to attract FDI "risky" countries have to, but are often unable to, offer a firm the opportunity to obtain a higher return. Nevertheless, although *ex ante* considerations certainly are important, such a proposition would imply an overly static view on foreign investment and divestment. Even though FDIs in general represent long-term commitments in a country, and moreover usually involve considerable barriers to exit, they are evidently quite often terminated. Political risk may operate as a determinant of divestment in at least two ways. First, and most obviously, political risk can become manifest in the sense that adverse host country action, e.g. expropriation, actually takes place. Although negotiations between the firm and the host country government may occasionally lead to a continuance of operations, usually the firm faces a *fait accompli* where the firm is basically left with no alternative other than to divest. Furthermore, in addition to leading to forced divestment, political risk may even influence deliberate and voluntary divestment. That may happen if the political risk of a host country changes in a negative direction, which in turn affects the perceived benefit of continuing a given foreign venture. Conversely, lower political risk should increase the probability of continuing operations in a country. Hence it is hypothesized that:

H₃: Foreign venture survival is negatively related to the political risk of the host country.

H₄: Foreign venture survival is negatively related to worsening (negative) changes of a host country's political risk .

Another important difference between domestic and foreign ventures is that foreign operations take place in cultures which, to varying degrees, are lesser known. Internationalizing companies have to learn about and adjust to foreign cultures, and are more likely to fail whenever the required acculturation is more demanding (Barkema *et al.*, 1993). The extent to which acculturation is needed, and to what extent problems associated with aculturation will arise, depend on several factors. First, one must acknowledge that although any outward movement from the home country probably entails some degree of moving into lesser known territory, such movements vary considerably; from entering a neighboring country to entering a culturally highly dissimilar country located far away. Cultural similarity between the home and the host country should facilitate the implemention of the decision to establish a subsidiary abroad, since important components of the FDI package, such as the transfer of technology and managerial competence, are made easier when the countries in question are not too dissimilar (Kedia and Bhagat, 1988). Moreover, closeness between the countries may, due to easier monitoring and coordination of production and marketing activities in the various locations, alleviate problems at the later operative stages. As a consequence, the incidence of problems that in turn motivate dissolution of a venture is likely to be higher when a FDI is made in culturally distant countries. A related line of reasoning focus on the relation between distance and barriers to exit. Boddewyn (1983a) argues that barriers to exit are lower in a foreign than in a domestic context because decisions-makers at company headquarters are both physically and emotionally more detached from the units candidating for divestment. However, this effect is not likely to be dichotomous. So, if perceived barriers to exit are dependent on distance, one might expect that this would hold across foreign ventures as well. Exit barriers should then be lower for remote foreign units than for units located in neighboring countries. The following hypothesis is proposed:

H_5: The survival of foreign ventures is negatively related to the cultural distance to the host country.

In many cases foreign entries involve a joint venture with a foreign partner or the acquisition of an already existing operation in the host country. In such cases at least two different corporate cultures have to be integrated to ensure the probability of success (Buckley and Casson, 1988). The process of integration is often subject to numerous problems even in a purely domestic context. Whenever a joint venture is set up with a foreign partner or a foreign firm is acquired, both national and corporate cultures have an impact on the venture (Barkema et al., 1993). While one important reason for teaming-up with a foreign partner may certainly be to reduce barriers to entry into that country (for example by giving rapid access to knowledge about local markets, see e.g. Hennart, 1988), at the same time the problems associated with the integration process are compounded. In particular, the potential problems of reconciling institutionalized organizational practices, such as decision-making procedures and corporate policies, will be larger and arise more often as the combined effects of different national and organizational cultures have to be overcome (Barkema et al., 1993). It may therefore not be surprising that international joint ventures often are unstable or rated as unsuccessful by the partners involved (Harrigan, 1988; Kogut, 1988). Chowdhury (1992) finds that international joint ventures are more unstable than wholly-owned subsidiaries in terms of major reorganizations of ownership, but comparable to wholly-owned subsidiaries in terms of exit rates and longevity. Finally, Barkema et al. (1993) report that ventures involving "double layered acculturation" - that is, acquisitions as well as joint ventures - experience lower longevity than wholly-owned greenfield investments. Along these lines the following hypotheses are proposed:

H_6: The survival of foreign ventures decreases if ventures are jointly owned with a foreign partner.

H_7: The survival of foreign ventures decreases if ventures are acquisitions of already established foreign operations.

However, problems related to lack of knowledge about foreign sites, cultural distance, and the integration process itself, are not necessarily constant. As firms expand abroad they

acquire knowledge about foreign markets, about how to run manufacturing operations abroad, and about how to deal with partners that do not share the same cultural background (Welch and Luostarinen, 1988). For example, Barkema's *et al.* (1993) study suggest that prior experience in the same foreign country is a successful path of learning in the case of joint ventures and acquisitions. Furthermore, they report that the general foreign experience level of a firm, measured as the number of prior FDIs undertaken by the same firm regardless of their location, as well as prior experience from countries that are culturally fairly similar (i.e. belong to the same "cultural block") provide positive learning effects in the sense that the longivety of ventures is improved. As pointed out by Björkman (1990) this can be interpreted as a process of experiential learning - firms learn from experience which aspects of their environment to focus on, how to operate in that environment, and how to search for solutions to problems that emerge - that becomes institutionalized in the organization in the form of various norms, operational routines, and decision-making procedures.

Experience can improve the longivety of foreign ventures in several ways. First, experienced firms are probably better market and partner "scanners" than novices in the international arena. More accurate evaluations of potential sites and cooperation partners for a FDI should in turn reduce the risk for subsequent divestment. Second, as experience is accumulated it becomes easier to avoid many of the problems involved in running foreign subsidiaries, and to find workable solutions if problems should arise after all. Finally, international operations take place in environments that are often subject to seemingly dramatic changes, for example sudden changes in exchange rates and prices. The interpretation of such events and how to respond to them can vary greatly depending on how experienced the decision-makers are. An event that from the viewpoint of an unexperienced firm is regarded as quite extraordinary, may be interpreted by an experienced firm as simply being normal fluctuations. What could lead to a withdrawal from an operation in the first case, may well barely raise any concern in the latter. In sum, higher levels of experience should lead to lower dissolution rates. Hence it is proposed that:

H_8: The survival of foreign ventures is positively related to the international experience of parent companies.

As pointed out in much of the literature diversification seems frequently to lead to divestment. At the level of given expansion projects it appears that in particular diversification into unrelated industries are at risk (see for example Pennings *et al.*, 1994). Various explanations have been suggested, such as that economies of scale and scope are rarely achieved by unrelated moves (Lecraw, 1984), that they expose the firm to an unfamiliar context thereby increasing the probability of making mistakes (Pennings *et al.*, 1994), that it is difficult to build the inter-firm linkages that are needed in order to successfully compete over time in many industries (Pennings *et al.*, 1994), and that unrelated expansion increases the governance cost of a company without necessarily contributing to lower production costs or higher returns (Reve, 1990). Another line of reasoning focuses on the company level arguing that diversification by itself increases the propensity to divest. For example, Wright and Thompson (1987) maintain that due to lack of emotional attachment perceived barriers to exit are lower in diversified companies than in single-industry companies. Moreover, Caves and Porter (1976) suggest that diversified companies may demand a higher rate of return than that accepted by single-industry companies. The main reason is that the flexibility enjoyed by diversified companies can be used to rapidly reallocate resources. Thus, if a given venture fails to achieve the target rate of return, it may be sold-off quickly and the cash reinvested in other projects. Single-industry companies on the other hand often face substantial exit barriers due to sunk costs in specific assets, which in turn may lead to the acceptance of low returns - or even negative results - over prolonged periods of time. Therefore,

H_9: The survival of foreign ventures decreases if the parent company is diversified.

Controlling for other factors

Other factors than the ones discussed above may have an impact on the survivability of foreign ventures. This study includes two factors that although they are not central to the

main line of reasoning presented here, could influence whether foreign ventures are divested or not. First, size of the parent company is included. Several studies show that the propensity to undertake FDIs (Grubaugh, 1987), whether FDIs made are greenfield investments or acquisitions (Kogut and Singh, 1988), and the ownership structure of foreign affiliates (Gatignon and Anderson, 1988), correlate with size of the parent company. In addition, Pennings *et al.* (1994) find that firm size increase the longevity of ventures. They argue that large firms have more resources in terms of managerial capacity, financial resources, etc. Large firms therefore have a greater capacity to sustain less-successful ventures. On the other hand, large firms usually are more diversified than small firms, they often have a larger number of foreign affiliates, and the relative size (i.e. as a fraction of the total size of a company) of a given foreign units tends to decrease. In contrast to a small multinational with only a few subsidiaries, a large multinational company may therefore be much less dependent on any single foreign operation. Consequently, barriers to exit are probably lower for large firms than for small firms. Since the effect of firm size on foreign divestment may go both ways no prediction is made for this variable.

Another potentially important variable is the age of the subsidiary. As pointed out by populations ecologists organizational mortality rates tend to decrease with age (Hannan and Freeman, 1984). The "liability of newness" factor (Stinchcombe, 1965) has both organizational and market aspects. On the market side, the period of time from initialization to profitability is often considerable for new ventures. They are therefore occasionally prematurely terminated by impatient investors. Moreover, since new operations are often perceived as riskier than operations that have "proved themselves" in the market place, they may face difficulties in getting access to the resources that are needed for survival. On the organizational side, external and internal legitimacy increases with age. Over time organizations tend to develop dense webs of exchange, to develop close relationships with centers of power, and in general to acquire an aura of inevitability (Hannan and Freeman, 1984, p. 158). Dissolution is hence made more difficult. On the other hand, "old" subsidiaries are more likely than newly established subsidiaries to produce and market products that are in the mature and declining phases of the product life cycle. This provides a rationale for

divesting "old" subsidiaries that may override even significant age-dependent barriers to exit (Harrigan, 1980). No prediction is therefore made for the age variable.

Methodology

Sample

The essential building block and unit of observation in this study is a given company's ownership of a given foreign subsidiary in manufacturing. The data base is constructed around observations taken at two points in time. First, secondary data on foreign direct investments were taken from a survey conducted by the Norwegian Industrial Federation in 1982. These data, which covered about seventy per cent of all existing Norwegian FDI in manufacturing at the time, provided the "backbone" of the data base. Next, annual reports were gathered for the investing (parent) companies in the original 1982-sample in order to determine the status in 1992 of the foreign subsidiaries. Two states of nature were identified; either the investor company had at least ten per cent ownership of the foreign subsidiary, in which case the subsidiary (from the viewpoint of the owner in 1982) was considered as still being in existence, or no such ownership was identified. In the latter case, the FDI was considered as divested, regardless of how the divestment actually came about, i.e. by liquidation, sale, or expropriation.

The data base is organized as a ten year follow-up study. The choice of a ten year interval was governed by two main considerations. First, FDIs are in principle long-term investments. Although strategic reconsiderations may of course take place at any point in time, the investor usually considers a FDI as basically unlimited in time, at least from the outset. A relatively lengthy time interval is therefore necessary in order to capture any substantial amount of divestment in the sample. On the other hand, industrial dynamics suggest that the time interval should not be too large. Even though most multinational companies are large companies that exhibit considerably lower exit rates than the average in an industry, reorganizations, bankruptcies, and mergers and acquisitions, are not uncommon. Such events

might imply loss of data, and make it difficult to trace down the "fate" of subsidiaries. Overall, a ten year interval appears to be a good compromise.

The original sample from 1982 consisted of 201 FDIs undertaken by a total of 93 companies. It turned out that for 181 of the 201 cases in the original sample, it was possible to identify, by inspection of annual reports, whether a subsidiary was divested or not by 1992. However, missing data on other variables reduced the usable sample to 152 cases. The distribution of existing versus divested subsidiaries in 1992 is shown in table 6.1.

Table 6.1. Status in 1992 of the stock of Norwegian FDI in 1982.

Status in 1992:	Identified sample		Usable sample	
In existence	74	(41%)	68	(45%)
Divested	107	(59%)	84	(55%)
In total	181	(100%)	152	(100%)

The table reveals a quite even distribution across categories. The usable sample contains only a slight majority of divestment cases; fifty-five per cent of the cases are divested subsidiaries. The table also shows that the distribution across categories in the usable sample is fairly consistent with the distribution in the identified sample. Thus, the final sample does not appear to be seriously affected by missing data.

Model and measurement

Since the dependent variable in this study is dichotomous an appropriate statistical estimation technique is logistic regression analysis, which is estimated by the maximum likelihood method. Based on the preceding discussion of determinants of divestment of foreign manufacturing subsidiaries, the following logistic regression model is formulated,

$$(1) \quad P(Y=1) = 1 / (1 + e^{-z})$$

$$Y \quad = \quad \begin{cases} 1 \text{ if a subsidiary exists in 1992,} \\ 0 \text{ otherwise} \end{cases}$$

and Z is the linear combination of the independent variables,

$$(2) \quad Z \quad = \quad B_0 + \sum_{i=1}^{11} B_i X_i$$

where,

X_1 = R and D intensity of the industry,

X_2 = growth of GNP in the host country,

X_3 = host country risk,

X_4 = dummy variable for change of host country risk (worse = 1),

X_5 = cultural distance between home and host country,

X_6 = dummy variable for joint venture (joint venture = 1),

X_7 = dummy variable for greenfield versus acquisition (acquisition = 1),

X_8 = index of international experience of parent company,

X_9 = dummy variable for diversified parent company (diversified = 1),

X_{10} = size of the parent company,

X_{11} = age of the subsidiary,

B_i = coefficient of variable i,

B_0 = constant.

The regression coefficients estimate the impact of the independent variables on the probability that a foreign subsidiary was still in operation (by the same parent company) in 1992. The variables in the model were measured as follows:

R and D intensity of an industry (X_1) was captured by Fagerberg's (1987) classification of Norwegian industries according to their research and development intensity (low = 1, medium = 2, or high = 3). A negative sign is predicted.

Economic growth in a host country (X_2) was measured as change in gross national product, i.e. [GNP$_{1992}$ - GNP$_{1982}$ / GNP$_{1982}$], in current USD. Data were obtained from *European Marketing Data and Statistics* and *International Marketing Data and Statistics*, both published by *Euromonitor*. A positive sign is expected.

Risk of the host country (X_2) was measured by the country risk ratings published by *Euromoney*, in which countries are rated from 1 (worst) to 100 (best). In order to reverse the scale (so that high values signify high risk), the actual values were obtained by the transformation [100 - (rating value)]. Ratings relating to the mid-way year, 1988, between the two data collection points in this study were employed. Change in risk of host country (X_4) was captured by a dummy taking the value of one if the *Euromoney* country risk rating of a given host country had deteriorated between 1983 and 1992, and the value of zero if the rating had improved or remained unchanged. Negative effects are expected for both variables.

Following a number of recent studies (for example Erramilli, 1991; Benito and Gripsrud, 1992; Barkema *et al.*, 1993), cultural distance (X_5) was measured by an index proposed by Kogut and Singh (1988). The measurement of this variable is described more closely in appendix I. A negative sign is expected.

The ownership structure (X_6) variable was measured by a dummy variable equal to one if the Norwegian parent company owned more than 10 per cent but less than 95 per cent of the subsidiary's equity (i.e. a joint venture), and zero if it owned 95 per cent or more. Entry mode (X_7) was captured by a dummy variable which takes a value equal to one if the FDI involved the acquisition of an existing firm, and equal to zero if the FDI was a greenfield establishment. The Norwegian Industrial Federation survey was the data source for both variables. Negative signs are expected.

International experience (X_8) was measured by two indicators; *i*) the number of years since the establishment of a given investor company's first foreign direct investment, and *ii*) the

number of foreign direct investments undertaken by the company up to 1982. These data were obtained from the survey conducted by the Norwegian Industrial Federation. A closer description of this variable is provided in appendix I. A positive sign is predicted for this variable. Diversification (X_9) was proxied by a dummy variable equal to one if the investor company was listed in *Norges Største Bedrifter* (Norway's Largest Firms) as conducting business in two or more different industries at the two-digit SIC level. A negative sign is predicted.

Finally, the measures for the two control variables (size and age) were; company size (X_{10}) was proxied by the number of employees of the parent company in 1982. These data were taken from *Norges Største Bedrifter*. Age of the subsidiary (X_{11}) was measured as the number of years since a given FDI was undertaken. Again, the Norwegian Industrial Federation survey provided the data. No predictions are made for the control variables.

Table 6.2 reports descriptive statistics for the variables in the model. One of the variables (R and D intensity) is a categorical variable that has more than one category, and it was therefore recoded into dummies. In the regression the R and D variable is represented by one dummy for industries with medium level of R and D intensity, and one dummy for highly R and D intensive industries.

Inspection of normal probability plots for the metric variables (X_2, X_3, X_{10}, and X_{11}) revealed departures from normality. Logarithmic transformations were effective remedies for X_3, X_{10}, and X_{11}. The best result for X_2 was achieved by a exponential transformation. These transformations do not change the interpretation of the coefficients.

Table 6.2. Descriptive statistics for independent variables (n = 152).

	Description	Mean	SD	Distribution
X_1	R and D intensity			1: 49%, 2: 37%, 3: 14%
X_2	GNP growth	114.4	49.9	
X_3	Risk of host country	14.8	13.8	
X_4	Change of risk			1: 61%, 0: 39%
X_5	Cultural distance	1.9	1.5	
X_6	Ownership			1: 44%, 0: 56%
X_7	Entry mode			1: 40%, 0: 60%
X_8	International experience	0.0	1.0	
X_9	Diversification			1: 28%, 0: 72%
X_{10}	Number of employees	2979.2	3552.6	
X_{11}	Age of subsidiary	10.3	10.6	

Results

The correlation matrix for the independent variables is reported in appendix II. Apart from a high correlation between the rating (X_3) and change of rating (X_4) of risk of a host country (r = -0.79), the reported correlations are generally low and do not suggest serious collinearity problems. Because of the high correlation between X_3 and X_4, additional regressions excluding one or both of these variables were conducted.

The results from the logistic regression including all variables are shown in table 6.3, column I. The Chi-square statistic (χ^2 (12 d.f.) = 25.24, p < 0.05) allows rejection of the null hypothesis that all of the estimated coefficients are zero. Furthermore, the model correctly classifies 76 per cent of the divestment cases, and 62 per cent of the cases still owned by Norwegian companies. The overall hit rate is close to 70 per cent. This hit rate compares very favorably with the benchmark hit rate of 51 per cent obtained by the proportional chance criterion, i.e. $[a^2 + (1 - a)^2]$, where a is the proportion of divestments in the sample (Morrison, 1969). Clearly,

the model has good predictive power, and a closer inspection of the individual coefficient estimates is warranted.

Hypothesis H_1 predicted a negative relationship between R and D intensity and foreign subsidiary survival. However, the results do not provide support for this hypothesis. First, the coefficient for the dummy for medium levels of R and D intensity is positive, but not significant. Second, although a negative sign is reported for the high R and D intensity . dummy, the relationship is not statistically significant.

Economic growth in the host country (X_2) was expected to raise the probability of continued operations. The estimated coefficient for this variable is positive as expected, but is not significant at the 90 per cent level. Thus, H_2 does not receive conclusive statistical support.

Hypotheses H_3 and H_4 related continuance of operations in a country to the level and change of level of risk in a host country, respectively. As expected, the estimated coefficient for risk of the host country (X_3) is negative. However, since one cannot conclude that the coefficient is significantly different from zero, hypothesis H_3 is rejected. The coefficient of the change in risk (X_4) variable is negative and significant $(B_4 = -0.995, p < 0.1)$. This result gives some support to the hypothesis.

Previous studies suggest that problems associated with managing foreign subsidiaries may increase with cultural distance. In addition, distantly located operations probably enjoy lower barriers to exit. A negative relationship between cultural distance (X_5) and continuance of operations was therefore expected (H_5). The results show that even though the estimated coefficient for this variable is negative, it is not significant. H_5 is therefore not supported.

Table 6.3. Results of logistic regression: maximum likelihood estimation of subsidiaries still in operation versus divested subsidiaries ($n = 152$).

		Coefficients (t-statistic)			
		I	II	III	IV
Constant		3.943 [a]	1.879	1.374	1.384
		(1.686)	(1.355)	(1.028)	(1.115)
X_1	Medium	0.279	0.265	0.304	0.304
		(0.679)	(0.650)	(0.746)	(0.752)
	High	-0.211	-0.258	-0.225	-0.224
		(-0.370)	(-0.455)	(-0.396)	(-0.396)
$(X_2)^2$		2.70E-05	4.00E-05 [c]	4.40E-05 [c]	4.40E-05 [c]
		(1.136)	(1.792)	(2.015)	(2.028)
$Log(X_3)$		-0.599		-0.006	
		(-1.110)		(-0.019)	
X_4		-0.995 [b]	-0.322		
		(-1.363)	(-0.818)		
X_5		-0.14	-0.118	-0.102	-0.102
		(-0.914)	(-0.785)	(-0.688)	(-0.688)
X_6		0.306	0.23	0.263	0.265
		(0.764)	(0.587)	(0.666)	(0.681)
X_7		-1.167 [d]	-1.188 [d]	-1.225 [d]	-1.225 [d]
		(-2.646)	(-2.695)	(-2.802)	(-2.808)
X_8		0.089	0.095	0.074	0.073
		(0.510)	(0.549)	(0.429)	(0.431)
X_9		0.223	0.173	0.175	0.176
		(0.504)	(0.395)	(0.401)	(0.404)
$Log(X_{10})$		-0.277 [a]	-0.274 [a]	-0.246 [a]	-0.246 [a]
		(-1.865)	(-1.847)	(-1.685)	(-1.710)
$Log(X_{11})$		-0.053	-0.035	-0.037	-0.038
		(-0.239)	(-0.158)	(-0.170)	(-0.173)
Model χ^2		25.24	23.94	23.27	23.27
		$p = 0.014$	$p = 0.013$	$p = 0.016$	$p = 0.009$
Correctly classified		69.70%	69.70%	67.80%	67.80%

a) $p < 0.1$, two-tailed; b) $p < 0.1$, one-tailed; c) $p < 0.05$, one-tailed; d) $p < 0.01$, one-tailed.

Hypotheses H_6 and H_7 addressed the potential problems arising from dealing with different corporate cultures in a foreign venture. H_6 proposed that international joint ventures are less likely to survive than fully-owned subsidiaries, and H_7 hypothesized that acquisitions of already established foreign operations are less likely to survive than greenfield establishments. As it turns out, the results do not support H_6. On the other hand, the coefficient for the acquisition dummy is negative and highly significant ($B_7 = -1.167, p < 0.01$). Hypothesis H_7 is therefore supported.

Drawing on previous studies reporting learning effects in internationalization (Barkema *et al.*, 1993), hypothesis H_8 stated that foreign venture survival should be positively related to the international experience of the parent company. The results show, in accordance with the hypothesis, a positive sign for the coefficient of the international experience index (X_8). However, since the coefficient is not significant this hypothesis is not conclusively supported by the data in this study.

Hypothesis H_9 proposed that diversified companies are more likely to divest foreign subsidiaries. A negative sign was therefore expected for the diversification dummy. The estimation resulted in a sign in the opposite direction, but the coefficient is not significant. Thus, H_9 is not supported.

Finally, two control variables (size of parent company X_{10}, and age of subsidiary X_{11}) were included in the model. No predictions were made for these two variables. While the coefficient for age is insignificant, the results show that size of the parent company has a strong negative effect on the continuation of given subsidiaries ($B_{11} = -0.277, p < 0.1$).

As noted earlier, there is a high correlation between the two country risk variables. An additional regression estimation was therefore performed in which one of the variables - X_3, host country risk - was excluded from the analysis. The results are shown in colunm II, table 6.3. Again, the Chi-square statistic (χ^2 (11 d.f.) = 23.94, $p < 0.05$) allows rejection of the null hypothesis that all of the estimated coefficients are zero. The performance of the model in

terms of predictive power is basically unchanged; 77 per cent of the divestment cases and 60 per cent of the surviving cases are correctly classified. The overall hit rate remains at almost 70 per cent. Turning to the individual parameters, the results are - apart from minor changes in the estimated coefficients - unaltered for all variables except those relating to country characteristics. The exclusion of X_3 from the analysis has main two effects. First, the coefficient for X_4, change of country risk, although still negative is no longer significant at a statistically significant level. Second, the effect of another country related variable - X_2, growth of GNP - becomes much more apparent. The coefficient of X_2, that was not statictically significant in regression I, is clearly significant (at the 95 per cent level) when country risk is removed from the regression. A regression (column III) with X_3 but without X_4 provides basically the same results.

Since the countries risk variables are highly correlated, and lose any explanatory value when entered individually, these variables were dropped from the final regression (column IV, Table 6.3). The results show that neither does the performance of the model weaken nor are any of the coefficients of the remaining variables markedly changed by dropping X_3 and X_4 from the analysis. The results suggest that economic growth in the host country increases the probability that operations in a country will be continued (hypothesis H_2), that acquisitions are more likely to be divested than greenfield establishments (hypothesis H_7), and that the probability of foreign divestment increase with size of the parent company.

Summary and discussion

Although there are clear indications that the magnitude of foreign divestment that takes place is quite considerable - for example, this study shows that more than half of a given stock of FDIs were divested within a period of ten years - few studies have taken a closer look at what might influence whether foreign subsidiaries are divested or not. This study provides some new insight into this relatively unexplored issue.

Among the factors examined in this study, three factors turned out to be of particular importance. First, as one might expect from economic analysis of location choices for FDI, the results suggest that economic growth in the host country significantly increases the probability that operations in a country will be continued. This finding underscores the importance that international investors place on favorable economic conditions, and even though it may sound trivial and perhaps of little operative value, this has implications for any host country that wants to remain attractive as a site for foreign direct investment.

Second, the results show that foreign expansion by acquisition, as opposed to greenfield establishments, strongly increases the likelihood of subsequent divestment. This finding is in accordance with previous studies of the cultural and experiential aspects of foreign expansion and divestitures (Barkema et al., 1983). Internationalization expose companies to an array of difficulties regardless of the actual mode of entry used. However, problems are likely to increase when a foreign entry is made by acquisition, since that involves "double layered acculturation" in which both another corporate culture and a foreign national culture have to be dealt with. The results from this study seem to provide support to the notion that such processes are difficult, and may lead to inferior performance. This is of particular interest given the increasing popularity of acquisitions as a mode of international entry and expansion. International acquisitions may appear attractive for a number of reasons. For example, they offer more rapid entry into a foreign market than start-up ventures, and provide access to already established distribution channels. Moreover, acquisition of an existing company is sometimes the only viable way of entering a foreign market, especially in mature oligopolistic markets where market shares are likely to be defended fiercely by incumbents. Nevertheless, it is quite clear that acquisitions face a considerable higher risk than greenfield ventures for subsequent dissolution. The data in the present study are illustrative: a crosstabulation of entry mode versus survival status yields that while 48 per cent of greenfield ventures in operation in 1982 were divested by 1992, the divestment ratio for acquisitions over the same period was a staggering 75 per cent. This difference is highly significant (χ^2 = 12.4, p < 0.01). It should be noted that acquisitions may of course be divested for other reasons than problems stemming from "double acculturation". Divestment may even

provide the rationale for acquisition in the first place, for example when acquisitions are undertaken on the basis of strategic motives such as the elimination of competitors. The motives for acquisitions and divestments have not been investigated in this study. It is therefore not possible to give any clear-cut answers to why acquisitions display much higher divestment rates than greenfield operations. The implication of this finding is nevertheless that if the parent companies and the governments in the host countries attach great importance to the longevity and continuation of operations, the acquisition route to foreign expansion is, in general, clearly inferior to greenfield investments.

Third, the probability of foreign divestment increases with size of the parent company. One possible interpretation of this finding is that barriers to exit decrease with company size. This can be explained by the observation that large companies usually have a larger number of foreign subsidiaries, and that they are therefore less dependent on the activities of any given foreign subsidiary. In other words, any given exit is less likely to have a profound effect on the overall performance of the company and its web of foreign operations. Another, and not necessarily conflicting, explanation is that the divestment process itself is easier to handle in large companies than in small companies; large companies may be better, and/or more objective, assessors of the performance of foreign subsidiaries, they may have more clearly formulated policies regarding performance targets and have established practices for adjustments of the "corporate portfolio". The findings can also be interpreted as providing support for the view that incentives to exit - as well as barriers to exit - should influence divestment decisions, and that these may hinge on company size. However, due to lack of appropriate data it cannot be concluded from this study that the performance of foreign subsidiaries depends on the size of the parent companies.

Previous studies suggest that diversification strategies increase the likelihood of exits. Although a direct link between diversification and exit is not corroborated by the present study, the data do suggest that large companies are more diversified than small companies; the correlation between company size and the diversification proxy is 0.40 (see appendix II).

Thus, the higher divestment rates of subsidiaries owned by large companies may perhaps be explained by their higher tendency to diversify into unrelated activities.

Several of the hypothesized relationships failed - although most were in the predicted direction - to receive statistical support by the data in this study. It is possible that the somewhat crude measurement of some of the variables, especially the R and D intensity classification, but also the diversification and ownership dummies, has some part in this. More refined measures might provide more conclusive results. Another limitation is that the study employed data from only two points in time, which in addition were separated by a ten-year interval. This is not an ideal research design. Since the actual termination dates are not known, it is neither possible to investigate explicitly the longevity of foreign operations, nor to use more dynamic variable specifications such as time-varying covariates in the model. Measurement bias should be expected given the difficulties of identifying and employing accurate data for some independent variables. For example, data from the year 1988 were used for the country risk variable across all cases. However, data for that specific year are clearly only an approximation to actual country risk in the preceding and subsequent years, in which probably many divestments in fact were made. Furthermore, lack of detailed information on termination dates rules out the application of statistical techniques such as Cox-regression that has been used in some previous studies (Blodgett, 1992; Barkema *et al.*, 1993; Audretsch and Mahmood, 1994; Jennings *et al.*, 1994). In addition to provide a more precise estimation of the impact of the various variables on the survivor function (or alternatively, the hazard function), Cox-regression estimates would also have given an opportunity to assess the robustness of the logistic regression results obtained in the present study.

There are several avenues for future research. First, the preceding discussion indicates a need for more refined specifications of the dependent variable and improved measurement of the independent variables. Second, a limitation of this study is the lack of performance data. Performance considerations probably play an important role in divestment decisions, and future studies should gather financial data at the level of individual subsidiaries and parent

companies as well as more detailed country/market data regarding exchange rates, price-cost conditions, and market growth. Third, in order to gain more knowledge about how and why divestments are made, one must take into account the perceptions of the actual decision-makers. After all, such decisions are taken on the basis of the perceptions, motives, and opinions held by owners and higher-rank managers. This seems particularly important in order to investigate the role of divestments in corporate strategy.

Appendix I. Operationalization of the cultural distance and experience variables.

Cultural distance

Cultural distance (X_5) is measured by the Kogut-Singh index (Kogut and Singh, 1988). This index is based on the study conducted by Hofstede (1980) on cultural dimensions of work organization. Hofstede collected data within a large multinational company. Based on a factor analysis of questionnaire data, he found that differences in national culture vary along four dimensions. These dimensions were labeled uncertainty avoidance, individuality, power distance, and masculinity-femininity. The Kogut-Singh is a composite index which uses Hofstede's data to measure cultural distance between countries. The index measures distance as the sum of variance-corrected score differences along the four cultural dimensions (i.e. uncertainty avoidance, individuality, power distance, and masculinity-femininity) for each country pair (the home country of the parent company and the host country of a given subsidiary), i.e.,

$$X_5 \text{ (cultural distance)} = \sum_{i=1}^{4} \{(I_{ij} - I_{iN})^2 / V_i\} / 4$$

where I_{ij} = index value for cultural dimension i of country j, V_i = variance of the index for dimension i, and N = Norway (the home country in this study). Scores on the four dimensions for the various countries were obtained from Hofstede (1984).

International experience

International experience (X_6) was measured by two indicators; i) the number of years since a company undertook its first foreign direct investment in manufacturing, and ii) the number of foreign direct investments undertaken by the company up to 1982. In order to arrive at a single measure for international experience, an index composed of both indicators was constructed. Due to the different scales of the indicators, standardized scores (mean = 0, std.dev. = 1) were used. The variable is given as,

$$X_8 \text{ (international experience)} = (Z_1 + Z_2) / 2$$

where Z_1 denotes the first standardized indicator (number of years), and Z_2 the second indicator (number of investments).

Appendix II. Correlation matrix (Spearman rank correlation coefficients, $n = 152$).

	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}
X_1										
X_2	0.03									
X_3	0.17	0.12								
X_4	-0.15	-0.28	-0.79							
X_5	0.11	-0.24	0.10	-0.34						
X_6	0.06	-0.21	0.24	-0.16	0.23					
X_7	-0.15	0.13	-0.09	0.20	-0.42	-0.17				
X_8	-0.15	-0.14	-0.02	0.01	0.14	0.00	0.04			
X_9	-0.17	-0.12	0.04	0.02	0.01	-0.09	0.05	0.34		
X_{10}	-0.13	-0.06	0.12	-0.09	-0.01	0.02	0.24	0.54	0.40	
X_{11}	0.05	0.19	0.00	-0.07	-0.04	0.07	-0.24	-0.41	-0.24	-0.32

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Chapter 7

Summary and Conclusions

Summary and Discussion of Findings

This dissertation has addressed a number of foreign direct investment related issues that have been insufficiently studied in past research in general and in the context of Norwegian FDI in particular. Specifically, the studies presented in this dissertation have looked into the following research questions (cf. chapter 1, pp. 23-25). First, do company characteristics like resources and international experience have an impact on the location and expansion pattern of foreign direct investments? Second, what factors influence the choice of ownership structure of foreign subsidiaries, and more generally, how do companies enter and develop operations in foreign markets? Third, to what extent are companies' involvement in foreign manufacturing operations terminated over time, and what factors decide companies' exit from given foreign operations? These questions deal with important, but relatively unexplored aspects of the entry, development, growth and retraction phases of companies' internationalization (see figure 1.1, p. 24).

Using FDI in manufacturing undertaken by Norwegian companies over a period of almost 80 years as the empirical setting, these issues have been discussed and examined empirically from the perspectives of two central streams of literature - termed the "economics" and "behavioral" approaches, respectively - on the international operations of firms. Throughout the dissertation, the unit of analysis has been individual foreign establishments involved in manufacturing activities in which Norwegian companies held an equity stake of at least 10 percent. The main empirical findings from the studies are summarized in table 7.1.

The decision to make a FDI has long-term strategic ramifications. FDI, especially in manufacturing facilities, involves a substantial commitment of resources that cannot easily be reallocated. Location choices are therefore important. Location and expansion decisions in the context of foreign direct investments were analyzed in chapters 2 and 3. In chapter 2, hypotheses were developed from the internationalization process approach regarding one particular aspect of location; the cultural distance (from the home country) to the country where a FDI is made. The internationalization process approach contends that the behavior

of companies follows a learning path in which "low uncertainty/low commitment" operations generally precede operations displaying high degrees of uncertainty (which again is thought to increase with cultural distance) and/or resource commitments. As it turned out, the results gave no support for the hypothesis that the first FDIs are, in general, made in culturally closer countries than later FDIs. Furthermore, no support was found for the hypothesis that an expansion into more distant countries would take place as companies undertake a series of foreign investments.

In chapter 3, an enlarged model was discussed and tested. First, complementary dimensions of experience (labelled "general" and "specific" experience) were taken into account. Second, company resources (size) was introduced as an additional factor influencing firm behavior. Third, additional concepts of distance (physical and economic distance) were included in the model alongside cultural distance. A positive relationship between the characteristics of the investing companies (experience and size) and distance to the chosen FDI locations was predicted. While support was found for the hypothesized positive relationship between experience and distance, the relationship between company size and distance to the FDIs turned out to be negative (albeit insignificant when controlled for the impact of companies with a large number of FDIs).

One may argue that the scope of the research presented here is rather narrow. However, taken together these two studies suggest that location choices - with regard to the first FDI undertaken by a company, in terms of the location of subsequent establishments made by a company, and with regard to the overall pattern of locations chosen by a sample of companies - are likely to be influenced by economic and strategic factors as well as behavioral factors. Economists have largely disregarded that company characteristics might have an impact on where a company chooses to establish foreign operations, while "internationalization" process proponents have not taken sufficient account of economic factors and the underlying rationale for foreign direct investment behavior in their models.

The important issue of ownership arrangements of the foreign subsidiaries was dealt with in chapter 4. Whether to operate in a foreign market by means of a joint venture or by setting up a wholly owned subsidiary is a key strategic decision both because it has an impact on the level of control held by a company over the use of its assets and because the level of resource commitment - as expressed in the ownership arrangement - represents a barrier to exit from an operation in a foreign market, and hence reduces the strategic flexibility of a company. Transaction cost theory suggests that companies are reluctant to share ownership if the foreign operation entails the use of assets that are difficult to protect from being used or acquired in non-approved ways by a partner. Hence, according to transaction cost theory a preference for wholly owned foreign units should be observed whenever the FDI package to a large extent consists of highly specific or proprietary assets. The behavioral - or internationalization process - approach focuses primarily on the resource commitment aspect of ownership arrangements, and suggests that decision-makers are cautious about committing substantial resources whenever the lack of information and knowledge about particular markets and how to undertaken business operations in unfamiliar settings creates uncertainty and increases the perceived risk of a course of action.

The study provided little support for the transaction cost line of reasoning. However, due to the relatively crude measurement of the proprietary assets variable, the results should be regarded as tentative. In general, the results were somewhat more supportive of the behavioral hypotheses than of the transaction costs hypotheses.

The factor that turned out to be of overriding importance in determining the choice between full and shared ownership was the political risk of the host country. This finding is particularly interesting in light of the higher propensity of Norwegian firms - as compared to U.S. companies - to accept shared ownership in the first place. Since there are no indications to suggest that Norwegian companies in general choose more "risky" locations than North American companies, it seems that one single factor - political risk - determines the behavior of Norwegian companies to a much larger extent than for U.S. companies. This may also explain why the control and resource commitment considerations advanced by

transaction cost theory - and to some extent the internationalization process approach - are seemingly less important; sensitivity to the demands of host country governments and to the possibility that they may take hostile actions against foreign companies becomes the main concern.

The issue of how companies enter and operate in foreign markets - including whether they chose wholly-owned or jointly owned foreign affiliates - was elaborated further in chapter 5. After a review of the literature, several deficiencies in the existing frameworks - economics as well as behavioral - were pointed out. Two areas, the unsatisfactory treatment of dynamic issues and the lack of attention to the increasing complexity of the operation methods actually employed by many companies, were singled out as particularly important areas for future research.

The dissolution of equity-based involvement in a foreign subsidiary was investigated in chapter 6. The study indicated that divestments are quite common; close to 60 percent of Norwegian FDIs existing in 1982 had been divested by the end of 1992. The perspective taken in the study was that whether divestments are made or not is a function of incentives to exit and barriers to exit. A number of relevant factors were explored. However, economic growth in the host country, whether entry was made by acquisition or greenfield, and size of the parent company, turned out to be the most important factors in determining divestment of foreign operations. While economic growth in a host country operates as an disincentive to terminate operations there, the size of the investing company seems to lower barriers to exit.

The perhaps most interesting finding is that acquisitions entail a considerable higher risk than greenfield entries for subsequent divestment. The explanation offered in the study is that "double acculturation" problems are likely to arise when an on-going indigenous operation is acquired by a foreign company. Although this explanation certainly has an intuitive appeal, it can only be regarded as tentative. First, a stronger test of the explanation would be to examine whether the divestment rates of acquisitions in a given foreign country are lower for companies with previous experience in that country than for companies without such

experience, since it is only in the latter case that "double acculturation" will be needed. Second, alternative explanations have not been ruled out. For example, acquisitions may have been undertaken on the basis of strategic motives like the elimination of competitors. Clearly, the "double acculturation" explanation is irrelevant if the objective of the acquisition is simply to divest (liquidate) the acquired operation. Still, although the study may not have given a clear-cut answer to why acquisitions are divested much more often than greenfield operations, the finding suggests that the acquisition route to foreign expansion may in general be inferior to greenfield investments in terms of the longevity of operations.

Table 7.1. Summary of empirical findings.

Aspect of internationalization	Dependent variables	Main findings	Implications
Location	Cultural, geographic and economic distance	Positive relationship between FDI experience and distance	Partial support for behavioral model
Expansion	Change of cultural distance	No increase in cultural distance as more FDIs are made	No support for behavioral model; indirect support for economics model
Mode of entry	Joint venture vs. wholly-owned	Political risk and cultural distance increase propensity to joint venture	Partial support for behavioral hypotheses
Divestment	Exit vs. continuation	Acquisitions and firm size increase propensity to divest; economic growth increases probability of continuation	Partial support for behavioral and economics hypotheses

Contributions of the studies

The contribution of this dissertation lies principally in that it has given new insights into an almost unexplored topic, namely; the foreign direct investment and divestment behavior of Norwegian companies. In addition to describing the behavior of Norwegian companies, it has also given the opportunity to contrast the findings from a number of previous studies - undertaken foremost in the U.S., but also in several other countries - with data about Norwegian companies FDI behavior. The findings presented here indicate that the behavior of Norwegian MNEs may deviate from what has been found elsewhere. For example, the findings indicate that Norwegian companies are less prone to insist on a high degree of control over foreign operations than U.S. companies are. Furthermore, external factors (i.e. political risk) were found to be of greater importance, when compared to studies undertaken in the U.S., in determining the choice between wholly-owned and jointly-owned foreign subsidiaries. These results demonstrate that theoretical frameworks should take into account the "nationality" of the investing companies alongside other explanatory factors.

Perhaps even more interesting given the apparent similarities between the Nordic countries, the studies also showed that a theoretical framework which to a large extent has been developed on the basis of studies of the internationalization of Swedish and Finnish companies had relatively low explanatory power for the conduct of Norwegian companies. Again, the research undertaken here shows that empirical findings from one particular context and subsequent conceptualizations based on such findings cannot always be readily transferred to other settings, not even to settings that - at least superficially - may appear rather similar. The studies reported in chapters 2 and 3 are of particular interest from the viewpoint of assessing the generalizability of the internationalization process model. In both studies relatively large data sets covering a majority of Norwegian FDI in the industrial sector were employed to test some central hypotheses drawn from the internationalization process model. As it turned out, however, only limited support was found for the model.

Another contribution of this dissertation lies in the operationalization of two variables; cultural distance and international experience. The use in chapter 2 of the Kogut-Singh index as a measure of cultural distance while not new as such - it was originally presented by Kogut and Singh (1988) - implied the introduction of a novel and arguably far better operationalization of that variable in the field of location studies of FDI. The international experience of companies has also often been measured in quite simplistic ways. Usually this variable has been proxied by single-item measures like elapsed time since the first international engagement undertaken by a company. Single-item measures are, however, not satisfactory for multifaceted concepts like experience. Hence, attempts were made in the studies to capture the various aspects of experience in better ways. First, a conceptual distinction was made between general and specific experience. Second, a two-item measure for specific experience was employed. Although there is still room for improvement, particularly with regard to the measurement of general experience, a better operationalization of the concept of experience was achieved.

Limitations of the studies

Several limitations of the studies should be noted. First, the scope of the empirical research has been limited to foreign direct investments in manufacturing undertaken by Norwegian companies up to the mid-1980s. Since the data material does not include investments made after 1984, the results are not necessarily transferable to FDI undertaken since then. Furthermore, to the extent that one would like to generalize the results to other types of foreign direct investments - for example the establishment of sales subsidiaries - or to industries other than manufacturing - such as services - limitations due to the specific empirical setting are clearly operative. However, since the objective of the research has primarily been to investigate a number of propositions drawn from existing theoretical frameworks, this limitation is not a serious one. It is more important to chose a research context with as little extraneous variation as possible, than giving considerations to the external validity of the findings. As such, the chosen empirical setting - given its delimitations

with regard to the nationality of the investing firms, the economic sector, and type of investments under study - is in many respects well-suited for that type of investigation.

Second, although considerable efforts were made to operationalize the variables under study in the best possible way, some variables were measured somewhat crudely. In particular, the R and D intensity of an industry, while widely used in similar studies, must be regarded as a rough proxy for proprietary assets. A somewhat better proxy would be the R and D intensity (for example measured as R & D expenses / total sales) for each investing company. Ideally, however, multiple indicators should be used in order to map the level of proprietary assets and other specific investments for each individual foreign investment project. The measurement of the general international experience variable is also open to criticism. This variable was operationalized as the ratio of export sales to total sales of the parent company in a specified year. One problem with this operationalization is that some companies may export less the more internationalized they become. This may happen if foreign direct investment, i.e. local production, substitutes production previously undertaken in the home country and then exported. To the extent that this happens, a better measure would be to use the ratio of foreign sales to total sales (or alternatively, the ratio of foreign production to total production). Furthermore, one may argue that general international experience is a multifaceted concept that calls for multiple indicator measurement (like that used for the specific international experience variable). The construct validity (cf. Cook and Campbell, 1979) of these concepts may therefore be low. The operationalization problems that have been pointed out are largely due to problems in getting readily available data which could provide a basis for more elaborate operationalizations. Future research should however attempt to overcome such data problems. As it is, due to weaknesses in their operationalization, the results for these variables must be taken as tentative.

Third, as in most field research without randomization procedures, numerous threats to internal validity can be pointed out. Even though the research has been aimed at investigating the statistical association between variables, and not with establishing causal relationships *per se*, issues related to internal validity - in particular, spuriousness and

temporal precedence - are nevertheless important. Attempts to reduce the possibility for spuriousness included, *inter alia*, the inclusion of various controlling variables, while temporal precedence was primarily taken care of by ensuring that values for the independent variables were related to points in time prior to those for the dependents variables. However, the research design of, in particular, the study of divestment (chapter 6) was not ideal. By using data from only two points in time, which in addition were separated by a ten-year interval, some problems of measurement are virtually inescapable. In many instances the point in time (end-of-period) in which an event (i.e. a divestment) was measured did probably not coincide with the time in which it took place. Events (i.e. divestments) that occurred in particular points in time should, however, have been measured accordingly. In addition, lack of precise information about termination dates created problems in measuring the proposed explanatory factors accurately.

Suggestions for further research

Buckley (1990, p. 657) states that "it is now generally agreed that an established theory of the multinational enterprise exists. The synthesis is based on internalisation theory, the theory of location and competitive dynamics". In contrast, Vahlne and Nordström (1993, p. 529) argue that "the process theory of internationalization has become the dominant paradigm in this area of research". Despite such bold statements a more sober assessment appears to be that although both frameworks make contributions toward an understanding of the international behavior of firms, none of them can be regarded as taking full account of how firms start, expand, and dissolve international operations. The studies in this dissertation suggest that while the process framework may - in part - describe and explain certain aspects of firms' internationalization, so does the economics framework. Both approaches provide partial explanations, and as such they appear to be complementary rather than clearly competing. Judging from the relatively weak empirical support that - overall - was found, it appears that there still is considerable scope for further research in this area.

Regarding the location of FDI there seems to be several interesting avenues for further studies. First, more comprehensive models should be put forward and tested. As suggested by the findings, it appears unlikely that such decisions, given their importance, would be taken on the basis of a limited number of factors. Therefore, both internal (supply-side) and external (demand-side) factors should be included in future analyses of the location of FDIs. Second, it order to capture the effects of the various factors proposed to have an impact on location choices, it seems necessary to improve the design of the research. In particular, the effects of experience and company resources on location choice can be difficult to detect in cross-industry studies because relationships could become obscured by inter-industry variation with regard to these variables. In addition, the motives for FDI are likely to vary across industries, and the set of feasible locations may well depend on the nature of the business. Again, the impact of factors at the company-level may be difficult to detect if industry-level factors are not controlled for. Such controls were practically ruled out in the studies presented here because of the limited number of cases. This should be done in future research. The number of Norwegian foreign subsidiaries in manufacturing has vastly increased in recent years thereby making it possible to conduct statistical analysis of single industries.

The empirical analysis regarding choice of ownership structures gave unexpectedly weak support to transaction cost reasoning. As already noted, however, the operationalization of the relevant variables were rather crude. What seems to be needed is more precise measures of the degree of asset specificity involved in a given foreign venture. Unfortunately, there are no generally established indicators or scales of specific assets (Mahoney, 1992). Previous studies have used various ways of measuring the degree of asset specificity. Some studies, like the one presented here, use proxies such as the research and development intensity of an industry, line of business or corporation, measures of capital investments, or small numbers of buyers and sellers. Other studies have attempted to map specific assets (and related concepts) by using various questionnaire items. In addition to making it difficult to compare results across studies, this diversity in measurement makes it difficult to decide *a*

priori how the concept should be measured. There is a need for conceptual clarification and measurement refinement that calls for further research.

Political risk of a host was found to greatly influence the ownership structure of Norwegian manufacturing subsidiaries. This finding suggests that Norwegian companies are sensitive to the demands of host country authorities and to the possibility that hostile action may be taken against them. An interesting avenue for further research would be to examine in more detail *i*) whether more severe ownership restrictions are in fact imposed on companies from small countries, *ii*) differences in the bargaining position of firms from small versus large countries, and *iii*) whether companies from small countries are at greater risk regarding hostile actions like expropriation and nationalization of their assets in a foreign country.

At a more general level, the discussion in chapter 5 suggested that current conceptualizations of the "entry mode/operation method" issue are quite restricted. Many important aspects of how companies enter and operate in a foreign market are practically left out of the existing frameworks. Past research has primarily focused either on decisions regarding the mode of entry or on cross-sections of operation methods at one particular point in time. Less attention has been given to whether and why given entry methods over time are replaced by other market servicing arrangements. Future research should examine changes to the initial mode of entry more closely. Given the lack of knowledge in the area, an useful starting point for such a research endeavor would be to investigate which factors that influence the decision to make changes of foreign operation methods.

Another potentially important, but largely ignored, issue is that of operation mode packages, i.e. the use of various operation methods in combination. For example, foreign direct investment and licensing contracts are sometimes linked together. However, in the literature these two alternatives are not regarded as complementary but rather as mutually exclusive ways of operating in a given foreign context (see, for example, Dunning, 1988). While the occurrence of "operation method packages" has been documented in some studies (see chapter 5 for references), no attempt has yet been made to assess the magnitude of the

phenomenon. An initial task for future research would therefore be to make such an assessment. If "operation method packages" are quite common, further investigation of the issue is clearly warranted. Furthermore, it would be questionable whether the conceptualizations of the choice setting and the framing of research questions underlying much of previous research are appropriate.

As pointed out in chapter 6, divestment rates were much higher for foreign subsidiaries in which the initial investment was made as an acquisition of an on-going operation than for subsidiaries that were started from scratch. One possible explanation is that acquisitions are more difficult to integrate, particularly in a foreign context. Another explanation might be that acquisitions sometimes - perhaps even often - are made with subsequent divestment specifically in mind. However, the policy implications that might be drawn from a "double acculturation problem" explanation are likely to be different from those drawn from an "acquisition for divestment" explanation. The first case has few economic implications (apart from problems of a mainly transitional kind like a temporary disruption in production) since the operation can continue after being sold-off to another owner, whereas the latter case may imply a loss regarding the level of activity in a country. Future research should therefore look more closely into why acquisitions are divested, and also whether they in general are divested more often than greenfield ventures.

As already noted, attempts should also be made to identify more precisely when given foreign operations are actually divested. Such data would make it possible to employ more refined specifications of the dependent variable - like the longevity of a foreign operation - instead of the dichotomous classification (exit versus continuation) used in the present study. Furthermore, the measurement of the independent variables could be improved if exact information about termination dates were available.

The set of explanatory factors should also be expanded. Some potentially important predictors of divestment were not examined empirically due to lack of readily available data. In particular, considerations regarding the economic performance of the subsidiaries and/or

of the parent companies are likely to play an important role in the decision and timing of divestments. Such considerations were only indirectly (for example through the measure of economic growth in the host country) taken into account in the present study. Therefore, direct measures of performance should be incorporated in future research.

Finally, the empirical studies in this dissertation have dealt with the outcome of decisions regarding whether to make foreign direct investments, where the investments should be made and in which form, and - given that an investment has been made - whether the operation should be continued or not. They have not looked in to the decision processes leading to these outcomes. Research about such decision processes is in general still quite limited (Björkman, 1989). However, in order to gain more knowledge about why, when and how investments and divestments are made, it seems important to investigate more closely the perceptions, motives, and opinions held by the actual decision-makers, and the organizational contexts in which the decisions processes take place.

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