Jorma Larimo*

Divestment of Foreign Production Operations in Nordic Firms: Similar or Different Determinants?

*Dr. Jorma Larimo,
Professor in International Marketing,
University of Vaasa,
Department of Marketing,
P.O. Box 700,
FIN-65101 Vaasa, Finland.
Fax. +358-6-324 8251,
e-mail: jorma.larimo@uwasa.fi

DIVESTMENT OF FOREIGN PRODUCTION OPERATIONS IN NORDIC FIRMS: SIMILAR OR DIFFERENT DETERMINANTS?

ABSTRACT

Although foreign direct investments represent a long-term commitment to a foreign operation, divestments are nevertheless quite common. However, few studies have taken a closer look at what might influence whether foreign subsidiaries are divested or not. The study is the first one trying to analyze the impact of various determinants on the divestment behavior of firms from the four Nordic countries. The paper includes twelve ownership specific, location specific and investment strategy specific variables. The empirical part is based on the divestment behavior of Nordic firms in over 2600 foreign manufacturing investments made between 1960 and 1995 in various countries. The results indicate that all three types of variables have influenced the divestment behavior. Furthermore, the results show that there have been great differences in the divestment rates and influencing factors between various Nordic countries.

Keywords: foreign direct investment, divestment, Nordic countries

1.   INTRODUCTION

Foreign direct investments (FDI) have taken a central role in the international operations of firms during the past few decades. FDIs are strategic decisions that entail a long-term commitment to a foreign operation. Therefore, the performance of FDIs is of great interest. One indication of poor performance is the exit or divestment of the foreign unit. Boddewyn (1979) found that while the 180 largest U.S. based multinational companies added some 4 700 foreign subsidiaries to their networks in 1967–1975, more than 2400 units were divested over the same period. More recently, Padmanabhan (1993) identified 421 foreign divestments made by U.K. based companies in the 1983–1992 period; Barkema, Bell and Pennings (1996) found that of 225 FDIs made by Dutch multinationals in 1966–1988 just over half were in existence in 1988; Li (1995) found that of the 267 FDIs made into the USA during 1974 and 1988 c. 30 per cent were divested in 1989; Yamawaki (1995) found that of the 569 FDIs made by Japanese firms in North America and in Europe in 1980–1990 and in existence in 1990 about 50 were divested in 1993, and finally Benito and Larimo (1995) found that almost 45 per cent of the Norwegian and Finnish foreign units which existed in 1982 were divested within a ten year period. Thus the divestment of FDIs seems to be rather common.

While a vast theoretical and empirical literature examining the determinants of entry into foreign operations has emerged in recent years, considerably less attention has been paid to the decision to divest/ exit. Difficulty in getting data, especially more detailed data, is apparently the main reason for the relatively small amount of divestment studies so far. Another reason is that longitudinal data sets are notoriously difficult to obtain (Audretsch and Mahmood, 1994). Moreover, exits are often regarded as admittance of 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 an investing firm, 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 future FDI projects. Likewise, incoming FDIs are generally regarded as vital in order to develop an economy. Host countries want to retain the stock of FDIs in the country, and if possible, attract new foreign investment. Again, knowledge about determinants of divestment should provide useful cues about adequate policy measures and appropriate government action.

Table one includes a summary of the main features in the empirical studies made focusing on divestments in FDIs. As can be seen from the table, in previous studies the divestment behavior of firms´ was from: (1) one single home country in one single target country, or (2) one single home country in several target countries, or (3) several home countries in one single target country. Extremely few studies can be found where the divestment behavior of firms from two or more home countries in several target countries has been analyzed. From the table it can also be seen that there has been more or less variation in the home and host countries of the reviewed FDIs, in the sample sizes (from 152 to over 8500), time periods (in several cases mainly FDIs made before the 1980s), and in the methods of analysis (mainly binomial logistic regression or event-history analysis). All these things have to be remembered when the results in various studies are discussed later in the paper.

The main goal of this study is to investigate some determinants of Nordic companies´ divestment of foreign manufacturing operations. Based on previous literature (see Table 1) the study covers a number of factors at the country, industry, and company levels. As discussed above, very little is know about the influence of different factors on the divestment behavior by firms. This study tries to analyze the impact of some ownership specific, location specific, and investment strategy specific variables on the divestment behavior of Nordic firms´ in their foreign manufacturing investments. One of the main goals of the study is to analyze the similarities and differences in the behavior between various Nordic countries. As discussed above, very few studies can be found where the divestment behavior of firms from two or more home countries in FDIs made to several target countries have been analyzed. This is the first study where the divestment behavior of firms from four Nordic countries is analyzed. The fifth Nordic country Iceland is excluded from the study because of the extremely limited amount of FDIs made by local companies.

The structure of the paper is as follows: section two reviews the existing literature on divestment focusing on the impact of various country, industry, and company level factors on the divestment behavior and hypotheses for the empirical part are developed. In section three the methodology and the operationalizations of the reviewed factors are discussed. Section four presents the main results of the study. Finally, a summary and discussion are provided in section five.

Table 1. Summary of main features in empirical FDI studies focusing on divestments.

Study	Origin of investors	Target country(ies) of FDIs	Research period	Number of reviewed FDIs	Divestments n	%	Statistical methods used in the study
Davidson & McFredridge (1984)	USA	Canada	situation in 1983 with subsidiaries active in 1975	396	129	32,6	probability analysis and logistic regression
Delacroix (1993)	USA	Europe	FDIs made in 1903-74	8512	817	9,6	binomial logistic regression
Benito (1995)	Norway	OECD, LDCs	FDIs made before 1983, situation in 1992	152	84	55,3	binomial logistic regression
Benito & Larimo (1995)	Norway & Finland	OECD, LDC	FDIs made before 1983, situation in 1992	Total 325 Norway 153 Finland 175	146 86 60	44 56 34	binomial logistic regression
Li (1995)	mainly European	USA	FDIs made in 1974-89	267	82	30,7	event-history analysis
Yamawaki (1995)	Japan	North America & Europe	FDIs made in 1980-90 unit in operation in 1990, situation in 1991-93	371 198	34 15	9,2 7,6	binomial logistic regression
Barkema, Bell & Pennings (1996)	the Netherlands	OECD, LDCs	situation in 1988 with in FDIs made in 1966-88	225	109	48,4	event-history analysis
Hennart et al. (1997)	Japan, Europe, (Denmark, Finland Norway, the Netherlands)	USA	FDIs made before 1981, situation in 1981-89	Japan 355 Europe 94	96 50	27 53,2	event-history analysis
Mariotti & Piscitello (1997)	Italy	OECD, LDC	FDIs made in 1983-93	1067	212	19,9	multinational logistic regression
Hennart, Kim & Zeng (1998)	Japan	USA	FDIs made before 1981, situation in 1981-89	284	75	26,4	event-history analysis
Larimo (1998)	Finland	OECD	FDIs made in 1966-93 situation in 1996	918	361	39,2	binomial logistic regression

2.   DEVELOPMENT OF HYPOTHESES

Closing down a foreign plant, or selling it off to another company, is the end result of strategic decisions regarding a) reallocation or concentration of productive resources at a national, regional, or global level, b) change of foreign market servicing mode, e.g. from local production to export, or c) 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. Taking Dunning´s so-called "eclectic theory of international production" (see e.g. Dunning 1980) as the starting point, 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: a) a firm loses its net competitive advantages over firms of other nationalities, i.e. the ownership advantage factor has eroded, or b) 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 c) 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).

In the following the reviewed determinants have been divided into three main groups: (1) ownership specific, including size, research and development intensity, degree of diversification, international experience, and target country experience of the parent, (2) location specific, including cultural distance, chance in the political risk, and change in the economic growth of the target country, and (3) investment strategy specific, including relatedness of the investment, ownerhsip arrangement, and form of investment. As additional determinants the role of the age of the unit and the nation of origin of the parent are discussed.

Ownership specific variables

Parent size. Several studies show that the propensity to undertake FDIs (Grubaugh 1987), whether FDIs made in 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 unit 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 unit. Consequently, barriers to exit are probably lower for large firms than for small ones. Thus the effect of firm size on foreign divestment may theoretically go both ways. Also the previous results are somewhat mixed. Yamawaki (1995) found that in FDIs made in the European countries a negative and in FDIs made in the USA a positive relationship existed. In the studies by Benito and Larimo (1995) and Hennart et al. (1997 & 1998) a positive relationship between parent size and probability of divesting FDIs existed. Thus the empirical results seem to support the view of a positive relationship between the firm (parent size) and probability of divestment. Hence

H1:   The larger the parent size the higher is the propensity to divest foreign subsidiaries.

Research and development intensity of the industry. Ownership advantages are largely due to investments in R&D, 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 intanglible 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 R&D intensity, as predicted, in some studies has been found to encourage FDI (e.g. Grubaugh 1987), industries that are R&D intensive constitute at the same time rapidly changing competitive environments (Audretsch 1994). Advantages gained at any point in time may disappear fairly rapidly (Shapiro 1983). Moreover, further investments in R&D undertaken in order to retain a competitive edge may, due to the high risks involved in R&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: this would probably terminate their presence in such industries even faster. Thus, also the effect of R&D intensity on foreign divestment probability may theoretically go both ways. The previous empirical results are also mixed. The results by Benito and Larimo (1995) did not indicate any statistically significant influence, but Larimo (1998) found a negative relationship whereas Mariotti and Piscitello (1997) found a positive relationship between R&D intensity and probability of divestment. Thus, no sign is expected for R&D:

> H2:   No sign is expected for R&D.

Degree of diversity of the parent. 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. So far the relationship between parent company diversity and divestment probability has been analyzed to a very limited extent, and in fact the results by Benito and Larimo (1995) indicated a negative and in the Finnish sample even statistically significant relationship. A possible explanation for the unexpected finding is that diversified Finnish companies were able to demand a lower rate of return than that accepted by single industry companies just because of their diversification. However, because of the recession and intensified competition in the 1990s it may be expected that it has not been possible to continue with these lower demands and more diversified firms have been forced to demand higher rates of return. Therefore:

> H 3:   The more diversified the parent firm is the higher is the probability to divest foreign subsidiaries.

International and target country specific experience. Experience can improve longevity 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 co-operation partners for a FDI should in turn reduce the risk of 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.

Empirical support for a negative relationship between international experience and probability of divestment give results by Mariotti and Piscitello (1997) and Larimo (1998) and for a negative relationship between target country specific experience and probability of divestment results by Li (1995). Thus, for the empirical part of the study it is proposed that:

> H4: The probability of divestment is negatively related to the international experience of parent companies.

> H5: The probability of divestment is negatively related to the previous target country experience of parent companies.

Location specific variables

Cultural distance. An important difference between domestic and foreign investments is that foreign ventures 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. 1996). The extent to which acculturation is needed, and to what extent problems associated with acculturation will arise, depend on several factors. First, one must acknowledge that although any outward movement from the 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 implementation 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 focuses 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 decision-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 neighbouring countries. Empirical support for the positive relationship between cultural distance and probability of divestment has been found by Barkema et al. (1996) and Mariotti and Piscitello (1997). Thus, for the empirical part the following hypothesis is proposed:

> H6: The probability of divestment is positively related to the cultural distance to the host country.

Change in economic growth. An important attractiveness factor pertains to the general economic conditions of a particular location. According to the "eclectic theory" of international production a host country needs to have specific locational advantages that lead firms to invest in that country rather than in another or produce at home and export. Possible locational advantages are market size and market growth prospects. Based on surveys (Majundar 1980; Larimo 1993) as well as econometric studies (Kravis and Lipsey 1982; Meredith 1984; Culem 1988; Veugelers 1990) market size and market growth have an important impact on international investment location decisions (especially in market oriented FDIs). If later on the economic growth in the target country of the FDI ends this means decrease or even total lost of the locational advantages. Therefore the management has to decide whether to continue production operations in the country or to divest the unit and possibly transfer the production to a more attractive location. Empirical support to the positive relationship between weakening of the economic growth and probability of divestment give the results by Li (1995, for computer industry), and Benito and Larimo (1995). Hence it is proposed that:

> H7: The probability of divestment is negatively related to economic growth in the host country.

Change in political risk. FDIs are less likely to be made in countries with high political risk than in countries considered as "safe" (Agarwal 1980). After that an FDI has been made a change in the political risk situation in the target country 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. The results by Benito (1995) and Larimo (1998) give empirical support to the positive relationship between increase in political risk and probability of divestment. Thus, it is proposed:

> H8: Foreign venture divestment is negatively related to political stability in the host country.

Investment strategy specific variables

Degree of relatedness of the foreign unit. At the level of given expansion projects it appears that in particular diversification into unrelated industries are at risk (see e.g. Pennings et al. 1994). Various explanations have been suggested, for example 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, and that unrelated expansion increases the governance cost of a company without necessarily contributing to lower production costs or higher returns (Reve 1990). Support for higher divestment rates in unrelated types of FDIs than in related have been found by Li (1995), Yamawaki (1995), Hennart et al. (1997 and 1998), and Mariotti and Piscitello (1997). Thus, it is expected:

H9:   The survival of foreign ventures decreases if the investment is an unrelated type of investment.

Degree of ownership and form of investment. 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. 1996). 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 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. 1996).

Both Chowdhury (1992) and Li (1995) found in their studies that international joint ventures are more unstable than wholly-owned subsidiaries in terms of major reorganizations of ownership. Also Yamawaki (1995), Barkema et al. (1996), Hennart et al. (1997 and 1998), Mariotti and Piscitello (1997), and Larimo (1998) all found that a joint venture significantly increased the probability of divestment. What concerns the impact of form of investment, Davidson and McFedridge (1984), Delacroix (1993), Li (1995), Yamawaki (1995), Benito and Larimo (1995), Barkema et al. (1996), Hennart et al. (1997), and Mariotti and Piscitello (1997) all found that an acquisition form of investment significantly increased the probability of divestment. Thus, it is expected that:

H10:   The probability of divestment is negatively related to the degree of ownership in the foreign subsidiary.

H11:   The probability of divestment increases if ventures are acquisitions of already established foreign operations.

Additional variables

Age of the subsidiary. An additional potentially important variable is the age of the subsidiary. As pointed out by population 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). 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 stages 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). The previous results also seem to be mixed. Li (1995) found in his study a positive relationship between age and divestment probability in the pharmaceuticals industry, but a negative relationship in the computer industry. A weak positive relationship between probability of divestment and age was also found in the Japanese based sample in the study by Hennart et al. (1997) and by Mariotti and Piscitello (1997), whereas the North European based sample in the study by Hennart et al. (1997), and results by Benito and Larimo (1995), and Larimo (1998) supported a statistically strong negative relationship. Thus, although the theoretical argumentation and empirical results are mixed, a prediction of the negative sign for the age variable is made based on the previous North European and Nordic results.

H12:   The probability of divestment is negatively related to the age of the foreign subsidiary.

National origin. Recently international business scholars have suggested that national cultural differences may influence a firm´s strategic decisions and in particular foreign entry mode decisions. E.g. Kogut and Singh (1988), Shane (1994), Agarwal (1994), and Erramilli (1996) examined national culture as the main influence on firms´ entry mode decisions and all found that national culture was an important determinant. However, the relationship between national origin of the parent and divestment rate and behavior has been analyzed much more limitedly. From the studies presented in Tables 1 and 2 only two – those by Benito and Larimo (1995), and Hennart et al. (1997) – give some information about this relationship. According to the results in the firs study the divestment rate had been clearly higher in the Norwegian than in the Finnish sample whereas the results in the latter study indicated that the divestment rate had been clearly higher in the Northern European than in the Japanese sample.

The host countries of the investing firms in this study are various Nordic countries. There are a lot of similarities in key features related to the four Nordic countries: all four are developed market economies having high standards of living; the population and market size is in all four countries rather small, and the countries are culturally rather similar (cultural distance between countries is small e.g. based on the results by Hofstede 1980, and by Ronen and Shenkar 1985, who categorize all four countries in the same Nordic cluster). Furthermore, except for the c. 20 largest companies in Sweden, most Nordic companies have started their more intensive internationalization in the form of manufacturing FDIs in the 1960s or more

Table 2. Summary of results in empirical FDI studies focusing on divestments.

Study	PSIZE	R & D	DIVER	INTEXP	TCEXP	CULTDIS	CPOL-RISK	CECON-GROWTH	UN-RELATED	OWNER-SHIP	FORM:ACQ	AGE
Davidson & McFredridge (1984)				ns					ns		+	-
Delacroix (1993)				+							+	-
Benito (1995)	+	ns	ns	ns		ns	+	ns		ns	+	ns
Benito & Larimo (1995)												
-total	+	ns	ns	ns		ns	ns	-		ns	+	-
-Finnish	ns	ns	-	ns		ns	ns	ns		ns	ns	-
-Norwegian	ns	ns	ns	ns		ns	ns	-		ns	+	ns
Li (1995)												
-total	-				-			ns[1]	+	+	+	+
-computer ind.	-				-			-	+	ns	+	ns
-pharmaneuticals	-				-			ns	+	+	+	+
Yamawaki (1995)												
-USA	ns			ns					+	+	ns	ns
-Europe	ns			ns					ns	+	+	ns
Barkema, Bell & Pennings (1996)				ns	ns	+				+	ns/+ [2]	
Hennart et al. (1997)												
-total	+				ns	ns			+	+	+	-
-Japanese	+								+	+	+	+
-European	ns				ns				ns	+	ns	-
Mariotti & Piscitello (1997)	-/+ [3]	+		-		+		ns/+ [4]	+	+	+	+
Hennart, Kim & Zeng (1998)	+								+	+	ns	
Larimo (1998)	ns	-	+	-	ns	ns	+	-	ns	+	ns	-

ns = non-significant

+ = increases probability of divestment

- = decreases probability of divestment

[1] Li Industry growth not economic growth

[2] Results depended on the cultural distance index and test method used

[3] - for failures, + for restructuring divestments

[4] + for restructuring divestments

recently (in several cases in late 1970s or in 1980s). Denmark has been a member of the EEC/EU already from the early 1970s whereas Finland and Sweden have been members of the EU from the beginning of 1995 and Norway is still outside the EU. However, this has not influenced e.g. the direction of FDIs but in all four countries the great majority of investments have been made in Western Europe and in North America. The study by Benito and Larimo (1995) included two of the four Nordic countries and against expectations the results showed a rather clear difference in the divestment rate and partly also in the influencing factors. However, no clear explanations for the findings could be stated and the sample sizes were rather small. Therefore based on the above presented cultural and economic similarities between the home countries it is expected that there are no statistically significant differences in the divestment behavior between firms of different Nordic origin.

Table 2 includes a summary of the results in previous empirical studies focusing on divestments in FDIs (in studies presented in Table 1). As can be seen from the summary, the greatest unanimity in the results seems to have been related to the impact of relatedness of the investment, ownership arrangement of the unit, and form of investment, i.e. mainly in the variables which were grouped as investment strategy specific variables. As discussed earlier, especially related to the impact of the parent size and age of the unit, opposite results have been found in various studies.

3. METHODOLOGY AND INDEPENDENT VARIABLES OF THE STUDY

3.1. Model and independent variables

Because of the nature of the dependent variable, we use a binomial logistic model, in which the probability that the subsidiary is divested is explained by the variables described below. The unit was regarded as divested if the unit was closed or if the share of the Nordic parent firm was less than 10 per cent after the deal in sell-offs. The regression coefficients estimate the impact of the dependent variables on the probability of an exit: a positive sign for the coefficients means that the variable increases the probability that the unit has been divested.

The model can be expressed as:
$$P(y_i=1) = 1/ (1+\exp (-a-X_iB)),$$

where y_i is the dependent variable, X_i is the vector of dependent variables for the ith observation, a is the intercept parameter, and B is the vector of regression parameters (Amemiya 1981).

The independent variables and their expected signs are (+ = increases probability of divestment):

X_1	=	size of the parent company (+)
X_2	=	R&D intensity of the firm (?)
X_3	=	degree of diversity of the parent (+)
X_4	=	international experience (−)
X_5	=	target country specific experience (−)
X_6	=	cultural distance (+)
X_7	=	change in economic growth (−)
X_8	=	change in political risk (−)
X_9	=	type of investment: unrelated (+)
X_{10}	=	degree of ownership (−)
X_{11}	=	form of entry: acquisition (+)
X_{12}	=	age of the unit (−)

Size of the investing firm (PSIZE) is measured by the parent global sales in the year preceding the investment in local currency, changed to FIM using the average exchange rate between the local currency and FIM in that year, and finally changed to FIM value in 1996. The expected sign for PSIZE is positive.

Research and development intensity (R&D) is measured by using the classification of different industries into low, medium, and high research intensity categories using classifications based by OECD. Investments made in the following SIC categories were classified as investments in R&D industries (value=1): 2000–2799, 2900–2999, 3100–3338, 3340, 3342–3355, 3358–3368, 3370–3499; as investments in medium R&D intensive industries (value=2) were classified investments in SIC categories: 2800–2832, 28355–2899, 3000-3099, 3339, 3341, 3356–3357, 3369, 3500–3572, 3375–3578, 3580--3599, 3900–3999; and as investments in high R&D intensive industries (value=3) were classified investments in SIC categories: 2833–2834, 3573–3574, 3579, 3600–3899. No sign is expected for R&D.

Degree of diversity of the parent (DIVER) is proxied by the number of four digit SIC industries the firm was operating in the year preceding the investment. The expected sign for DIVER is positive.

International experience (INTEXP) is proxied by the number of foreign manufacturing investments made by the firm preceding the investment in case. The expected sign for INTEXP is negative.

Target country experience (TCEXP) is proxied by the number of years elapsed between the establishment of the affiliate and the establishment of the parent´s first subsidiary in the same country. The expected sign is for TCEXP is negative.

Cultural distance (CULTDIS) is computed in the manner suggested by Kogut and Singh (1988), using a composite index based on differences between the Nordic country in question and the target country of the investment along the four cultural dimensions (power distance; uncertainly avoidance; individuality; and masculinity and feminity) identified by Hofstede (1980). Data on the index of the various cultural dimensions for each country of the sample FDIs and for each Nordic country were obtained from Hofstede (1980). The expected sign for CULTDIS is positive.

Change in the economic growth rate (CECONGROWTH) is measured by using the change in the annual growth rate of the gross national product. If the unit is divested the difference in the annual growth rates for the year of divestment and for the year of making the investment were used. If the unit still existed in 1998, the difference in the annual growth rates between 1998 and the year of making the investment were used. The growth rates for OECD countries were taken from statistics by OECD and for non-OECD countries from the statistics provided by the United Nations. The expected sign for CECONGROWTH is negative.

Change in political risk (CPOLRISK) is measured by using the political risk evaluations provided by Euromoney. The higher the value for the country the more stabil and less politically risky the country is. If the unit is divested the difference in risk evaluations for the year of divestment and for the year of making the investment were used. If the unit still existed in 1998, the difference in the risk evaluations between 1998 and for the year of making the investment were used. The expected sign for CPOLRISK is negative.

Type of investment (UNRELATED) is a dummy variable equal to one if none of the products manufactured by the subsidiary were produced by the parent and to zero if they had common products. The expected sign for UNRELATED is positive.

Degree of ownership (OWNERSHIP) is modeled by a dummy variable equal to one if the entry was a wholly-owned unit (share of ownership between 95 and 100 %) and zero if the entry was a joint venture (share of ownership between 10 and 94 %). The expected sign for OWNERSHIP is negative.

Form of entry (FORM) is modeled by a dummy variable equal to one if the entry was an acquisition and zero if the entry was a greenfield investment. The expected sign for FORM is positive.

Age of the unit (AGE) in years. If the unit was divested, the length in years between the year of investment and divestment, and if the unit still existed, the length between the year of investment and 1998. A negative sign is expected for AGE.

3.2. Data

The empirical part of the study is based on manufacturing FDIs made by Nordic firms in various foreign countries in 1960–95. The sample is based on information drawn from annual reports of the firms, information taken from various business journals, survey information and other types of information received through direct contacts by the author from companies in various Nordic countries. Altogether over 5 800 manufacturing FDIs made by Nordic firms between 1960 and 1995 were identified. However, all the needed information could be found related to only 2 637 FDIs. The country distribution in the sample was as follows: 1 251 Finnish FDIs (47.4 % from the total sample), 770 Swedish FDIs (29.2 %), 330 Norwegian FDIs (12.5 %), and 286 Danish FDIs (10.8 %). Thus, the Finnish sample is almost half of the total sample because of the best access and follow–up possibilities by the author.

Of the total sample 811 FDIs were divested (30.8 %) and 1 826 (69.2 %) still existed in Nordic ownership at the end of June 1999. Thus, the mean rate of divestment was clearly higher than the respective rates e.g. in Japanese FDI studies but lower than e.g. in earlier studies focusing on divestment in Norwegian FDIs (Benito 1995 and Benito and Larimo 1995). The situation in various Nordic samples will be discussed later in the study in connection with the country based logit results.

The total sample included investments made in over 50 countries. Over 75 per cent of the FDIs were made in various OECD countries (Sweden, USA, Germany, and the UK as the main target countries), and thus less than 25 per cent in non-OECD countries. A clear majority of the FDIs were related types of investments, acquisitions and made in the period 1986–95. Furthermore, a great share of the reviewed FDIs were made by the 100 largest Nordic manufacturing companies. Appendix 1 presents more details from the descriptive statistics for the independent variables in the samples.

Appendix 2 presents correlations between the independent variables in the total sample. The highest correlations were found between PSIZE and DIVER (0.586), PSIZE and INTEXP (0.693), and INTEXP and DIVER (0.637). These correlations were usually also the highest in various country samples. Both in the total sample and in the country samples the correlations

were in other cases clearly lower. Thus the problems of multicollinearity in the study should be rather low. Because dropping one or several variables from the regression is not necessarily a good means of avoiding a possible multicollinearity problem, Kennedy´s (1992) recommendation of including all the variables in the analysis in the first model is followed. However, in one of the models (model 2), INTEXP was excluded.

4.   EMPIRICAL RESULTS

The results of the logistic regression including all the variables are shown in Table 3. The model has a relatively good overall explanatory power with a chi-square of 311.524 with 12 DF (p=0.0001). The overall hit rate is 71.3 per cent which is clearly better than the hit rate obtained by the proportional chance criterion 57.4 per cent , i.e. $a^2 + (1 - a)^2$, where a is the proportion of divested units in the sample. Looking at the results, ten of the reviewed twelve variables significantly influenced the probability of divestment hypotheses (the country impact will be reviewed later).

In the first hypothesis it was expected that large size of the parent firm would increase the probability of divestment. Against expectations the sign of the variable is negative and significant at the 0.05 level. Thus probability of divestment has been greater in FDIs made by SMEs than by large firms. This indicates support for the view that because of the smaller management and financial resources owned by SMEs they have been more inclined to divest foreign subsidiaries. Thus the results are in contrast to those by Benito (1995), Benito and Larimo (1995); Hennart et al. (1997), and Hennart, Kim and Zeng (1998) but are in accordance with the findings by Li (1995). It is noteworthy that the previous Nordic results indicated only a rather weak positive relationship (at the 0.1 level). To investigate the result in more detail also a logarithmic version of the PSIZE variable was used. Using the logarithmic version the sign of the variable remained the same and the significance level increased to the 0.0001 level, indicating even greater support for the existence of a negative relationship between the PSIZE and probability of divestment in FDIs made by Nordic firms.

In the third hypothesis it was expected that a high degree of diversification would increase the probability of divestment. The sign of the variable is positive and significant at the 0.0001 level. Thus, the result is in accordance with earlier findings (Larimo 1998) and gives support to the view that the more diversified the parent company is, the lower the emotional attachment and therefore also the perceived barriers to exit.

For INTEXP and TCEXP negative signs were expected and also found. Thus both general FDI experience and target country specific experience both decreased the probability of later divestment of the subsidiary. However, TCEXP is significant only at the 0.1 level whereas INTEXP is significant at the 0.0003 level. The result indicates that target country specific experience seems to have been clearly less influencing than general FDI experience. The great significance of the INTEXP variable is in accordance with the results in an earlier study focusing on the divestment behavior of Finnish firms in their OECD located subsidiaries (Larimo 1998). In the same study TCEXP was insignificant, whereas Yamawaki (1995) found a clear negative relationship between TCEXP and probability of divestment.

In the sixth hypothesis it was expected that the probability of divestment will increase along cultural distance. Against expectations the sign of CULTDIS is negative and variable is significant at the 0.0001 level. Thus the probability of divestment has surprisingly been

greater related to the foreign subsidiaries located in culturally closer countries than in culturally more distant ones. The finding contradicts the findings by Barkema et al. (1996). One explanation for the finding is that several Nordic firms, e.g. Finnish ones, have made great rationalization operations in their global operations and several of the units which have been divested have been located in culturally close or fairly close countries. However, the finding clearly needs more detailed analysis in the future.

A decrease in the economic growth of the target country was expected to increase the probability of divestment (H7). As expected the sign for CECONGROWTH is negative and the variable is significant at the 0.0001 level. Thus a weakening of the target country´s economic growth has significantly increased the probability of divestment. This indicates support to the view that the target country has not anymore been as attractive for a FDI as it was at the time of the investment and firms may have considered other locations which have offered better growth opportunities for the firm. The result is in accordance with earlier findings by Li (1995) in connection with the computer industry, Benito and Larimo (1995), and Larimo (1998).

In hypothesis eight it was expected that an increase in the political risk situation of the target country during the years would increase the probability of divestment. The sign for CPOLRISK variable is negative and statistically significant at the 0.001 level. Thus, the results are in accordance with the findings in several previous studies and indicates that increased political risk means clear decrease in the locational advantages of the host country.

Related to the relatedness of the foreign unit it was expected that making an unrelated type of investment would increase the probability of divestment. The results supported the expectation – the sign was positive and the variable was significant at the 0.001 level. This supports the findings in several earlier studies (Li 1995; Yamawaki 1995; Hennart et al. 1997; Hennart, Kim & Zeng 1998) and indicates that it is difficult to reach economies of scope and scale in unrelated types of FDIs.

The sign for degree of ownership is negative and the variable is significant at the 0.0001 level. Thus, according to expectations (Hypothesis 10) a joint venture structure clearly increases the probability of divestment. The result is in accordance with the previous results e.g. by Li (1995), Hennart et al. (1997 & 1998) and Larimo (1998). Thus, in several cases there seems to have been acculturation problems and/or problems with joint decision making in joint ventures leading to greater probability of divestment than in wholly-owned subsidiaries.

For the AGE variable a negative sign was predicted (Hypothesis 12). The sign for the variable is negative and the variable is statistically significant at the 0.0001 level. The results are in accordance with the earlier findings by Davidson and McFedridge (1984), Delacroix (1993), Benito and Larimo (1995), Hennart et al. (1996), and Larimo (1998). The result indicates support for the view that young units have often profitability problems and/or difficulties in getting access to the resources that are needed for survival. Older units have more often succeeded to develop webs of exchange and relationships with suppliers, etc. and have therefore better possibilities to compete and survive.

The only two variables which were insignificant in the total sample were R&D and FORM. No sign was predicted for R&D intensity of the industry of the investment because the effect of R&D intensity on divestment probability may theoretically go both ways and also the previous empirical results have been mixed. The results of this study are in accordance with

Table 3. Parameter estimates for the binomial logit models: divested vs. existing subsidiaries.

	Expected sign	Model 1 Total sample Parameter Estimate	Model 2 INTEXP excl. Parameter Estimate	Model 3 Denmark Parameter Estimate	Model 4 Finland Parameter Estimate	Model 5 Norway Parameter Estimate	Model 6 Sweden Parameter Estimate
Intercept		1.7207	1.8670	-1.934	2.102	1.288	1.108
		0.0001***	0.0001****	0.3134	0.0001****	0.1428	0.0380**
PSIZE	+	-7.1E-6	-9.99E-6	-0.000*	3.605E-6	-0.000	-3.57E-6
		0.0139**	0.0003****	0.0877	0.6669	0.0867*	0.3367
R & D	?	-0.0409	-0.0528	0.207	0.106	-1.007	-0.372
		0.5284	0.4158	0.4933	0.2609	0.0001****	0.0067***
DIVER	+	0.0478	0.0366	0.034	0.041	-0.059	0.079
		0.0001****	0.0001****	0.3721	0.0003****	0.0617*	0.0001****
INTEXP	-	-0.00938		-0.005	-0.013	-0.002	-0.010
		0.0003***		0.8211	0.0127**	0.8568	0.0114**
TCEXP	-	-0.00819	-0.0150	-0.006	0.005	0.020	0.001
		0.0901*	0.0014***	0.6528	0.6019	0.2833	0.9241
CULTDIS	+	-0.1829	-0.2076	-0.063	0.044	0.216	-0.059
		0.0001****	0.0001****	0.6449	0.5849	0.0532*	0.3122
CECONGROWTH	-	-0.0438	-0.0440	-0.182	-0.051	0.033	-0.029
		0.0001****	0.0001****	0.0193**	0.0006****	0.2985	0.0314**
CPOLRISK	-	0.0131	0.0133	0.049	0.012	0.051	0.019
		0.0052***	0.0045***	0.0580*	0.0508*	0.0016***	0.0938*
UNRELATED	+	0.5176	0.5379	4.626	0.582	-0.732	-0.008
		0.0014***	0.0009****	0.0009****	0.0058***	0.3664	0.9808
OWNERSHIP	-	-0.5647	-0.5525	-3.498	-0.532	0.663	-0.461

		0.0001****	0.0001****	0.0001****	0.0001****	0.0524*	0.0351**
FORM (ACQ)	+	-0.1735	-0.1963	-0.218	-0.263*	-0.048	-1.011
		0.1158	0.0734*	0.7185	0.0719	0.8940	0.0009****
AGE	-	-0.0683	-0.0716	0.055	-0.088	-0.034	-0.063
		0.0001****	0.0001****	0.3256	0.0001****	0.1952	0.0001****
n		2637	2637	286	1251	330	770
% correct observations		71.3	70.4	87.4	63.3	76.7	80.8

***$p < 0.01$ **$p < 0.05$ *$p < 0.1$ (one-tailed)

the findings by Benito (1995). What regards the impact of the form of investment the results have rather uniformly supported the clearly higher rates of divestments in acquisitions than in greenfield investments (see Table 2). However, the results in this study support earlier results by the author in a study focusing only on FDIs made in OECD countries (Larimo 1998). A more detailed analysis of the results indicated that when a logarithmic version from the PSIZE variable was used, then the FORM variable was statistically significant at the 0.05, indicating support for the findings in several other previous studies.

Divestment behavior in various Nordic samples

In addition to the general influence of various factors on the divestment probability of Nordic firms a central goal of the study was to analyze the similarities and differences in the behavior between various Nordic countries. As discussed earlier, it was expected that there would not be any significant differences in the divestment behavior between Nordic countries. What concerns divestment rates, the results indicated surprisingly great differences in the figures between various Nordic countries: in Danish FDIs 11.2 %; in Swedish FDIs 18.8 %; in Norwegian FDIs 21 % and in Finnish FDIs 45.2 %. Thus the rate was clearly higher in the Finnish than in the other Nordic samples (difference statistically significant at the 0.05 level). One explanation for the finding apparently is that the Finnish sample was much more comprehensive than the other Nordic samples. The finding definitely needs further analysis.

The models 3–6 in Table 3 present the logit runs for various Nordic countries. In the Finnish and Swedish samples eight, in the Norwegian sample six, and in the Danish sample five of the reviewed 12 variables were statistically significant. As the results indicate, two of the variables – CPOLRISK and OWNERSHIP – were statistically significant in all four Nordic samples. Noteworthy is, however, that the sign for OWNERSHIP is positive in the Norwegian sample. It is difficult to explain this difference in the divestment behavior. A third common feature was that TCEXP was insignificant in all four samples.

Seven of the eight significant variables in the Finnish and Swedish samples were the same. Furthermore, PSIZE, TCEXP, and CULTDIS were in both samples insignificant. Thus only two variables had clearly different level of influence in Finnish and Swedish samples. The greater amount of common determinants in these two samples is partly explained by the clearly bigger sample sizes in these two samples and apparently partly because of the somewhat greater industry structure similarity between Finnish and Swedish than between other samples.

It is also noteworthy that of the five significant variables in the Danish sample four were significant also in the Finnish sample and three in the Norwegian and Swedish samples. Finally, one variable, CULTDIS, was statistically significant only in the Norwegian sample. Also in the organizational structure analyzis the Norwegian sample was the only Nordic sample where the CULTDIS variable was significant (see Larimo 1999). Thus the role of CULTDIS seems to be generally much greater in Norwegian FDIs than in FDIs made by firms from other Nordic countries. In summary, it can be said that the influencing factors in the divestment behavior of Nordic firms seem to have been much more similar than the influencing factors in the organizational structure behavior of Nordic firms in their FDIs (see Larimo 1999). However, because several differences can also be found, the proposal of similar type of divestment behavior receives for a great part support in the case of Finland and Sweden but much more limitedly for all four Nordic countries.

6.   SUMMARY AND DISCUSSION

This paper has examined why foreign manufacturing units are divested, especially in FDIs made by Nordic firms. Previous studies have shown that a great share (from 20 to even 70 per cent) of FDIs made have been later divested. According to the results of this study the divestment rate in Nordic investments made in OECD countries during 1960–95 was 30.8 per cent in mid-1999.

Of the 12 variables examined, ten were confirmed to have significantly influenced the divestment behavior of Nordic firms. As expected, extensive general FDI experience and target country specific experience decreased the probability of divestment, and high degree of diversification, decrease in the economic growth rate and increase in the political risk of the target country, making an unrelated type of FDI, joint venture ownership structure, and young age of the unit had increased the probability of divestment. Against expectations, large size of the parent firm and high cultural distance had not increased the probability of divestment but the results indicated just the opposite results. Only two of the reviewed variables, R&D intensity of the industry and form of investment, had not influenced significantly the divestment behavior. The greatest differences between results in this and in several previous studies were the negative impact of cultural distance and the insignificance of the acquisition form of investment on the probability of divestment. The more detailed analysis of the results indicated, however, that acquisition form of investment was statistically significant, if the logarithmic versions of the parent turnover figures were used.

The results indicated clearly higher divestment rate in the Finnish than in other Nordic samples. The finding may be an indication that there has existed more failures and/or much more restructuring in Finnish FDIs than in investments made by other Nordic firms. Another explanation for the finding is that the Finnish sample was much more comprehensive than the other Nordic samples. Two of the reviewed variables – change in political risk and degree of ownership – were statistically significant in all four Nordic samples. However, change in political risk was among the most significant factors only in the Norwegian sample (in the others significant only at the 0.1 level) whereas the ownership arrangement was one of the key factors both in the Danish and Finnish samples. Furthermore, in the Norwegian sample the divestment rate had been greater in wholly-owned subsidiaries, whereas in the other Nordic samples the probability of divestment was significantly greater in joint ventures. Furthermore, one variable – TCEXP, was insignificant in all four samples. Finally, seven of the eight significant variables in the Finnish and Swedish samples were the same, and in addition three variables were insignificant in both samples. Thus, the influencing factors seem to have been very similar in these two countries whereas the behavior of Danish and Norwegian firms, especially the latter ones, have been influenced by partly other factors and partly other direction of influence.

So far relatively few studies have focused on what might influence the probability of divestment. Most of the previous studies have focused on FDIs made in the 1970s and 1980s whereas a great share of the FDIs analyzed in this study were made late 1980s and early 1990s. Furthermore, most studies have focused on FDIs made from: 1) one single home country in one single target country, or 2) one single home country in several target countries, or 3) several home countries in one single target country. Extremely few studies can be found where the divestment behavior of firms from two or more home countries in several target countries has been analyzed as is the case in this study. Thus, the results gave in several respect new information from the divestment behavior of especially Nordic firms in their

FDIs. Furthermore, the study offers several avenues for further research in order to have even more comprehensive view of the divestment behavior of firms in their foreign operations.

From the management point of view the results indicate e.g. the need for very detailed planning of the FDI in cases of unrelated types of investments and where the unit will be a joint venture. The results related to INTEXP indicate the usefulness of analyzing which experiences and strategies from other investments can be applied in some specific FDI. From the host government point of view the results indicate e.g. that weakening of the economic growth increase the probability of divestment and therefore the host government should rethink are there any possibilities to compensate the weakening of some locational advantages with some other ones.

Previous studies have shown greatest unanimity in the significance of investment strategy related variables. The results of this study indicated clearly that the divestment behavior of Nordic firms has been influenced by ownership specific, location specific, and investment strategy specific factors. In several cases the hypothesized relationships received support. However, some of them failed to receive statistical support and in two cases the results were significantly opposite to expectations. In the future the first avenue to investigate would be to try to analyze in more detail the reasons for some of the unexpected findings, and to include information on e.g. the absolute and relative size of the investments in the analysis. This study as most previous studies used related to e.g. PSIZE, DIVER, INTEXP information from the time of making the FDI. A comparison with the results based on respective information in the year of divestment would be interesting. One weakness in this study was that because of lack of firm level data industry level data had to be used related to R&D intensity and total GDP growth rate change figures instead of industry level data related to CECONGROWTH. This may have influenced the results at least somewhat. A second avenue to continue would be to use instead of binomial logistic regression the event history analysis method and compare the results. A third avenue would be to analyze the differences in the behaviour focusing on the type of divestment, i.e. whether the divestment was a sell-off or closure. Only a few studies so far have analyzed the impact of the type of divestment, thus there would be a clear need for further research especially since the results indicated that the influencing variables were different depending on the type of divestment (see Hennart et al. 1997 and 1998). A fourth avenue would be to analyze the motives for the divestment, i.e. whether the unit was divested because of failure or whether the divestment was related to a greater rationalization operation of the parent company. So far there have been extremely few studies (see Mariotti and Piscitello 1997) focusing on the motives for divestment, although the results indicate that the influencing factors seem to significantly depend on the motives for divestment.

ACKNOWLEDGEMENTS

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APPENDIX 1. Descriptive statistics for independent variables (total sample, N = 2637).

DESCRIPTION	Total Mean	Total SD	Denmark Mean	Denmark SD	Finland Mean	Finland SD	Norway Mean	Norway SD	Sweden Mean	Sweden SD
PSIZE	13168.89	25632.61	7672	4970.41	6393.52	9301.78	10611	16137	27314.82	41253.91
R&D	1.77	0.72	1.75	0.83	1.71	0.67	1.77	0.65	1.89	0.79
DIVER	11.91	7.43	11.91	8.69	12.50	7.02	10.75	7.46	11.46	7.49
INTEXP	25.71	29.18	18.65	14.11	19.12	18.46	20.22	17.18	41.40	42.62
TCEXP	5.92	11.71	8.63	19.96	3.78	6.13	5.39	4.41	8.64	14.61
CULTDIS	2.27	1.61	3.15	1.79	1.45	0.82	2.35	1.57	3.25	1.80
CECONGROWTH	0.82	5.68	0.70	3.72	0.75	5.00	1.10	5.05	0.86	7.34
CPOLRISK	0.19	10.67	-0.64	9.62	0.22	10.71	-1.93	12.53	1.35	9.93
UNRELATED	0.07	0.26	0.01	0.12	0.09	0.29	0.05	0.22	0.07	0.26
OWNERSHIP	0.65	0.48	0.69	0.46	0.63	0.48	0.59	0.49	0.68	0.47
FORM	0.73	0.44	0.72	0.45	0.71	0.46	0.71	0.45	0.78	0.42
AGE	28.54	6.59	32.29	4.80	27.95	6.30	28.93	6.35	27.95	7.23

APPENDIX 2. The correlation matrix between different variables (total sample, N = 2637).

	PSIZE	R&D	DIVER	INTEXP	TCEXP	CULTDIS	CECON-GROWTH	CPOL RISK	UNRELA-TED	OWNER-SHIP	FORM	AGE
PSIZE	1.000											
R&D	0.106	1.000										
DIVER	0.586	0.014	1.000									
INTEXP	0.693	0.130	0.637	1.000								
TCEXP	0.237	0.066	0.270	0.434	1.000							
CULTDIS	0.221	0.126	-0.035	0.209	0.009	1.000						
CECONGROWTH	0.109	-0.047	0.043	0.034	-0.035	-0.114	1.000					
CPOLRISK	0.094	-0.010	0.031	0.038	0.059	-0.132	0.135	1.000				
UNRELATED	-0.047	0.034	-0.027	-0.088	0.002	-0.073	-0.051	0.007	1.000			
OWNERSHIP	-0.027	0.074	0.018	-0.015	0.161	-0.089	-0.004	0.110	0.012	1.000		
FORM	-0.047	0.004	-0.085	0.029	-0.087	0.178	-0.042	-0.109	-0.086	-0.228	1.000	
AGE	0.438	0.025	0.014	0.331	0.043	0.099	0.191	0.063	-0.053	-0.071	0.030	1.000