STOCKHOLM SCHOOL OF ECONOMICS

Institute of International Business (IIB)
Master's thesis

Entry Mode Strategy and the Effect of National Culture on Foreign Subsidiary Performance

Abstract

This study raises a new question regarding the link between cultural distance and entry mode performance. Previous studies have found a relationship between entry mode choice and performance. Others have shown a relationship between national culture and the choice of entry mode. Yet others have suggested a relationship between cultural distance and performance. In this paper we investigate whether cultural distance and entry mode choice have an effect on subsidiary performance. In addition to this we hypothesize that there might be an interaction effect between entry mode and cultural distance, i.e. it might be better for a firm from a culturally distant country to use one entry mode over another. We conduct our study on greenfield and acquisition entries in Sweden between 1996 and 1999 using objective performance data. As far as we know, this study is the first large sample study connecting the cultural distance of entries into one stable small open economy with entry mode and long term performance. We find that the entry mode and cultural distance have no significant impact on subsidiary performance. In addition, we cannot establish an impact of cultural distance on the performance of foreign subsidiaries depending on the mode of entry. The findings of this paper suggest that further research, including more variables and refined methodology, is needed to gain a deeper understanding of these complex relationships.

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1 Introduction

All companies must plan for growth and survival in the long run and in many cases that means going international. There are several reasons for going international. Some go abroad because the home market is stagnant and foreign markets are growing faster. Yet others might simply follow a customer that is expanding its market. Others go abroad to follow domestic competitors or counter foreign competitors entry on their own market. Whatever the reason for international expansion is, a company that expands abroad is almost always doing so because there are prospected profits to be made (Root 1994). Once the decision to go abroad is made, the next step is to decide on how to expand. Many companies start out by exporting and then move on to licensing only to later on consider foreign direct investment (Johansson and Vahlne 1977). Regardless of when the decision to invest abroad is taken, another important decision has to be made; the choice of how to enter the new market.

In the internationalization process of a firm, the choice of foreign market entry mode is one of the key strategic decisions management has to make (Lu 2002). Root (1987) describes entry mode as a mean to penetrate the foreign country and the marketing plan as a mean to penetrate the foreign market. Hence, he claims, there will be a direct relation between the entry mode choice and the design of the marketing plan, both critical decisions for overseas success. As highlighted by Besanko et al. (2004) strategy is difficult to reverse once set and this should also be true for the strategic choice of entry mode. Agarwal and Ramaswami (1992) point out that since "*all of these modes involved resources commitments (albeit at varying levels) firms' initial choices of a particular mode are difficult to change without considerable loss of time and money. Entry mode selection is therefore a very important, if not critical strategic decision.*" With strategy difficult to reverse and foreign market entry mode as a critical strategic decision, it becomes highly interesting to investigate not only entry mode choice but also the performance effects of entry mode choices.

Many studies have examined the difference between equity and non-equity based entry modes, or the differences between wholly and partially owned ventures (see for example Root 1994; Horstman and Markusen 1996, Lu and Beamish 2001). However, few have studied the performance differences between the wholly owned entry modes, greenfield entry and acquisition. These entry modes are particularly interesting since they represent a high degree of commitment and control. High resource commitment implies higher

risk and higher potential returns (Andersson and Gatignon 1986). Previous studies on entry mode and performance are often scarce in terms of reliable performance measures as pointed out by Woodcock et al. (1994). Little empirical research has been done on the relationship between entry mode and performance mainly due to the difficulty in collecting valid and reliable data for both performance and entry mode. This problem is still evident today.

The impact of differences in national culture, measured as cultural distance[1], between the home country of Multinational Enterprises (MNEs) and the country of operation has attracted much attention in international business research (Tihanyi 2005). Kogut and Singh (1988), for example, found evidence that cultural distance and attitudes towards uncertainty avoidance influence entry mode choice. A rather large body of research exists on the choice of entry mode with respect to cultural differences (see for example Kogut and Singh 1988; Erramilli 1996; Hennart and Larimo 1998; Tihanyi et al. 2005) and a few studies have also looked at cultural differences, entry mode and performance (Morosini et al. 1998; Luo and Peng 1999; Pothukuchi et al. 2002). We wish to extend this body of research by investigating the performance effect of cultural distance on high commitment entry modes.

1.1 Research Purpose

The purpose of this study is to investigate whether cultural distance causes a difference in the way foreign subsidiaries, established either through a greenfield operation or an acquisition, perform in the long run. It has been shown that greenfield entries outperform acquisitions in terms of survival (see for example Curhan et al. 1977; Delacroix 1993; Li and Guisinger 1991; Li 1995) but we want to investigate whether this effect is still evident among the firms that survive throughout the initial start-up period. We also wish to study whether cultural distance and entry mode choice separately affect subsidiary performance. Moreover, we investigate whether there is an interaction effect between entry mode and cultural distance with regard to subsidiary performance. Thus the main contribution of this paper is that it combines these two effects, cultural distance and entry mode, and compares the actual performance of firms from different countries that invests in one single country while controlling for subsidiary age. We are also able to

[1] Throughout this paper, cultural distance refers to the cultural distance between a firm's home country and the host country of the foreign operation. Morosini et al. (1998) refers to the same measure as national cultural distance.

make the comparison with better data than most previous studies. To our knowledge this will be the first comparative study of this kind on entries in one small open economy. More specifically we want to answer the following research questions:

1. Does the choice between acquisition and greenfield entry affect foreign subsidiary performance?
2. Does cultural distance have an impact on foreign subsidiary performance?
3. Does cultural distance have different effect on the performance of foreign subsidiaries depending on the mode of entry, either acquisition or greenfield?

1.2 Delimitations

This study will consider performance in the long run, which we have defined as entries that survive longer than the initial startup period (see for example Freeman et. al. 1983; Altman 1983; Li and Guisinger 1991) when exit rates are much higher and performance more volatile. Moreover we only look at sole venture Foreign Direct Investments (FDI), i.e. acquisition and greenfield entry. Due to limitations in the data set, our study is restricted to entries into Sweden between 1996-1999 and performance between 2001-2004. Among the FDIs, greenfield and acquisition are by far the most common entry modes with very few observations of joint ventures and others. Out of the 3208 establishments between 1996 and 2004 that our data set consists of, only 23 (0.7%) were joint ventures.

1.3 Structure

The remainder of the paper is organized into three parts. The first part reviews the relevant literature to develop the hypotheses. The second part gives an overview of the data and research method. The last section provides the analysis of our results and concludes.

2 Theoretical Review and Hypotheses Development

In this section we will first provide a background of why and how firms may engage in international operations. We will thereafter develop our hypotheses based on previous research. Next, we go through other factors that influence entry mode choice and performance. Finally, we provide a review of the hypotheses.

2.1 Background

2.1.1 Driving Forces Behind Internationalization

Kindleberger (1969) and Hymer (1976) offer an explanation for international expansion called the monopolistic advantage theory. It argues that the foreign firm has a knowledge-disadvantage of the new market compared to its local competitors. Thus, a foreign owned firm must have some specific advantage in order to compete on equal terms with a local firm. Further, the eclectic theory proposed by Dunning (1977, 1988) is based on the monopolistic advantage theory and stipulates that the choice of entry mode is influenced by three types of determinant factors: ownership advantages, location advantages of a market, and internalization advantages of integrating transactions within the firm. The basic idea is that subsidiaries of MNEs can manufacture successfully in foreign markets only if they possess advantages sufficient to compensate for costs of setting up and operating a foreign subsidiary. Figure 1 gives an overview of the model.

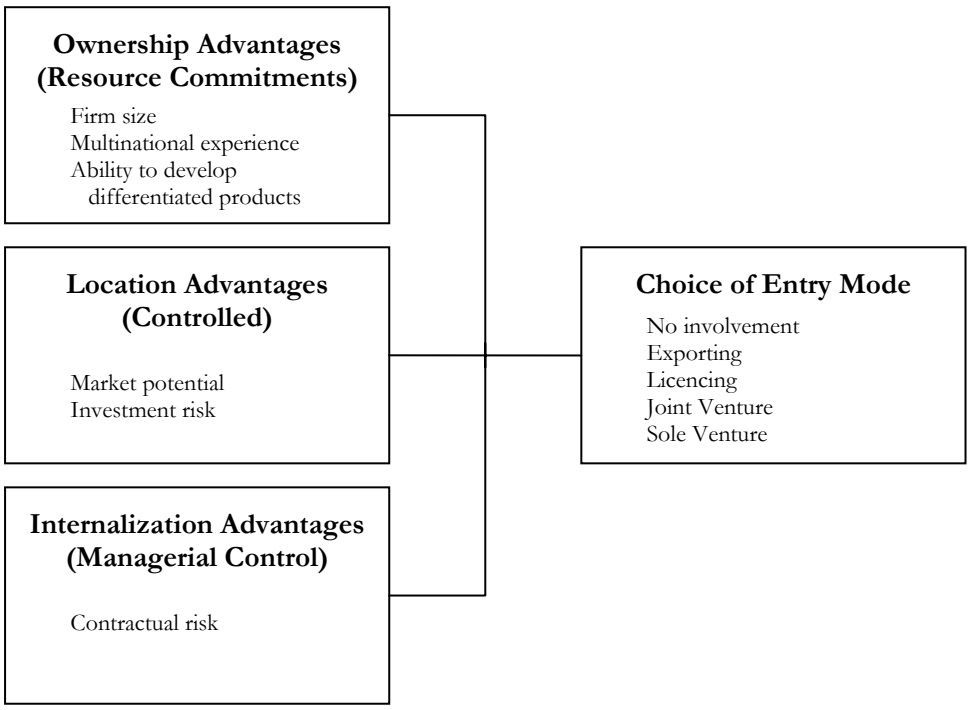

Figure 1, The eclectic paradigm as developed by Dunning (1977, 1988) and interpreted by Agarwal and Ramaswami (1992)

A firm that wants to export its firm-specific knowledge abroad will choose to do so through a transfer of knowledge internally rather than license it to a foreign firm if the market for this type of knowledge has high transaction costs. They will choose to do so because of the risk of losing control of the knowledge associated with external expansion

or as put by Anderson and Gatignon (1986) …*the most appropriate (i.e., most efficient) entry mode is a function of the trade off between control and the cost of resource commitment*. Thus, the major reason for cross border expansion is that under certain conditions costs are lower for organization within a firm, internalizing, as compared to organization through the market place (Hennart, 1982).

Entry into a new market involves two interdependent decisions, location and mode of control. Exporting is for example domestically located and administratively controlled, foreign licensing is foreign located and contractually controlled. FDIs, on the other hand, is both located and administratively controlled in the foreign country. The main problem a firm faces when investing abroad is that part of the positive result from internalizing will be mitigated by a loss of control to the foreign country both due to physical and cultural distance relative to expanding within ones home country. This study further investigates the impact of cultural distance in the long run.

2.1.4 Different Modes of Foreign Market Entry

Foreign market entry mode has been defined by Root (1987) as *"an institutional arrangement that makes possible the entry of a company's products, technology, human skills, management, or other resources into a foreign country"*. There are a broad variety of different entry modes that can generally be categorized into export entry modes, contractual entry modes and investment entry modes (Root 1994; Horstman and Markusen 1996). A distinction is also made between equity based and non-equity based foreign market entry modes (see for example Lu and Beamish 2001). The different entry modes are presented in Table 1 and stretch from exporting, licensing and franchising on one end to various forms of FDIs such as joint ventures, acquisitions, mergers, and wholly owned new ventures, also known as greenfield investments, on the other end.

Table 1: Classification of Foreign Market Entry Modes

Export Entry Modes
Indirect
Direct agent/distributor
Direct branch/subsidiary*
Other
Contractual Entry Modes
Licensing
Franchising
Technical agreements
Service contracts
Management contracts
Construction/turnkey contracts
Contract manufacture
Co-production agreements
Other
Investment Entry Modes / Foreign Direct Investment
Sole venture: New establishment/greenfield investment*
Sole venture: Acquisition*
Joint venture: New establishment/acquisition*
Other*

Note*: Equity-based entry mode. Source: Root (1994)

In a sole venture the parent firm has full ownership and control of the foreign subsidiary. A firm may enter a new market through a sole venture either by starting operations from scratch (new establishment/greenfield investment) or by acquiring a local firm (acquisition) (Root 1994). Considering the investment entry modes, acquisitions and greenfield investments have commonly been thought of as representing alternative entry modes with joint ventures only as a matter of the degree of ownership (Kogut and Singh 1988). With this approach two sequential decisions are identified; first whether to invest in new assets or acquire old ones (i.e. greenfield or acquisition/joint venture), and secondly whether to share the ownership or not (i.e. joint venture or acquisition/greenfield) (Kogut and Singh 1988).

The degree of control and level of resource commitment have been recognized as important variables in the foreign market entry mode decision (Caves 1982; Hill et al. 1990; Agarwal and Ramaswami 1992; Kim and Hwang 1992). The different foreign market entry modes vary in the firm's degree of control over invested resources and expected risk as well as the transaction costs associated with a certain level of resource commitment (Anderson and Gatignon 1986; Root 1987; Li 1995; Domke-Damonte 2000). For instance, high control modes such as sole ventures imply higher resource commitments and hence a higher risk but also higher potential returns (Andersson and Gatignon 1986). This makes the sole venture entry modes particularly interesting to study.

2.2 Hypothesis Development

2.2.1 Entry Mode Performance

As previously discussed, entry mode choice is a crucial part of the firm's internationalization strategy. Hence, studying the performance implications of a certain entry mode choice becomes highly relevant. Previous research on internationalization and firm performance have found that presence in foreign markets increase the returns on sales and assets independent of the choice of entry mode (Daniels and Bracker 1989). However, a number of studies suggest that the choice of foreign market entry mode have a significant impact on survival and performance of foreign subsidiaries.

The previous academic work on entry mode choice related to performance can broadly be grouped into three categories. The first group of studies focus on entry mode effects on subsidiary survival (see for example Curhan et al. 1977; Li and Guisinger 1991; Mitchell et al. 1992; Li 1995) whereas a second group investigate other financial and non-financial performance measures of foreign entrants that do manage to survive (see for example Woodcock et al. 1994; Pan et al. 1999; Konopaske 2002). A third category of studies examines how the use of certain theoretical frameworks for choosing the appropriate entry mode affects subsidiary performance (see for example Chen and Hu 2002; Brouthers 2002; Brouthers and Nakos 2004). Due to the quantitative long-term approach and objective data set, this paper is mainly related to the second group. However, the analysis of the results will also draw upon theory and findings from the third group.

Entering through greenfield investment has the disadvantage of higher risk compared to acquisition. Moreover, entering through acquisition creates an advantage since the entering firm gets fast access to market knowledge and can reap benefits of existing business relationships in the local market (Caves 1982). Following these two aspects, riskiness and existing relationships, it has been commonly assumed that exit rates should be higher for companies entering through greenfield investments than through acquisition (Li and Guisinger 1991; Li 1995). Much research on entry mode and exit rates on the other hand suggest that exit rates are higher for foreign subsidiaries established through acquisition than for those established through greenfield investments (Curhan et al. 1977; Delacroix 1993; Li and Guisinger 1991; Li 1995). Possible explanations include integration problems resulting from differing management practices or corporate or national cultures (Nahavandi and Maleksadeh 1988; Chatterjee et al. 1992; Datta 1991), managerial attachment in relation to a greenfield establishment (Li 1995[2]) and asymmetric information regarding the acquisition object. For example, Li and Guisinger (1991) studied the comparative business failure of foreign-owned/controlled firms and domestically owned firms in the US 1978-1988. They did not only find that entry through acquisition was more likely to fail than entry through greenfield investments but also that foreign-controlled firms failed less often than domestically owned firms. Li (1995) studied US computer and manufacturing firms and found foreign acquisitions and joint ventures to be more likely to exit than subsidiaries established through greenfield investments.

Other studies have gone beyond exit rates and studied the subsequent performance of firms that remain in the foreign market. Investigating the performance of Japanese manufacturing firms in the US Woodcock et al. (1994) found that greenfield investment establishments outperformed joint ventures, an entry mode which in turn performed better than acquisitions. This finding supported previous evidence by Simmonds (1990) who showed that greenfield investments outperform acquisitions.

However, as suggested by Shaver (1998), firms make strategic decisions based on firm and industry characteristics.[3] A firm will decide on the strategy with the highest expected return. Hence, strategic decisions become endogenous and self-selected. If firms choose

[2] Li (1995) refers to Wilson 1980 that we have not been able to find in Sweden.
[3] Shaver (1998) discusses firms' strategic decisions in general. In accordance with contingency theory also country specific factors has to be taken into account when considering international expansion strategy.

the strategy that can be considered optimal given these characteristics this implies that empirical models that do not take this endogenous effect into account may lead to incorrect conclusions. Consequently, Shaver (1998) suggests an advanced econometric technique that takes this endogenous effect into consideration. To illustrate his point Shaver (1998) investigates whether the strategic choice between acquisition and greenfield entry modes influence foreign subsidiary survival using a model that take this endogenous effect into account and another model that does not. In line with the findings of previous studies (Curhan et al. 1977; Delacroix, 1993; Li and Guisinger 1991; Li 1995) the model that ignored the problem of self-selection showed greenfield investments to have survival advantages in relation to entry through acquisition. This effect was no longer significant in the model that took the self-selection effect into account (Shaver 1998). Firms that enter through greenfield would have done worse if they would have entered through acquisition and vice versa. Thus there is no universal entry mode. These results show that firms overall make optimal choices when they enter a foreign market (Shaver 1998). Subsequent studies put less emphasis on comparing performance between different entry modes and argue that performance comparisons should be made, for instance, between firms choosing entry modes based on contingency model parameters with non-contingency model-based entry mode decisions (Brouthers 2002, Brouthers and Nakos 2004).

In an attempt to study entry mode while controlling for the suggested self-selection effect Brouthers et al. (1999) compared the performance of firms choosing entry modes based on Dunning's eclectic framework with those choosing entry mode in other ways. The study showed that firms choosing the entry mode as suggested by Dunning's eclectic framework outperformed those choosing other modes of foreign market entry (Brouthers et al. 1999). In a following study Brouthers (2002) examined the effect of firms choosing foreign market entry mode[4] on the basis of transaction cost, institutional context, and cultural context variables. The study concluded that firms using this extended transaction cost model when deciding on entry mode performed significantly better in both financial and non-financial performance measures (Brouthers 2002). Further, in their 2004 study of Dutch and Greek Small and Medium sized Enterprises (SMEs) in Central and Eastern Europe Brouthers and Nakos (2004) compared equity entry modes with non-equity entry modes and found that firms using the entry mode

[4] The study compared wholly owned foreign subsidiaries with joint ventures.

predicted by transaction cost theory performed better than those using other entry modes.

Based on these somewhat contradictory findings we want to test whether greenfield entries outperform acquisitions in the long run, i.e. after the initial startup period. For reasons, which we will come back to later, we define the initial startup period as five years (see for example Altman 1983; Li and Guisinger 1991). We thus formulate our first hypothesis:

> **$H1_{NULL}$:** Entry through greenfield investment will outperform acquisitions in the long run.
>
> **$H1_{ALT}$:** Entry through greenfield investment will not outperform acquisitions in the long run.

2.2.2 Contingency Theory

Stopford and Wells (1972) developed one of the first international entry mode models. They argued that choice of entry mode was contingent upon the firm's international experience and product diversification. According to contingency theory a firm that enters a foreign market should choose entry mode based on firm, industry and country specific factors. For example, the entering company is less likely to make an acquisition if the rules governing FDI and other industry-specific regulations have been significantly liberalized (Bhaumik & Gelb, 2005).

2.2.3 Experience and Market Knowledge

Johanson and Vahlne (1977) develop a framework, which explains internationalization as a process of knowledge development and increasing commitment to foreign markets. In terms of contingency theory market knowledge and thus experience constitute firm specific factors. If the MNE has prior operating experience in the host country, or in similar countries, then entry through a greenfield operation is more likely than entry through acquisition (Caves and Mehra 1986; Barbosa et al. 2004). Prior experience would then reduce the "disadvantage of alien status" (Caves 1971). Following the same reasoning, if the cost of learning about the new market is high, acquisition is preferable to greenfield entry (Yip 1982). Firms that are making diversifying entries favor acquisitions since learning costs are higher than if the entry is made within a known industry (Hennart and Park 1993). Firms entering industries in which they do not have

presence will thus be more likely to enter by acquisition because they can benefit from acquiring the experience of an existing operation.

2.2.3 Cultural Distance

If the cultural distance between the entering company's home country and the host country of operations is small then low cultural distance would imply lower learning costs. Following the discussion on experience, this would yield a higher probability of greenfield entry. Johanson and Vahlne (1977) propose that differences in language, business practices, culture and other aspects create a lack of knowledge that impedes effective decision-making in international operations. Empirical support for the performance effect of national culture was provided by Luo and Peng (1999) who found a negative relationship between cultural distance and subsidiary performance. Moreover, Li and Guisinger (1991) found empirical support showing that foreign subsidiaries from culturally distant countries were more likely to fail than those from culturally similar countries.

Kogut and Singh (1988) found evidence that cultural distance between the host country and the country of origin influence the choice of entry mode. They found joint ventures and greenfield entry to be preferred over acquisition when the cultural distance, measured as the deviations in the Hofstede (1980) indices, is large or when the uncertainty avoidance is high. Their results for uncertainty avoidance were highly significant whereas the results favoring greenfield when cultural distance is high was only significant at the 10% level. Another study by Hennart and Larimo (1998) found that Japanese MNEs are more likely to enter the United States with shared-equity ventures than Finish firms are in order to bridge the cultural gap to the U.S., which is larger than for Finnish firms. Erramilli (1996), on the other hand, came to the conclusion that greater cultural distance does not influence the choice of entry mode. However, Erramilli (1996) concluded that there are differences in ownership preferences among various nationalities that can be explained using cultural variables. No matter whether there is an effect of cultural distance on the choice of entry or not, it might still be interesting to ponder upon what a cultural effect on entry mode choice means for the effect of cultural distance on performance. The causality is not necessarily clear.

With respect to the integration problems faced by a firm entering through acquisition, Kogut and Singh (1988) suggest that cultural distance has higher importance in the case

of acquisitions. Subsequently, cultural distance should have a negative impact on acquisition entry. By entering through greenfield investment, the costs of integration can be avoided as well as the cost of finding a suitable acquisition object. However, one could also consider acquisition as a means for a culturally distant firm to acquire knowledge about the local market and from such a perspective cultural distance should favor acquisition. Morosini et. al. (1998) examined 52 acquisition entries between 1987 and 1992 and found support for the hypothesis *"that national cultural distance enhances cross-border acquisition performance by providing access to the target's and/or the acquirer's diverse set of routines and repertoires embedded in national culture"*. However, their study only considers the first two years following the acquisition and does not say anything in relation to greenfield performance. In an attempt to provide a synthesis of prior research, Tihanyi et al. (2005) found that cultural distance did not appear to be directly related to entry mode choice, international diversification, or MNE performance in a review of prior empirical studies.

Since previous studies have provided ambiguous evidence regarding the existence of a relationship between cultural distance and subsidiary performance we set out to find an answer to this question. Does cultural distance affect the performance of foreign subsidiaries? This yields our second hypothesis:

> **$H2_{NULL}$:** The greater the cultural distance between home and host country, the more it will negatively influence the performance of foreign owned subsidiaries in the long run.
>
> **$H2_{ALT}$:** Greater cultural distance between home and host country will not negatively influence the performance of foreign owned subsidiaries in the long run.

The studies referred to above say nothing about what type of entry mode perform better when cultural factors are taken into consideration. In the next step we wish to investigate whether the difference in performance between greenfield and acquisition is affected by the cultural distance between the host country and the country of origin. Since previous studies have found relationships between entry mode and performance (see for example Woodcock 1994; Pan et al. 1999) and cultural distance and performance (see for example

Morosini et al. 1998; Luo and Peng 1999) we formulate our third hypothesis based on the relationship shown in Figures 2 below:

> **$H3_{NULL}$**: With increasing cultural distance, the performance difference between acquisition and greenfield entries will increase in favor of greenfield.
> **$H3_{ALT}$**: With increasing cultural distance, the performance difference between acquisition and greenfield entries will not increase in favor of greenfield.

The relationships discussed in previous studies are shown in figures 2 and 3 below. Also our hypotheses have been incorporated into the model. Note that there is no consensus regarding any of these relationships even though some views are more popular than others.

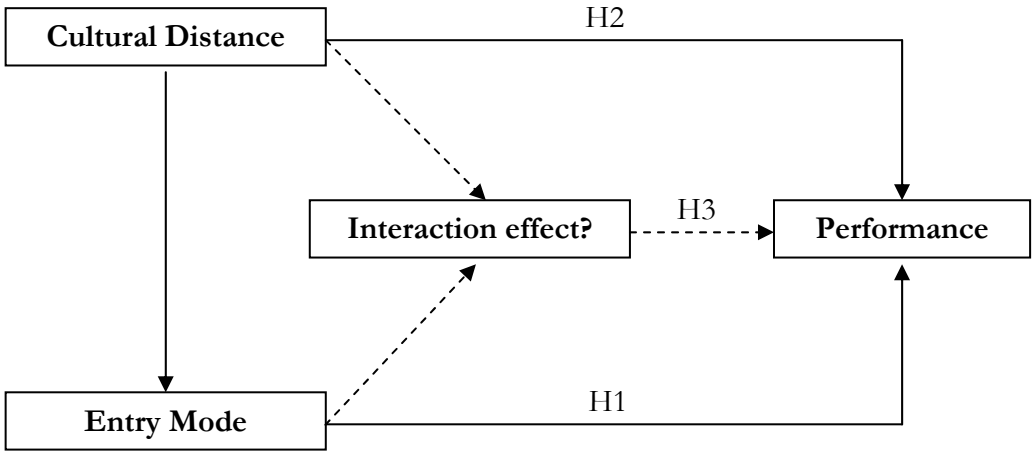

Figure 2. Summary of previous studies and the "interaction effect" that we want to study

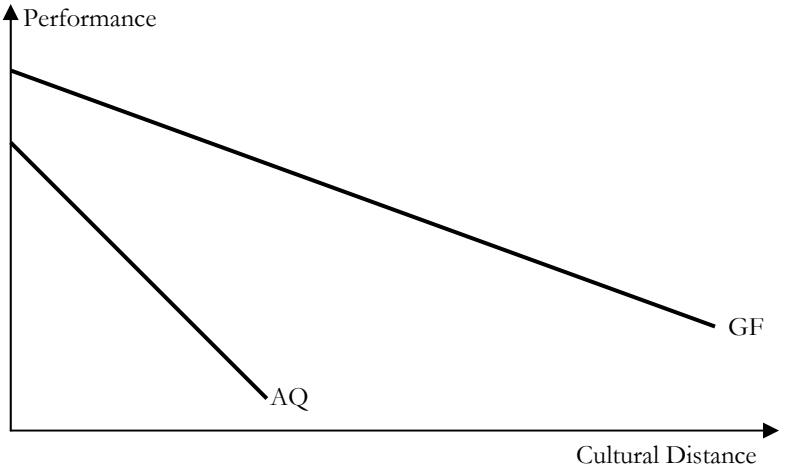

Figure 3. The hypothesized relationship between Performance and cultural distance

2.3 Other Influential Factors

2.3.1 Firm Specific Advantages

Following the logic of contingency theory, firm specific advantages have an impact on entry mode choice. Firm specific advantages, such as technical expertise, superior organizational ability or marketing skills can be of two types. (1) It can be separated from the organization. (2) It can be embedded in the organization. In the first case, the entrant can acquire a firm and simply transfer its knowledge. The second case, on the other hand, does not allow for the same type of transfer and thus entry through a greenfield operation is the most efficient way to transfer these firm-specific advantages (Hennnart and Park 1993). The reason is that a greenfield operation does not inherit labor force and corporate culture but can instead form the organization themselves by choosing and training labor, location etc. In other words, the risk of "misconception of management practices" (Jemison & Sitkin, 1986) is much lower when the firm enters through greenfield than through acquisition. Because of the potential cost of losing a competitive advantage (such as technological edge) over its rivals a company would prefer to enter a new country through a greenfield operation if the technology intensiveness of its products is high (Hennart 1991). In conclusion, firm specific advantages have an impact on both the choice of entry mode and performance. However, they are often intangible and thus difficult to measure (Shaver 1998).

2.3.2 Firm Size

Previous research on the effect of the parent firm size on entry mode choice and performance is ambiguous. First, a greenfield entry should be preferred if the host country-based operation constitute a significant proportion of the entering company's assets and turnover, i.e. the resource commitment is high (Taylor et al. 2000). This is because a firm would want tighter control over an affiliate whose performance have a significant impact on its overall performance. However, Hennart (1991) found no significant relationship between neither relative nor absolute venture size and entry mode choice in a study of Japanese subsidiaries in the USA. On the other hand, when Makino and Neupert (2000) replicated the study with US subsidiaries in Japan, they found that US firms tended to choose joint ventures over wholly controlled modes of entry for relatively large investments.

Second, the relative size of the affiliate would also impact performance. Relative size would affect the willingness of the parent firm to provide additional assets in order to keep the affiliate from bankruptcy during a start-up period when investments are high compared to revenues. Hence, smaller firms should be more likely to fail than large firms (Li 1995). The size of the subsidiary itself has also been widely recognized to affect market power in the host country (Luo and Peng 1999). Thus subsidiary size should affect profits (Carlton and Perloff 2000; Cabral 2000).

2.3.3 Industry Growth

The impact of the rate of growth of the industry on the entry mode choice is uncertain (see for example Yip 1982; Agarwal and Ramaswami 1992; Hennart and Park 1993; Barbosa and Louri 2002). If an industry is fast growing it makes sense for an MNC to quickly have a stake in it in order not to lose its first-mover advantage to other companies that might have an interest in that particular market. In such an event, an entry by acquisition may be more suitable. On the other hand, if a fast growing industry promises high rates of return on investment well into the future, it is reasonable for an MNC to minimize its agency and restructuring costs by a greenfield project, even though such a strategy would increase the transactions cost in the short run.

Another aspect of fast growing industries concern human resources. In a fast growing industry an entering firm may find it difficult to acquire the necessary human resources locally. If there is a maximum rate at which a firm is able to recruit and train managers, as is assumed by for example Penrose (1959), then a firm that is short of personnel is constrained in their ability to make a greenfield entry. The firm would then prefer to enter through acquisition in order to gain fast market access. Through the acquired company the entrant may access resources that are scarce in the host country, such as human resources (Root 1994).

2.3.4 Market Imperfections

Various forms of market imperfections have also been shown to play a role in entry mode strategy. One such market imperfection concerns the problem of information asymmetry. One reason is that the valuation that managers put on their own investments is higher than what the capital markets do (Chatterjee 1990) or maybe vice versa. With asymmetric information it may be difficult to identify a potential acquisition object. Acquisition entry is therefore associated with considerable search costs (Root 1994).

Moreover, Hennart and Park (1993) show that industry concentration increases the likelihood of acquisition. They argue that foreign entrants can reduce potential competition by acquiring firms in concentrated industries. Greater economies of scale will lead greenfield entry to expand capacity more and thus prices will fall. Since acquisitions, on the other hand, will not add to capacity it will be the preferred entry mode in industries that are characterized by large economies of scale (Yip, 1982).

Table 2: Summary of Entry Mode Determinants

Characteristic	Favored entry mode	Author
Prior International experience	Greenfield	Caves and Mehra (1986); Barbosa et al. (2004)
High cost of learning about the new market	Acquisition	Yip (1982)
Diversifying entry	Acquisition	Hennart and Park (1993)
Liberal rules/regulations	Greenfield	Bhaumik and Gelb (2005)
National Culture (distant)	Greenfield	Kogut and Singh (1988)
Strong competitive advantage	Greenfield	Hennart and Park (1993)
Misconception of management practices	Greenfield	Jemison and Sitkin (1986)
High technology intensiveness of products	Greenfield	Hennart (1991)
Firm size (large)	Acquisition/Greenfield	Taylor et al. (2000), Makino and Neupert (2000), Kogut Singh (1998), Hennart (1991), Caves and Mehra (1986)
Industry growth	Acquisition/Greenfield	Barbosa and Louri (2002), Hennart and Park (1993), Agarwal and Ramaswami (1992), Yip (1982)
Maximum recruiting rate	Acquisition	Penrose (1959)
Negative influence on stock prices	Acquisition	Chatterjee (1990)
Industry concentration	Greenfield	Hennart and Park (1993)

2.4 Hypotheses review

$H1_{NULL}$: Entry through greenfield investment will outperform acquisitions in the long run.

$H1_{ALT}$: Entry through greenfield investment will not outperform acquisitions in the long run.

$H2_{NULL}$: The greater the cultural distance between home and host country, the more it will negatively influence the performance of foreign owned subsidiaries in the long run.

$H2_{ALT}$: Greater cultural distance between home and host country will not negatively influence the performance of foreign owned subsidiaries in the long run.

$H3_{NULL}$: With increasing cultural distance, the performance difference between acquisition and greenfield entries will increase in favor of greenfield.

$H3_{ALT}$: With increasing cultural distance, the performance difference between acquisition and greenfield entries will not increase in favor of greenfield.

3 Data and Methodology

In this section we will first present the data which is the base for our study. Thereafter we will develop our analytical approach in order to build a multiple regression model which will be used to test our hypothesis. We have chosen to use this model in order to include entrants from as many countries as possible. This type of model also makes it easier to control for other influencing factors and is commonly used in this field of research (Morosini et al. 1998; Luo and Peng 1999; Tihanyi et al. 2005).

3.1 Data

The Swedish Institute for Growth Policy Studies (ITPS) has provided all data. ITPS collects data on all foreign owned companies in Sweden annually for research and policy making purposes. The data we have used is collected between 1996 and 2004 by ITPS's annual survey that is sent to all companies in Sweden that are controlled (owned) from a foreign country. ITPS defines a subsidiary's country of origin as the domicile of the (group) parent firm/ultimate owner. In 2004 84.8 % of the known foreign owned companies in Sweden submitted answers to the survey. The main parts of non-respondents are small companies with few or zero employees (ITPS 2005).

A company is considered by ITPS (2005), and also in this study, to be foreign owned if one foreign owner controls a majority of the stocks. It is also considered to be foreign owned if the company is part of a larger group in Sweden where the group's parent is foreign owned. Relevant to our study is how the different entry modes are defined but ITPS choose not to provide a definition for greenfield entry or acquisition. Instead the companies that answer the survey define themselves into either category where the other options are joint venture, merger and other. The data we have received contained all available observations on companies that entered Sweden between 1996 and 2004. All in all the data covered 3208 companies with information from ITPS registry and financial measures for the years 1996-2004 from Statistics Sweden (SCB). In addition to this we also received three digit SNI codes[5] for all companies. To conduct our study we have

[5] Svensk Näringsindelning (SNI), the Swedish equivalent to the Standard Industrial Classification (SIC) (SCB 2006).

excluded many observations trying to clear the sample of possible biases. The process of excluding variables is explained in the next section.

3.2 Analytical Approach

Contingency theory states that the suggested entry mode must conform to the particular industry, firm and country specific factors faced by the entering firm. We accept the notion of contingency theory and will accordingly control for as many of these factors as possible in our study.

3.2.1 Industry

We will control for industry differences, e.g. growth, concentration and other industry characteristics, and their impact on performance by comparing our performance measures to the industry average on the 3-digit SNI code level. In this way we can study how entrants have performed relative to other companies in the same industry. This will ensure that our sample is not influenced by different industry conditions. For instance, it might not make sense to compare companies in the automotive industry directly with companies in the textile industry. Industry related control variables will not be included in the model since the industry adjusted performance measures should capture the relevant industry differences.

3.2.2 Country

In order to control for country specific factors we want to study entries into only one host country. We have chosen to look at entries into Sweden because we consider the data to be very good compared to earlier studies. The data is both exhaustive and objective in all performance variables whereas most previous studies have relied on subjective measurements (see for example Woodcock et al. 1994; Luo and Peng 1999; Brouthers 2002; Konopaske et al. 2002; Brouthers and Nakos 2004). According to Brouthers and Brouthers (2002) firms will have a tendency to prefer entry in culturally similar host countries with stable economic, social and political conditions. They also highlight a trend to enter such markets with wholly owned entry modes (e.g. greenfield or acquisition) to capture maximum returns. Sweden is a country with a long tradition of rather stable economic, social and political conditions and thus entries through greenfield and acquisition should be favored. Moreover, Sweden is a small open economy and thus companies that invest here may do so for probably more thought through reasons than if it was considered to be a market in which "you have to have presence". As far as we

know our study will be the first large sample study connecting the cultural distance of entries into one stable small open economy with performance.

3.2.3 Liability of Newness

Firms that enter a new market have a disadvantage in terms of knowledge about the new market. However, as time goes by the disadvantage will disappear (Forsgren 1989). During this "learning period" performance might be poor for a variety of reasons. Previous research suggests that organizations suffer a liability of newness, which makes them more likely to fail during their first years of existence (Freeman et al. 1983). For example, Biggadike (1979) found that it took eight years for firms that entered a new market, not necessarily foreign, to be profitable. The important idea is that it takes time for a new entrant to gain market knowledge. A greenfield entry is a slow process that requires many years before it can be profitable while acquisitions on the other hand can be a fast way of gaining access to a certain market (Biggadike 1979). An investigation in the US by Altman (1983) showed that a majority of business failures happen during the first five years, results that were further supported by the empirical study of international entry by Li and Guisinger (1991). The study by Woodcock et al. (1994) showed that the first two years of existence have much higher volatility in terms of profitability than later years of the firm's existence. In these later years, the profitability stabilized at different levels depending on entry mode. Morosini et al. (1998) do not take this liability of newness into consideration when they conclude that cultural distance does not affect performance for different acquisitions.

Due to the liability of newness we want to make sure that our results are not influenced by subsidiary age. A reasonable assumption is that if we want to measure the performance of firms in the long run we should look at performance five years after the entry in accordance with the findings of Altman (1983), Li and Guisinger (1991) and Woodcock et al. (1994). Therefore we restrict our sample to firms that have been active on the Swedish market for at least five years. On the other hand, companies that have been foreign owned for a very long time might have adjusted to the Swedish culture. Consequently, the influence of the cultural distance to the home country may have faded. In order to make sure that the companies are not too old we will limit our sample to only contain establishments from the years 1996-1999 and then consider performance measures five years after the entry. For firms established in 1996 we will compare performance observed in 2001 with the performance of those established in 1997, 1998

and 1999 observed in 2002, 2003 and 2004 respectively. We will adjust the performance measures based on the deviation from industry average. This process will be described in section 3.3.2. This will allow us to compare performance between different years and control for "business-cycle-bias". We also believe that our sample selection will help control for experience since a company that have survived for at least five years in Sweden should have sufficient market knowledge to be considered experienced. This is in line with how Luo and Peng (1999) measured experience.

3.2.4 The Final Data Set

The data has also been cleared from companies whose home countries are not included in Hofstede's (1980) study. These are 80 observations in total. Many of these are entries from countries that can be considered tax havens such as British Virgin Islands, Jersey, Luxembourg and Gibraltar. Even if the Hofstede dimensions would have been available for these countries we believe it would have been misleading to include many of these firms. This is because the (group) parent firm or ultimate owner is probably not from that country's national cultural context. Moreover, we have excluded all observations where the turnover was zero since that indicates that the firm is inactive. We also excluded all observations with negative and zero equity.

After having cleared the sample we had observations of 638 companies that entered the Swedish market between 1996 and 1999 and were still operating after five years. Out of these, 275 were greenfield entries and 363 were acquisitions and the companies represented 22 countries. For detailed information on the final data set see Appendix section 7.1.

3.3 The Model

3.3.1 Performance Measures

Measuring performance of foreign subsidiaries is very often not as straightforward as it might seem. First of all, the measure to be considered the appropriate performance indicator might vary depending on the intent of the parent company. As pointed out by Louter et al. (1991) success is not an objective term and subsequently perceptions about what is to be regarded as success differs. Because of this many scholars have considered it important to measure success by several indicators. Secondly, the task of attaining detailed data can very well be a most tedious task if not even impossible without the

good will of subsidiary managers. However, managers are often reluctant to fill in questionnaires and share sensitive company data (see for example Woodcock et al. 1994).

Many studies of the impact of foreign market entry mode examine entry mode effects on foreign subsidiary survival (Curhan et al. 1977; Delacroix, 1993; Li and Guisinger 1991; Mascarenhas 1992; Mitchell et al. 1992; Li 1995; Sharma 1998; Shaver 1998). Li and Guisinger (1991) use the expression business failure thus clearly stating why survival can be considered a highly interesting measure of performance. On the other hand, when a subsidiary remains operational in the foreign market for a number of years without exit one can similarly assume that the firm is performing well. At least it can be considered to be on the right track, judging from the perspective of parent firm intentions, as long as the initial intention includes a long-term presence on the foreign market. However, as Li (1995) points out, managers often have an aversion to divest organizations they have created. This higher managerial attachment will affect the survival of greenfield investments as managers will be more willing to provide financial resources than for an acquired firm where managerial attachment is lower.

Other studies have chosen market related performance variables or various combinations of financial and non-financial measurements (see for example Sharma 1998; Simmonds 1990; Brouthers 2002; Brouthers and Nakos 2004). Market measures such as growth of subsidiary sales can be viewed as a measure of how well the entrant has been accepted in the foreign market (Biggadike 1979; Yip 1982). Scholars have, for instance, used different market share measures as complementary performance variables to subsidiary survival (see for example Mascarenhas 1992; Mitchell et al. 1992; Pan et al. 1999; Brouthers 2002; Brouthers and Nakos 2004).

In a study of international expansion of Australian and Singaporean SMEs Choo and Mazzarol (2001) measured the performance variable by growth of foreign sales to total sales and growth of foreign profits to total profits. From these measures they grouped their companies into good performers and poor performers creating a performance dummy variable. Similarly, Chen and Hu (2002) grouped companies into "successful" if their names were published on the Honor Roll of outstanding performance by the China Association of Enterprises with Foreign Investment and "not successful" otherwise.

Due to the difficulties of attaining actual data on many performance measures, studies in the area of international expansion and entry mode performance commonly use subjective performance measures, mostly gathered through questionnaires (Woodcock et al. 1994; Luo and Peng 1999; Konopaske et al. 2002; Brouthers 2002; Brouthers 2004). In the studies by Woodcock et al. (1994) and Konopaske et al. (2002) respondents were asked to rate the financial performance of their firm on a three point scale (profit/break even/loss). Studies by Brouthers (2002) and Brouthers and Nakos (2004) used subjective measures on eight financial and non-financial performance variables gathered through management evaluations and graded on a 1-10 scale.

As many other scholars, Simmonds (1990) recognized that no single measurement can incorporate multiple performance objectives and hence actual data on four different performance measures were used; return on assets (ROA), return on equity (ROE), return on invested capital (ROIC) and compound sales growth (CSG). In this case the availability of data was secured since the parent firm level was studied but we have found very few studies using actual data on these kinds of variables. Table 3 provides an overview of performance measures used in previous studies.

Table 3: Previously Used Performance Measures

Survival	Sharma (1998), Li (1995), Delacroix, (1993), Mascarenhas (1992), Mitchell, Shaver and Yeung (1992), Li and Guisinger (1991), Curhan et al. (1977)
Sales Growth	Sharma (1998), Simmonds (1990), Brouthers (2002)*, Brouthers and Nakos (2004)*
Return on Sales	Luo and Peng (1999)*
Return on Assets	Luo and Peng (1999)*, Simmonds (1990), Pan et al. (1999)
Sales Position	Luo and Peng (1999)*
Competitive Position	Luo and Peng (1999)*
Return on Equity	Simmonds (1990)
Return on invested capital	Simmonds (1990)
Market share	Brouthers and Nakos (2004)*, Brouthers (2002)*, Pan et al. (1999), Mascarenhas (1992), Mitchell et al. (1992)
Profit	Brouthers and Nakos (2004)*, Konopaske et al. (2002)*, Brouthers (2002)*, Woodcock et al. (1994)*
Export intensity	Choo & Mazzarol (2001)
Export profitability	Choo & Mazzarol (2001)
Export growth	Choo & Mazzarol (2001)
Average growth in international revenue 1992–1994	Rasheed (2005)
"Successful" / "Not Successful", Honor Roll	Chen and Hu (2002)
Sales Level	Brouthers and Nakos (2004)*, Brouthers (2002)*
Marketing	Brouthers and Nakos (2004)*, Brouthers (2002)*
Reputation	Brouthers and Nakos (2004)*, Brouthers (2002)*
Market Access	Brouthers and Nakos (2004)*, Brouthers (2002)*
Distribution	Brouthers and Nakos (2004)*, Brouthers (2002)*

* Studies that used subjective measures

3.3.2 Dependent Variables

Choosing our dependent variables we wish to use both financial and market-based performance measures in order to provide a comprehensive test of our hypotheses. With the fortunate availability of Swedish data we choose to look at actual data on two financial performance measures; return on assets (ROA) and return on equity (ROE) and one market based measure, sales growth (SG) as our dependent variables representing subsidiary performance. Return on assets and return on equity are two common financial measures of firm performance (Brealey and Myers 2003). Return on assets is a performance measure frequently used by managers whereas return on equity is a performance measure that takes the structure of financing into consideration and is a commonly used performance measure among shareholders (Brealey and Myers 2003). For each company, we look at industry adjusted values of these three variables five years after the entry thus controlling for liability of newness.

Unfortunately we do not have access to earnings before interest and taxes (EBIT) used by Brealey and Meyers (2003). The measure we use is referred to as adjusted profit.[6] An advantage with this measure is that it is adjusted in a way that facilitates accurate comparison between different years. However, since we are looking at performance compared to industry average and ITPS has calculated industry average in the same way this should not make a difference for our results. Our three dependent variables are defined as follows:

Return on Equity: ROE_t= Adjusted $Profit_t/Equity_t$

Return on Assets: ROA_t= Adjusted $Profit_t$/Total $Assets_t$

Sales Growth: SG_t= (Total $Sales_t$ -Total $Sales_{t-1}$)/Total $Sales_{t-1}$

Where *t* denotes the years passed after the entry.

We adjust for industry by using the same method as Eisenberg et al. (1998). Due to data restrictions we alter their calculation by using the industry mean instead of the median. The difference between firm and industry ROA is ΔROA, and the adjusted ROA (ROA_{adj}) is then defined as follows:

[6] Adjusted net income after financial items = Operating income - income from nonrecurring items (1+2) + income from associated companies + interest income from (expense to) associated companies + interest income (expense) + other financial income (expense)

$$ROA_{adj} = sign(\Delta ROA)\sqrt{|\Delta ROA|}$$

Where sign(ΔROA) denotes the sign of the difference between each firm's ROA and the respective industry mean. We calculate the adjusted values of ROE and SG applying the same logic:

$$ROE_{adj} = sign(\Delta ROE)\sqrt{|\Delta ROE|}$$

$$SG_{adj} = sign(\Delta SG)\sqrt{|\Delta SG|}$$

Each hypothesis will be tested using all these three performance measures.

3.3.4 Explanatory Variables

Entry mode (EM) is included as a dummy variable that takes the value of 0 if entry is made through acquisition and 1 if entry is made through greenfield. We include the entry mode variable to test our first hypothesis.

Cultural distance (CD) is a continuous variable that is calculated using Hofstede's (1980) cultural dimensions; power distance, uncertainty avoidance, masculinity and individualism:

$$CD_{SE} = \sum_{i=1}^{4} \frac{\{(I_{ij} - I_{is})^2 / V_i\}}{4}$$ (Kogut and Singh 1998)

Where *i* denotes the i:th dimension, *j* denotes the foreign country and *s* denotes Sweden. V_i denotes the variance of the i:th dimension. CD_{SE} is thus the cultural distance between country *i* and Sweden. We choose to use Kogut and Singh's (1988) definition of cultural distance since it is widely accepted and used in previous literature that studies cultural distance and entry mode (see for example Li and Guisinger 1991; Erramilli 1996, Hennart and Larimo 1998). This variable is included to test our second hypothesis.

*Interaction variable (EM*CD)*. In some cases there might be an interaction effect between two variables where the impact on the dependent variable by one independent variable depends on the level of another independent variable. That is the independent variables do not only have an adding effect on the dependent but also a multiplicative. In order to test our third hypothesis we include the interaction variable EM*CD.

3.3.5 Control Variables

Subsidiary Size (LogSales). The size of the subsidiary is widely recognized to affect market power in the host country (Luo and Peng 1999) and thus profits should be affected (Carlton and Perloff 2000). Many have controlled for size but with different measures. Luo and Peng (1999) used number of employees as a proxy for size while Pothukuchi et al. (2002) measured size by investment or sales turnover. Erramilli (1996), on the other hand, used annual billings and Li (1995) used a size dummy that was based on sales. Since subsidiary size has been found to have an impact on market power we wish to control for this effect. We choose to use the natural logarithm of total sales to control for subsidiary size. The logarithmic transformation is used in order to give extremely large observations less impact on our dependent variables.

Growth in Assets (AssetGrowth). According to Titman and Wessels (1988) growth in assets measured as the percentage change in total assets indicate a firm's growth opportunities. Since growth opportunities should affect profitability we include growth in assets as a control variable in our model. We define this variable as:

$AssetGrowth_t = (Total\ Assets_t - Total\ Assets_{t-1})/Total\ Assets_{t-1}$

Solvency is widely considered to have an impact on profitability and since we have the data available we include it as a control variable in line with Eisenberg (1998). Solvency is defined as:

$Solvency_t = Equity_t/Total\ Assets_t$

Year of entry (YR). We wish to control for business cycle effects and subsidiary age and believe that we have done so by looking at firms of the same age using industry adjusted performance measures. However, we will include three dummy variables to control for each of the different entry years to make sure that the year of entry does not affect our results:

YR96 (1996=1; all others=0)

YR97 (1997=1; all others=0)

YR98 (1998=1; all others=0)

3.3.6 Regression Models

We have chosen to estimate a multiple regression model for this study to be able to include entrants from as many countries as possible. The model also makes it easier to control for variables that we are not testing than it would have been using a mean-test. We are also able to include many more observations in our regression model than would have been possible with mean tests and thus our results should be more robust. To estimate the regression models we will use the statistical software package SPSS. Our main model looks as follows:

$$PERF_t = \beta_1 + \beta_2 EM + \beta_3 CD_{SE} + \beta_4 (EM \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t$$

Where t denotes the number of years after entry into Sweden. With our complementary performance measures this yields the three models below:

$$ROA\_adj_t = \beta_1 + \beta_2 EM + \beta_3 CD_{SE} + \beta_4 (EM \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t \quad \text{(Model 1)}$$

$$ROE\_adj_t = \beta_1 + \beta_2 EM + \beta_3 CD_{SE} + \beta_4 (EM \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t \quad \text{(Model 2)}$$

$$SG\_adj_t = \beta_1 + \beta_2 EM + \beta_3 CD_{SE} + \beta_4 (EM \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t \quad \text{(Model 3)}$$

3.3.7 Predicted Signs and Decision Rule

If we only consider our explanatory variables we have the equation:

$$PERF_t = \beta_1 + \beta_2 EM + \beta_3 CD_{SE} + \beta_4 (EM \cdot CD_{SE}) + u_t$$

Keeping in mind that our entry mode dummy variable takes the value of 1 for greenfield entry and 0 for acquisition entry this yields the following equations for our two included entry modes respectively:

$$GREENFIELD\_PERF_t = (\beta_1 + \beta_2) + (\beta_3 + \beta_4) CD_{SE} + u_t$$

$$ACQUISITION\_PERF_t = \beta_1 + \beta_3 CD_{SE} + u_t$$

If we return to the hypotheses we can now summarize the expected signs.

Table 4: Summary of Predicted Signs

Hypothesis #	Null Hypothesis	Alternative Hypothesis
H1	$\beta_2 > 0$	$\beta_2 \leq 0$
H2	$\beta_3 < 0$	$\beta_3 \geq 0$
H3	$\beta_4 > 0$	$\beta_4 \leq 0$

We will reject each null hypothesis if the estimated coefficient does not have the predicted sign and/or is not significant at the 5%-level. We can also show the relationship graphically. Figure 4 depicts the relationships that we expect from our hypotheses.

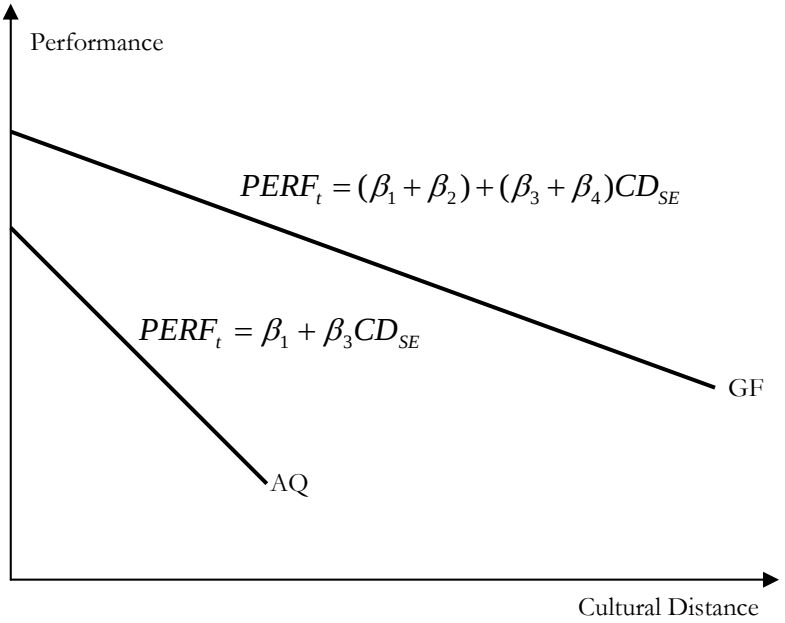

Figure 4. The hypothesized relationship between Performance and Cultural Distance

3.4 Research quality

In order to make a good assessment of the quality of research we have to consider two dimensions: reliability and validity. Reliability measures the strength of research by looking at whether the research process can be replicated and if it would generate the same results. Validity, on the other hand, assesses the ability and accuracy of the research in relation to empirical data, inherent logic and the generality of the conclusions. Four different criteria are usually applied when assessing research quality: reliability, internal validity, external validity, and construct validity (Yin 1994).

Reliability of research refers to the ability to replicate the research process and obtain the same results (Yin 1994). This is mainly important for the procedures of the data collection. Typically, high reliability demands high degree of transparency and clearly defined steps in the research process. In general, the quantitative nature makes research studies easier to replicate, while qualitative research is harder to replicate because of the context variability and dependence. When considering this study we have no reason to believe that our results are not reliable even though we have not done the data collection ourselves. The data collection procedures used by ITPS could easily be replicated, if the same resources were available.

Internal validity. This dimension refers to how accurately the research results and findings reflect the reality (Yin 1994). The measure is concerned with the correct and logical establishment of causal relationships. Our main concern here is that we have to make sure that if we find a relationship between, for example, cultural distance and some performance measure we need to know that it is not influenced by another variable. We work around this problem by controlling for as many variables as possible in our model. There are variables that we are not able to control for due to limitations in the data set such as parent firm size. The internal validity can thus be considered fair.

External validity refers to the ability to perform an analytic generalization of research results and conclusions (Yin 1994). Since we have started out with a large sample that consist of almost all foreign owned firms established in Sweden between 1996 and 1999 it is reasonable to believe that our results can be generalized as long as we consider entries into Sweden or other small stable economies. However, they may not be applicable in other settings such as entries into large or developing economies.

The construct validity concerns the selection and establishment of the correct research measurements (Yin 1994). We believe that the measurements, ROA, ROE and Sales Growth, used in this study are valid measures of firm performance. On the other hand, many criticize Hofstede's (1980) cultural dimensions but the cultural distance index as developed by Kogut and Singh (1988) is widely accepted in our field of study. It also makes our results comparable to other related studies (Hennart and Larimo 1998; Morosini 1998; Luo and Peng 1999; Tihanyi 2005). We thus consider it to be an appropriate measure and conclude that the construct validity is high.

4 Empirical Results and Analysis

4.1 Results

To test our hypotheses we performed a multiple regression analysis with our three industry adjusted performance measures as dependent variables and models as specified in the previous section. Before running our regressions we calculated the condition indices and checked the correlation matrixes to make sure our model did not suffer from multicollinearity. Since we overall find no alarming correlations we have no reason to believe that our model suffer from perfect multicollinearity (Gujarati 2003). The correlation matrixes and condition indices can be studied further in Appendix section 7.4. We also wanted to filter our sample from outliers. This was done before running each regression as suggested by Edlund (1997) by excluding observations whose absolute residuals exceeded three residual standard deviations. Looking at performance five years after entry we excluded six such outliers in Model 1, eight in Model 2 and finally eight outliers in Model 3.

After having performed the regression analysis for Models 1, 2 and 3 we turn to the estimated β_2, β_3 and β_4 coefficients. We receive the signs predicted by our null hypotheses respectively, except in Model 3 where the β_2-coefficient (entry mode) is slightly negative. However, none of the coefficients for our explanatory variables (i.e. β_2, β_3 and β_4) turn out to be significant even at the 10% level. The control variables are significant in most cases except Solvency, which was not found to be significant in Model 3 where Sales Growth was the dependent variable. The entry year dummy variables were included to control for any business cycle effects that were not caught by our yearly industry adjustments. We found no noteworthy differences depending on entry year apart from YR97 in Model 1 and 2 where the entries in 1997 appear to have done slightly better after five years. Calculating White's estimated standard errors we also tested our models for heteroscedasticity and conclude that our sample does not suffer from heteroscedasticity (see Appendix section 7.3 for further details). The results of the multiple regression analyses performed for Models 1, 2 and 3 are shown in Table 5.

Table 5: Estimated Coefficients for Models 1, 2 and 3

Subsidiary age: t=5 Industry adjusted dependent variables	**Model 1** (ROA)	**Model 2** (ROE)	**Model 3** (SG)
Variable	Parameter Estimates	Parameter Estimates	Parameter Estimates
Constant	-,792*** (,000)	-1,163*** (,000)	-,468*** (,002)
Entry Mode (EM)	,069 (,117)	,120 (,319)	-,005 (,950)
Cultural Distance (CD_{SE})	-,009 (,490)	-,040 (,288)	-,035 (,129)
Entry Mode *Cultural Distance ($EM*CD_{SE}$)	,021 (,275)	,040 (,451)	,045 (,170)
Solvency	,743*** (,000)	1,106*** (,000)	-,024 (,822)
Growth in Assets	,135*** (,000)	,266*** (,002)	,513*** (,000)
LogSales	,044*** (,000)	,077*** (,000)	,049*** (,000)
Entry Year Dummy 96 (YR96)	,064 (,135)	,189 (,109)	,076 (,297)
Entry Year Dummy 97 (YR97)	,110** (,015)	,292** (,017)	-,018 (,818)
Entry Year Dummy 98 (YR98)	,056 (,116)	,173* (,073)	,042 (,489)
N R-square	632 ,231	630 ,099	623 ,155

Significant at 1% (***), 5% (**) and 10% (*). Significance levels reported in brackets.

Our R-square values are somewhat low for all three models but on the other hand we did not expect the included variables to be able to explain the variation in performance to a very large extent. As will be discussed later on, including more variables, which were not available to us, could have increased the explanatory power of our model. However, there are yet other variables with high impact on firm performance, which are not even possible to measure.

4.2 Analysis

As our results show there are no evidence for any difference in performance between greenfield and acquisition five years after entry. Thus we get somewhat contradictory results compared to some earlier studies. One possible explanation for these different results is that we have used objective performance measures while many previous studies have used subjective performance measures (see for example Woodcock et. al. 1994; Luo and Peng 1999; Brouthers 2002; Brouthers and Nakos 2004) or survival (see for example Delacroix 1993; Li and Guisinger 1991; Li 1995). One could argue that survival within the first five years is not an interesting measure if one wants to study long-term performance. However, it is very interesting if you are a manager considering entry into a new market. In that case, survival is of course also an interesting measure for investors. Our result does not contradict these studies since we are looking at long-term performance.

The studies that have used subjective performance measures have done so simply because they have not had access to objective data since firms are very reluctant to enclose financial information (see for example Woodcock et al. 1994 or Brouthers and Nakos 2004). However, even with objective financial data we might nonetheless suffer from a measurement problem. One possibility could be internal transfers between the parent company and the foreign subsidiary, i.e. a company might transfer funds internally to another country and thus they will not show up as profits in the Swedish data. In such a case, a subjective performance measure, where a manager estimates the financial performance of his or her company may actually be more accurate than an objective one. We cannot control for this directly in our existing data. However, we believe that including the market based measure Sales Growth in our study help shed some light on this issue. Even if funds would have been transferred out of Sweden it cannot have skewed the sales measure and since we find no significant impact on Sales Growth our results should hold.

Because of shorter time horizons in previous studies (see for example Woodcock et al. 1994; Morosini et al. 1998), the differences that have been shown in the effect of entry mode and cultural distance on performance might be attributed to the liability of newness. We find no evidence that either cultural distance or entry mode had an impact on subsidiary performance after having survived the first five years of operations in

Sweden. This could be due to the fact that after five years in the country the companies that survived have gained sufficient experience and adjusted fairly well. Thus they may no longer suffer from liability of newness and possible cultural obstacles. The fading liability of newness may also be the reason that there is no significant interaction effect between entry mode and cultural distance; i.e. after the adjustment period cultural distance has the same effect on greenfield entries and acquisitions respectively. Therefore, we want to test if our results hold in the short run. We controlled for this effect by running regressions for models 1, 2 and 3 one year after entry ($t=1$). The results are presented in Appendix section 7.2 and none of the explanatory variables show significant impact on ROA or ROE after one year on the Swedish market. However, Sales Growth showed a significant difference in favor of greenfield entry. That, however, is a logical result since a greenfield entrant starts from very low sales levels whereas an acquiring company inherits the sales of the acquired company. These results also hold after testing for heteroscedasticity. This finding does not alter our main results but merely points to a possible conclusion that somewhere between the first and the fifth year the sales growth for greenfield entries declines to the same level as for acquired companies compared to industry average. However, finding that breakpoint is beyond the scope of this study.

Woodcock et al. (1994) found that entry mode does affect performance and, in addition, Luo and Peng (1999) found that cultural distance have an effect on performance. We find no such relationships. On the other hand, our results are in line with Shaver (1998) who found no significant relationship between entry mode and performance. Building on Shaver (1998), firms appear to make the optimal choice when entering a new market. Firms choose their entry mode based on what they believe yields the highest expected return with respect to firm, industry and country specific variables. In this decision cultural distance is a factor taken into consideration as shown by Kogut and Singh (1988). Our results are not conflicting with the reasoning of Kogut and Singh (1988) since we do not directly consider the choice of entry mode. The choice may still be a strategically important decision influenced by cultural distance and other contingent factors. We find, given that firms make optimal entry mode decisions as shown by Shaver (1998), that there is no difference between acquisition and greenfield entries in their effect on performance in the long run. Subsequently, there is no entry mode strategy that will always outperform alternative strategies as argued by for example Woodcock et al. (1994). Moreover, we find no impact of cultural distance on subsidiary performance as

argued by for example Morosini et al. (1998). Nor does cultural distance appear to have different effects on greenfield and acquisition entries respectively. Hence, other factors than entry mode and cultural distance are more important for subsidiary performance in the long run. Drawing upon Dunning's (1977, 1988) model, these factors are most likely firm specific advantages such as human capital, technological expertise, operating systems and customer relationships. As pointed out by Shaver (1998) these factors are intangible in nature and thus difficult to measure.

4.3 Limitations

Ultimately we would have liked to control for characteristics of the foreign parent firm. However, limitations in the data (and to some extent time limitations) prohibit such a study at this point. For example, we are not able to control for the parent firm size. The size of the parent firm has been shown to affect entry mode choice, though previous studies are ambiguous. It would have been interesting to control for parent firm size in our context to see if it would have had an influence on performance. One might argue that the relative size of the parent firm is more relevant when looking at subsidiary survival, since parent firm size then gives an indication on the resources available to the subsidiary in order to prevent bankruptcy. This might also impact performance in a longer perspective. However, since previous studies have pointed in different directions it might not have a large impact on subsidiary performance and thus not on our results.

Moreover, we are not able to control for experience from Sweden and related cultures and markets, which is probably the main weakness of our study. This is also due to limitations in the data set. However, a number of previous studies that have investigated entry mode and performance have not taken the experience factor into consideration (see for example Li and Guisinger 1991; Woodcock et al. 1994; Rasheed 2005). Also, Luo and Peng (1999) do for example measure experience as the number of years that a particular MNE subunit has been operating in the host country. Based on this, we believe that we have somewhat controlled for experience in our original sample selection since we only compare firms with five years experience in Sweden. This five-year period serves as a minimum level of experience for the firms in our sample.

All companies in our study have survived in Sweden for at least five years. This might cause a bias for the regressions that we ran for the first years on performance ($t=1$). The

results for the one-year regressions can thus be said to have a "survival-bias", which might explain the different results compared to some previous studies. The bias stems from the fact that firms that have not survived throughout the five-year period are not included in the one-year regressions even though they were operating on the Swedish market at that time. The sample thus only includes the surviving firms. These firms might have performed better after one year and hence the result may be skewed. In spite of this, our main conclusion should hold; there is no difference in the long run ($t=5$).

Hofstede's (1980) cultural dimensions have been widely discussed and criticized. Critique has come from many different disciplines. Arguments contain everything from that culture cannot be measured or that national culture does not exist at all to that his research methodology was wrong (see for example Alexander and Seidman 1990; McSweeney 2002). We recognize that culture is a most complex issue and that a quantitative approach to culture is indeed problematic. However, in the field of internationalization strategy his dimensions are widely accepted (see for example Kogut and Singh 1988; Erramilli 1996 Hennart and Larimo 1998; Morosini et al. 1998; Makino and Neupert 2000; Mas et. al. 2006) and therefore we choose to use them. By using the cultural distance measure developed by Kogut and Singh (1988), which is based on Hofstede's (1980) cultural dimensions, our results can more easily be related to previous studies in the field. Moreover, it is possible that certain countries are better matches than others, regardless of cultural distance. It could for example depend on one or two of Hofstede's dimensions. We do not control for this and leave an investigation of these issues for future research. Further, another interesting issue could be to compare different techniques of calculating composite measures of cultural distance based on Hofstede's (1980) dimensions or other alternative approaches to cultural distance.

5 Conclusion

The purpose of this study was to investigate whether cultural distance causes a difference in the way foreign subsidiaries, established either through greenfield or acquisition, perform in the long run. We find no impact of entry mode or cultural distance on performance of foreign owned subsidiaries in Sweden. Morosini et al. (1998) found a relationship between cultural distance and performance in the short run. Our findings indicate that this difference is not sustained in the long run. Thus, cultural distance appears to become less important after a number of years in the host country. This study

is the first to raise the question of a relationship between entry mode performance and cultural distance, i.e. that different entry modes are affected differently by cultural distance in terms of performance. Referring to our third hypothesis, we did not find an impact of cultural distance on the performance of foreign subsidiaries depending on the mode of entry in the long run. However, this relationship might have an effect on survival in the short run. The results should be interpreted with care; they do not imply that the choice of entry mode strategy is unimportant but merely that firms overall seem to make the optimal choices. Consequently, the important issue is perhaps not which entry mode strategy is chosen but how that choice is made. In the long run, other firm specific factors and strategies should be more important for firm performance. If firms overall are making optimal choices the results also indicate that markets are functioning properly. Thus policy makers have no reason to create incentives that will make companies choose one entry mode over the other.

The findings of this study suggest that further investigation is needed in a number of areas. First, the effect of entry mode choice and cultural distance in the short run is still unclear, both in terms of survival and other measures of performance. Second, this study do not control for individual dimensions in Hofstede's (1980) framework. Future studies could take a possible effect of countries being better or worse matches into consideration. Building on this, different measures of cultural distance can also be compared. Third, methodology that takes endogenous effects into account can be applied and develop our knowledge in this area. Further research, including more variables and using refined methodology, is needed to broaden our understanding of these complex relationships.

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7 Appendix

7.1 Data Descriptives

Table 6: Entry Mode * Entry Year Crosstabulation

			EntryMode		Total
			Acquisition	Greenfield	
EntryYear	1996	Count	62	49	111
		% within EntryYear	55,9%	44,1%	100,0%
		% within EntryMode	17,1%	17,8%	17,4%
	1997	Count	62	37	99
		% within EntryYear	62,6%	37,4%	100,0%
		% within EntryMode	17,1%	13,5%	15,5%
	1998	Count	123	90	213
		% within EntryYear	57,7%	42,3%	100,0%
		% within EntryMode	33,9%	32,7%	33,4%
	1999	Count	116	99	215
		% within EntryYear	54,0%	46,0%	100,0%
		% within EntryMode	32,0%	36,0%	33,7%
Total		Count	363	275	638
		% within EntryYear	56,9%	43,1%	100,0%
		% within EntryMode	100,0%	100,0%	100,0%

Table 7: Entry Mode * Country Crosstabulation

	CD(SE)	EntryMode					
		Acquisition		Greenfield		Total	
Austria	4.505	1	16,7%	5	83,3%	6	,9%
Belgium	4.063	6	50,0%	6	50,0%	12	1,9%
Brazil	3.507	0	,0%	1	100,0%	1	,2%
Canada	1.610	2	66,7%	1	33,3%	3	,5%
Denmark	.200	38	47,5%	42	52,5%	80	12,5%
Finland	.694	31	62,0%	19	38,0%	50	7,8%
France	3.168	14	73,7%	5	26,3%	19	3,0%
Germany	2.905	36	51,4%	34	48,6%	70	11,0%
Great Britain	2.481	36	58,1%	26	41,9%	62	9,7%
Hongkong	3.392	1	100,0%	0	,0%	1	,2%
Ireland	2.502	2	33,3%	4	66,7%	6	,9%
Israel	2.594	0	,0%	1	100,0%	1	,2%
Italy	3.795	4	44,4%	5	55,6%	9	1,4%
Japan	7.366	5	41,7%	7	58,3%	12	1,9%
Netherlands	.364	56	76,7%	17	23,3%	73	11,4%
Norway	.199	67	57,3%	50	42,7%	117	18,3%
Portugal	4.278	0	,0%	1	100,0%	1	,2%
Singapore	3.543	0	,0%	1	100,0%	1	,2%
Spain	2.848	0	,0%	1	100,0%	1	,2%
Switzerland	3.015	10	52,6%	9	47,4%	19	3,0%
Taiwan	3.316	0	,0%	1	100,0%	1	,2%
USA	2.367	54	58,1%	39	41,9%	93	14,6%
Total	1.625	363	56,9%	275	43,1%	638	100,0%

7.2 SPSS Regression Results

For all regressions the model is presented as well as the number of outliers that has been excluded before running the regression. Outliers are defined as observations whose absolute residuals exceed three residual standard deviations.

Return on Assets after five year of operation in Sweden

$$ROA\_adj_t = \beta_1 + \beta_2 EntryMode + \beta_3 CD_{SE} + \beta_4 (EntryMode \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t$$

$t = 5$

N = 632

6 outliers (>3 std.)

Table 8: Model Summary (ROA_5)

Model	R: abs ZREROA5sales <= 3,00 (Selected)	R: abs ZREROA5sales > 3,00 (Unselected)	R Square	Adjusted R Square	Std. Error of the Estimate
1	,481[a]	.	,231	,220	,36449

a. Predictors: (Constant), YR98, EMCD, 5Change in Assets, LogSales5, 5_ Solvency, YR97, YR96, CD(SE), EM

b. Unless noted otherwise, statistics are based only on cases for which absZREROA5sales <= 3,00.

c. Dependent Variable: ROA

Table 9: Coefficients (ROA_5)

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.
1	(Constant)	-,792	,091		-8,716	,000
	EM	,069	,044	,083	1,569	,117
	CD(SE)	-,009	,014	-,035	-,691	,490
	EMCD	,021	,019	,071	1,092	,275
	5_Solvency	,743	,062	,439	11,995	,000
	5Change in Assets	,135	,031	,156	4,378	,000
	LogSales5	,044	,008	,218	5,869	,000
	YR96	,064	,043	,059	1,496	,135
	YR97	,110	,045	,096	2,436	,015
	YR98	,056	,036	,064	1,575	,116

a. Dependent Variable: ROA

b. Selecting only cases for which absZREROA5sales <= 3,00

Return on Equity after five year of operation in Sweden

$$ROE\_adj_t = \beta_1 + \beta_2 EntryMode + \beta_3 CD_{SE} + \beta_4 (EntryMode \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t$$

$t = 5$

N = 630

8 outliers (>3 std.)

Table 10: Model Summary (ROE_5)

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate
	abs ZREROE5sales <= 3,00 (Selected)	abs ZREROE5sales > 3,00 (Unselected)			
1	,315[a]	.	,099	,086	,99075

a. Predictors: (Constant), YR98, EMCD, 5Change in Assets, LogSales5, 5_ Solvency, YR97, YR96, CD(SE), EM

b. Unless noted otherwise, statistics are based only on cases for which absZREROE5sales <= 3,00.

c. Dependent Variable: ROE

Table 11: Coefficients (ROE_5)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,163	,244		-4,766	,000
	EM	,120	,121	,058	,998	,319
	CD(SE)	-,040	,037	-,058	-1,064	,288
	EMCD	,040	,053	,053	,755	,451
	5_Solvency	1,106	,170	,259	6,521	,000
	5Change in Assets	,266	,084	,124	3,182	,002
	LogSales5	,077	,020	,155	3,837	,000
	YR96	,189	,118	,069	1,604	,109
	YR97	,292	,123	,102	2,383	,017
	YR98	,173	,096	,079	1,796	,073

a. Dependent Variable: ROE

b. Selecting only cases for which absZREROE5sales <= 3,00

Sales Growth after five year of operation in Sweden

$$SalesGrowth\_adj_t = \beta_1 + \beta_2 EntryMode + \beta_3 CD_{SE} + \beta_4 (EntryMode \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t$$

$t = 5$

N = 623

8 outliers (>3 std.)

Table 12: Model Summary (SG_5)

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate
	abs ZRESG5sales <= 3,00 (Selected)	abs ZRESG5sales > 3,00 (Unselected)			
1	,394[a]	.	,155	,143	,61264

a. Predictors: (Constant), YR98, CD(SE), 5Change in Assets, LogSales5, EM, 5_Solvency, YR97, YR96, EMCD

b. Unless noted otherwise, statistics are based only on cases for which absZRESG5sales <= 3,00.

c. Dependent Variable: SG

Table 13: Coefficients (SG_5)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,468	,152		-3,087	,002
	EM	-,005	,075	-,003	-,062	,950
	CD(SE)	-,035	,023	-,081	-1,521	,129
	EMCD	,045	,033	,094	1,374	,170
	5_Solvency	-,024	,106	-,009	-,225	,822
	5Change in Assets	,513	,058	,336	8,870	,000
	LogSales5	,049	,013	,151	3,865	,000
	YR96	,076	,073	,044	1,044	,297
	YR97	-,018	,076	-,010	-,231	,818
	YR98	,042	,060	,030	,692	,489

a. Dependent Variable: SG

b. Selecting only cases for which absZRESG5sales <= 3,00

Return on Assets after one year of operation in Sweden

$$ROA\_adj_t = \beta_1 + \beta_2 EntryMode + \beta_3 CD_{SE} + \beta_4 (EntryMode \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t$$

$t = 1$

N = 407

7 outliers (>3 std.)

Table 14: Model Summary (ROA_1)

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate
	abs ZREROA1sales <= 3,00 (Selected)	abs ZREROA1sales > 3,00 (Unselected)			
1	,463[a]	.	,214	,196	,37588

a. Predictors: (Constant), YR98, 1Change in Assets, CD(SE), LogSales1, 1_ Solvency, YR96, EM, YR97, EMCD

b. Unless noted otherwise, statistics are based only on cases for which absZREROA1sales <= 3,00.

c. Dependent Variable: ROA1_adj

Table 15: Coefficients (ROA_1)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,766	,112		-6,847	,000
	EM	,066	,060	,071	1,095	,274
	CD(SE)	,007	,016	,024	,421	,674
	EMCD	-,023	,026	-,067	-,904	,367
	1_Solvency	,731	,082	,411	8,901	,000
	1Change in Assets	,000	,000	,030	,661	,509
	LogSales1	,046	,010	,211	4,585	,000
	YR96	,045	,054	,042	,837	,403
	YR97	-,006	,050	-,006	-,122	,903
	YR98	,117	,052	,118	2,245	,025

a. Dependent Variable: ROA1_adj

b. Selecting only cases for which absZREROA1sales <= 3,00

Return on Equity after one year of operation in Sweden

$$ROE\_adj_t = \beta_1 + \beta_2 EntryMode + \beta_3 CD_{SE} + \beta_4 (EntryMode \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t$$

$t = 1$

N = 406

8 outliers (>3 std.)

Table 16: Model Summary (ROE_1)

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate
	abs ZREROE1sales <= 3,00 (Selected)	abs ZREROE1sales > 3,00 (Unselected)			
1	,358[a]	,863	,128	,109	1,07663

a. Predictors: (Constant), YR98, 1Change in Assets, LogSales1, CD(SE), 1_ Solvency, YR96, EM, YR97, EMCD

b. Unless noted otherwise, statistics are based only on cases for which absZREROE1sales <= 3,00.

c. Dependent Variable: ROE

Table 17: Coefficients (ROE_1)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1,649	,319		-5,173	,000
	EM	,282	,174	,112	1,618	,106
	CD(SE)	-,014	,047	-,019	-,302	,763
	EMCD	-,124	,074	-,132	-1,675	,095
	1_Solvency	1,073	,236	,221	4,552	,000
	1Change in Assets	,001	,001	,069	1,460	,145
	LogSales1	,146	,028	,250	5,136	,000
	YR96	,073	,156	,025	,471	,638
	YR97	-,301	,143	-,113	-2,108	,036
	YR98	,142	,150	,053	,946	,345

a. Dependent Variable: ROE

b. Selecting only cases for which absZREROE1sales <= 3,00

Sales Growth after one year of operation in Sweden

$$SalesGrowth\_adj_t = \beta_1 + \beta_2 EntryMode + \beta_3 CD_{SE} + \beta_4 (EntryMode \cdot CD_{SE}) + \beta_5 Solvency_t + \beta_6 LogSales_t + \beta_7 AssetGrowth_t + \beta_8 YR96 + \beta_9 YR97 + \beta_{10} YR98 + u_t$$

$t = 1$

N = 374

3 outliers (>3 std.)

Table 18: Model Summary (SG_1)

Model	R		R Square	Adjusted R Square	Std. Error of the Estimate
	abs ZRESG1sales <= 3,00 (Selected)	abs ZRESG1sales > 3,00 (Unselected)			
1	,473[a]	,665	,224	,205	1,50796

a. Predictors: (Constant), YR98, 1Change in Assets, CD(SE), LogSales1, 1_Solvency, YR96, EM, YR97, EMCD

b. Unless noted otherwise, statistics are based only on cases for which absZRESG1sales <= 3,00.

c. Dependent Variable: SG

Table 19: Coefficients (SG_1)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,036	,478		-,076	,940
	EM	,566	,254	,151	2,226	,027
	CD(SE)	-,021	,070	-,019	-,306	,759
	EMCD	,131	,108	,095	1,221	,223
	1_Solvency	-1,035	,355	-,139	-2,913	,004
	1Change in Assets	,263	,039	,317	6,723	,000
	LogSales1	,069	,042	,078	1,628	,104
	YR96	,084	,231	,019	,365	,716
	YR97	,152	,212	,038	,717	,474
	YR98	-,259	,217	-,066	-1,194	,233

a. Dependent Variable: SG

b. Selecting only cases for which absZRESG1sales <= 3,00

7.3 Heteroscedasticity

Heteroscedasticity has been controlled for through a procedure where White's estimated standard errors have been calculated. As can be seen in the tables below, White's standard error is fairly low for all regressions we have run and thus the p-value does not change much for any of the regressions when we control for heteroscedasticity. The most important part is that the p-values never change enough to become significant after

having controlled for heteroscedasticity in this way. Hence we conclude that heteroscedasticity is not a problem in our initial results.

Table 20: White's estimated standard error: ROA after five years of operation

White's estimated standard errors					
	b	se(b)	wse(b)	wt	wp
Constant	-,79244	,09092	,08522	-9,29895	,00000
EM	,06943	,04426	,04363	1,59118	,11208
CDSE	-,00949	,01373	,01280	-,74154	,45865
EMCD	,02124	,01944	,01819	1,16732	,24353
SOLV	,74328	,06197	,06506	11,42410	,00000
GRASS	,13482	,03079	,04399	3,06470	,00227
LOGSALES	,04420	,00753	,00664	6,65789	,00000
YR96	,06431	,04299	,04485	1,43389	,15211
YR97	,10959	,04499	,04368	2,50883	,01237
YR98	,05604	,03558	,03553	1,57711	,11528

b = estimated coefficient, se(b) = OLS standard error
wse(b) = White's standard error, wt = White's t value, wp = White's p value

Table 21: White's estimated standard error: ROE after five years of operation

White's estimated standard errors					
	b	se(b)	wse(b)	wt	wp
Constant	-1,16339	,24409	,25912	-4,48976	,00001
EM	,12047	,12067	,12586	,95717	,33885
CDSE	-,03976	,03738	,04236	-,93859	,34830
EMCD	,03992	,05289	,05383	,74159	,45862
SOLV	1,10562	,16956	,19713	5,60859	,00000
GRASS	,26627	,08368	,11873	2,24271	,02527
LOGSALES	,07745	,02018	,01906	4,06374	,00005
YR96	,18890	,11779	,13034	1,44926	,14777
YR97	,29218	,12262	,12387	2,35871	,01865
YR98	,17313	,09640	,08939	1,93674	,05323

b = estimated coefficient, se(b) = OLS standard error
wse(b) = White's standard error, wt = White's t value, wp = White's p value

Table 22: White's estimated standard error: SG after five years of operation

White's estimated standard errors					
	b	se(b)	wse(b)	wt	wp
Constant	-,46782	,15155	,16142	-2,89812	,00389
EM	-,00465	,07483	,07797	-,05969	,95242
CDSE	-,03548	,02333	,01964	-1,80663	,07131
EMCD	,04523	,03291	,03109	1,45472	,14626
SOLV	-,02383	,10577	,10842	-,21981	,82609
GRASS	,51342	,05788	,09862	5,20605	,00000
LOGSALES	,04870	,01260	,01252	3,88903	,00011
YR96	,07606	,07283	,07654	,99376	,32073
YR97	-,01750	,07588	,07258	-,24118	,80950
YR98	,04160	,06013	,05976	,69612	,48662

b = estimated coefficient, se(b) = OLS standard error
wse(b) = White's standard error, wt = White's t value, wp = White's p value

Table 23: White's estimated standard error: ROA after one year of operation

White's estimated standard errors					
	b	se(b)	wse(b)	wt	wp
Constant	-,76648	,11194	,11995	-6,38979	,00000
EM	,06592	,06022	,06811	,96780	,33374
CDSE	,00686	,01629	,01518	,45172	,65171
EMCD	-,02322	,02570	,02689	-,86369	,38828
SOLV	,73147	,08218	,09421	7,76421	,00000
GRASS	,00012	,00018	,00008	1,42529	,15486
LOGSALES	,04585	,01000	,01041	4,40454	,00001
YR96	,04548	,05431	,05483	,82939	,40738
YR97	-,00608	,04990	,05108	-,11901	,90533
YR98	,11709	,05217	,05351	2,18818	,02924

b = estimated coefficient, se(b) = OLS standard error
wse(b) = White's standard error, wt = White's t value, wp = White's p value

Table 24: White's estimated standard error: ROE after one year of operation

White's estimated standard errors					
	b	se(b)	wse(b)	wt	wp
Constant	-1,64931	,31882	,36717	-4,49191	,00001
EM	,28235	,17450	,18251	1,54702	,12266
CDSE	-,01415	,04679	,04066	-,34791	,72809
EMCD	-,12396	,07398	,08274	-1,49821	,13488
SOLV	1,07348	,23581	,24324	4,41324	,00001
GRASS	,00080	,00055	,00012	6,77891	,00000
LOGSALES	,14562	,02835	,03134	4,64663	,00000
YR96	,07346	,15584	,14466	,50780	,61188
YR97	-,30117	,14284	,15885	-1,89596	,05869
YR98	,14223	,15035	,13612	1,04488	,29672

b = estimated coefficient, se(b) = OLS standard error
wse(b) = White's standard error, wt = White's t value, wp = White's p value

Table 25: White's estimated standard error: SG after one year of operation

White's estimated standard errors					
	b	se(b)	wse(b)	wt	wp
Constant	-,03615	,47791	,41501	-,08710	,93064
EM	,56587	,25426	,23384	2,41992	,01601
CDSE	-,02137	,06973	,06202	-,34456	,73063
EMCD	,13135	,10760	,15362	,85507	,39307
SOLV	-1,03547	,35542	,32718	-3,16481	,00168
GRASS	,26315	,03914	,09264	2,84048	,00476
LOGSALES	,06904	,04241	,03289	2,09892	,03651
YR96	,08431	,23119	,30223	,27895	,78044
YR97	,15173	,21154	,19677	,77108	,44116
YR98	-,25895	,21685	,22392	-1,15642	,24827

b = estimated coefficient, se(b) = OLS standard error
wse(b) = White's standard error, wt = White's t value, wp = White's p value

7.4 Correlations and Multicollinearity

We study the correlation matrixes and condition indices to make sure our models do not suffer from multicollinearity. Correlations above 0,8 (absolute value) between independent variables as well as many correlations larger than 0,5 are both indications of multicollinearity (Edlund 1997). Similarly, condition indices between 10 and 30 indicate moderate to strong multicollinearity, and above 30, severe multicollinearity. We find no extravagant correlations or condition indices and have thus no reason to suspect perfect multicollinearity (Gujarati 2003) in any of our models.

Table 26: Correlation Matrixes for ROA, ROE and Sales Growth (t=5)

		ROA	EM	CD(SE)	EMCD	5_Solvency	5Change in Assets	LogSales5	YR96	YR97	YR98
Pearson Correlation	ROA	1,000	,096	,057	,121	,375	,142	,104	,020	,050	,013
	EM	,096	1,000	,087	,643	,004	,076	-,174	,010	-,055	-,015
	CD(SE)	,057	,087	1,000	,591	,086	-,009	,064	,067	-,118	-,006
	EMCD	,121	,643	,591	1,000	,075	,020	-,060	,020	-,065	-,005
	5_Solvency	,375	,004	,086	,075	1,000	-,086	-,237	-,072	-,010	,059
	5Change in Assets	,142	,076	-,009	,020	-,086	1,000	,076	,114	-,046	-,057
	LogSales5	,104	-,174	,064	-,060	-,237	,076	1,000	,068	,007	-,082
	YR96	,020	,010	,067	,020	-,072	,114	,068	1,000	-,198	-,328
	YR97	,050	-,055	-,118	-,065	-,010	-,046	,007	-,198	1,000	-,304
	YR98	,013	-,015	-,006	-,005	,059	-,057	-,082	-,328	-,304	1,000

		ROE	EM	CD(SE)	EMCD	5_Solvency	5Change in Assets	LogSales5	YR96	YR97	YR98
Pearson Correlation	ROE	1,000	,065	,000	,063	,208	,118	,088	,031	,058	,023
	EM	,065	1,000	,086	,642	,007	,073	-,178	,012	-,052	-,010
	CD(SE)	,000	,086	1,000	,591	,082	-,007	,064	,071	-,122	-,011
	EMCD	,063	,642	,591	1,000	,068	,021	-,050	,024	-,064	-,004
	5_Solvency	,208	,007	,082	,068	1,000	-,095	-,241	-,066	-,006	,057
	5Change in Assets	,118	,073	-,007	,021	-,095	1,000	,094	,121	-,054	-,053
	LogSales5	,088	-,178	,064	-,050	-,241	,094	1,000	,076	,006	-,071
	YR96	,031	,012	,071	,024	-,066	,121	,076	1,000	-,194	-,324
	YR97	,058	-,052	-,122	-,064	-,006	-,054	,006	-,194	1,000	-,304
	YR98	,023	-,010	-,011	-,004	,057	-,053	-,071	-,324	-,304	1,000

		SG	EM	CD(SE)	EMCD	5_Solvency	5Change in Assets	LogSales5	YR96	YR97	YR98
Pearson Correlation	SG	1,000	,062	-,018	,053	-,080	,356	,170	,078	-,035	-,014
	EM	,062	1,000	,088	,641	,003	,107	-,163	,013	-,051	-,014
	CD(SE)	-,018	,088	1,000	,595	,096	-,016	,064	,060	-,122	,005
	EMCD	,053	,641	,595	1,000	,082	,044	-,047	,027	-,072	,005
	5_Solvency	-,080	,003	,096	,082	1,000	-,104	-,232	-,075	-,014	,063
	5Change in Assets	,356	,107	-,016	,044	-,104	1,000	,075	,099	-,042	-,063
	LogSales5	,170	-,163	,064	-,047	-,232	,075	1,000	,069	,016	-,070
	YR96	,078	,013	,060	,027	-,075	,099	,069	1,000	-,197	-,323
	YR97	-,035	-,051	-,122	-,072	-,014	-,042	,016	-,197	1,000	-,303
	YR98	-,014	-,014	,005	,005	,063	-,063	-,070	-,323	-,303	1,000

Table 27: Collinearity Diagnostics for ROA, ROE and Sales Growth (t=5)

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions									
				(Constant)	EM	CD(SE)	EMCD	5_Solvency	5Change in Assets	LOGSALES	YR96	YR97	YR98
1	1	4,990	1,000	,00	,01	,01	,00	,01	,00	,00	,01	,00	,01
	2	1,105	2,125	,00	,00	,00	,00	,01	,28	,00	,21	,08	,05
	3	1,029	2,202	,00	,01	,00	,02	,00	,04	,00	,02	,36	,08
	4	,930	2,317	,00	,03	,01	,07	,01	,15	,00	,00	,05	,14
	5	,852	2,420	,00	,01	,00	,01	,01	,49	,00	,28	,03	,01
	6	,451	3,327	,00	,24	,25	,01	,00	,02	,00	,04	,00	,02
	7	,317	3,967	,00	,00	,01	,01	,48	,00	,00	,18	,23	,39
	8	,216	4,809	,01	,04	,02	,07	,34	,02	,04	,25	,20	,26
	9	,095	7,256	,01	,57	,69	,76	,00	,00	,05	,01	,03	,02
	10	,016	17,841	,97	,10	,01	,03	,15	,00	,90	,01	,02	,04

a. Dependent Variable: ROA

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions									
				(Constant)	EM	CD(SE)	EMCD	5_Solvency	5Change in Assets	LOGSALES	YR96	YR97	YR98
1	1	4,994	1,000	,00	,01	,01	,00	,01	,00	,00	,01	,00	,01
	2	1,113	2,118	,00	,00	,00	,00	,01	,28	,00	,21	,09	,04
	3	1,025	2,207	,00	,01	,00	,02	,00	,04	,00	,03	,36	,09
	4	,931	2,316	,00	,03	,01	,08	,01	,15	,00	,00	,04	,14
	5	,845	2,430	,00	,02	,00	,01	,01	,48	,00	,28	,04	,00
	6	,451	3,326	,00	,23	,25	,01	,00	,02	,00	,04	,00	,02
	7	,314	3,989	,00	,01	,01	,01	,44	,00	,00	,20	,25	,42
	8	,214	4,836	,02	,04	,02	,07	,38	,02	,04	,22	,17	,24
	9	,096	7,227	,01	,55	,69	,76	,00	,00	,05	,01	,04	,02
	10	,016	17,571	,97	,11	,02	,04	,15	,00	,90	,01	,02	,03

a. Dependent Variable: ROE

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions									
				(Constant)	EM	CD(SE)	EMCD	5_Solvency	5Change in Assets	LOGSALES	YR96	YR97	YR98
1	1	4,986	1,000	,00	,01	,01	,00	,01	,00	,00	,01	,00	,01
	2	1,109	2,120	,00	,00	,00	,01	,01	,27	,00	,18	,09	,05
	3	1,030	2,201	,00	,00	,00	,02	,00	,05	,00	,03	,36	,10
	4	,904	2,348	,00	,03	,01	,09	,01	,12	,00	,02	,05	,11
	5	,877	2,385	,00	,01	,00	,00	,00	,50	,00	,29	,02	,02
	6	,449	3,334	,00	,24	,24	,01	,00	,04	,00	,04	,00	,02
	7	,319	3,952	,00	,01	,01	,01	,46	,00	,00	,18	,23	,39
	8	,216	4,807	,01	,04	,02	,07	,36	,02	,04	,24	,19	,25
	9	,095	7,256	,01	,56	,69	,76	,00	,00	,06	,01	,03	,02
	10	,016	17,575	,97	,10	,02	,04	,15	,00	,90	,01	,01	,03

a. Dependent Variable: SG