Assessing the marginal value of subsidiary ownership

- A case study of Alfa Laval India Ltd

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Abstract

Titel: Assessing the marginal value of subsidiary ownership
- A case study on Alfa Laval India Ltd

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Issue of study: This thesis adds a new perspective to the issue of firm valuation by introducing the discussion of how to assess the marginal value of ownership. Which are the determinants of the marginal value of subsidiary ownership? How can a company that wants to assess the marginal value of its subsidiary holding perform the valuation? How does the value of flexibility to act on different outcomes of an uncertain situation affect the marginal value?

Purpose: The purpose of this study is to establish an understanding for the drivers of the marginal value of subsidiary ownership. Building on this understanding, it is furthermore the purpose to formalize the process of assessing the marginal value into a model that can be used by companies when deciding on the appropriate level of holding in a subsidiary.

Method: This study has been conducted using a qualitative and inductive research method. A deviant case study has been carried out at Alfa Laval AB. The findings from the empirical study have lead up to the construction of a model to be used when assessing the marginal value.

Conclusions: The marginal value of subsidiary ownership is foremost affected when passing certain thresholds, defined as value breakpoints. The legal framework in the country of operations and the company's ownership structure determine the

locations of the value breakpoints. Between these breakpoints the marginal value will increase linearly with the size of the holding.

Keywords: Marginal value of ownership, subsidiary, legal framework, value breakpoints

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Abbreviations and frequently used terms

AL Alfa Laval AB

ALIL Alfa Laval India Ltd

Cash flow rights The right to collect dividend from a share held in a firm. This is a right that is shared by all shareholders, independent on the size of the holding.

Cost of compliance Costs of complying with laws and regulations.

Delisting Delisting the company from the stock exchange.

Effective control The degree of control that is obtained when owning more than 50 % of the shares in a company.

Legal framework The laws and regulations framing investor rights and obligations.

Level of holding Proportion of the equity shares in a firm held by a single investor.

P2P transactions Public to private transactions.

Parent Company A company that holds effective control of another firm, the subsidiary.

ROA Real option analysis.

Subsidiary A firm controlled by a higher entity, the parent company.

Value breakpoints Threshold levels where the marginal value of subsidiary ownership alters as a result of the legal framework.

1 Introduction

Measuring the value of companies is a well-documented practice. There is an extensive literature on the subject and the variations on the methods employed are many. This thesis adds a new perspective to the issue of firm valuation by introducing the discussion of how to assess the marginal value of ownership. To limit the scope of the study the focus is on industrial owners and corporate groups. A case study has been conducted and a model for measuring the marginal value of a subsidiary holding has been developed.

1.1 Background

Most conventional valuation models do not offer any possibility of measuring the marginal value of ownership as they build on the assumption of equal value of all shares outstanding. This is an assumption that fails to explain the premiums usually paid in control transactions, i.e. transactions that may influence the control of a company. When used for investment decisions by existing shareholders these models do not provide a sufficient decision base since they fail to incorporate all the costs and benefits associated with a change in level of ownership. To assess the value of further investment or divestment in an existing holding an extended analysis is required.

There is a large literature on price premiums of controlling blocks, explaining the premium by the existence of private benefits of control. Several attempts have been made to empirically measure the value of control by observing the premiums paid on control transactions. Hanley and Wilhelm (1995) even argue that the market for dispersed shareholdings is distinct from the market for potentially influential blocks. Zingales (2000) highlights the implication of the existence of private benefits of control as they challenge conventional financial theory of equal value of all shares. However, the existing literature seems to assume the value of such private benefits of control to be entirely captured when reaching a level of ownership above 50 %.

Recently, academicians have started taking interest in the reasons why public firms are taken private. Public to private transactions is another type of transactions that often carry substantial price premiums. One of the early well-recognized studies in this area was conducted by Renneboog and Simons (2005). They conclude that when the rationales for taking a firm public do no longer apply the firm will be taken private. After Renneboog and Simons further studies have been conducted that try to derive the factors determining when the cost of being listed is higher than the one of being private.

1.1.1 The case study: Alfa Laval India Ltd

Alfa Laval India Limited (ALIL) is the Indian subsidiary of the Alfa Laval Group (AL) with a turnover INR 8 875 million, approximately 1 331 million SEK. The company is

listed on the Bombay Stock Exchange Ltd. and National Stock Exchange of India Limited. At present AL owns 88.77% of the shares outstanding. As a result of a long-term strategy to buy out the company from the stock exchange the holding has been gradually increased to reach the threshold of 90% as required for a delisting. In June 2009 regulations were changed and SEBI (Securities and Exchange Board of India) announced the decision to change the delisting threshold to the higher of 90% or the aggregate percentage of the pre-offer promoter holding and 50% of the minority shares. For ALIL this means 88.77 % plus 50 % of the remaining shares, hence 94.38 %. Compared to the situation before the amendment, a significantly larger proportion of the outstanding shares in must now be purchased to enable delisting. An increased uncertainty about the feasibility of delisting and the costs thereof has halted the process for further evaluation. Simultaneously, India's finance minister signals that further regulatory changes are underway in the form of increased demands for public ownership (public float) of listed companies. One proposal is to raise the limit to 25 %. Such a change would imply that AL, if keeping the subsidiary listed, would be forced to issue additional shares or sell parts of the existing holding in order to comply with the new rules.

Faced with the option of either proceeding the buyout, or remain at the current level of holding, risking a involuntary divestment to obtain the required level of public float, AL stands at a point where the consequences of alternative courses of action have to be closely evaluated. What are the gains of owning another 5.61 % of the shares and thereby delisting ALIL? What is the total cost to the majority owner of a dilution in ownership followed by a decrease of the holding? These questions introduce the issue of how to measure the marginal value of ownership for a majority shareholder. Moreover, the uncertainty of events associated with the ongoing legislation process further complicates the valuation and the decision to be made.

1.2 Issue of Study

The need for AL to assess the marginal value of its holding in ALIL leads to the formation of a number of questions composing the issue of study of this thesis. What are the determinants of the marginal value of subsidiary ownership? How can a company that wants to assess the marginal value of its subsidiary holding perform the valuation? How does the value of flexibility to act on different outcomes of an uncertain situation affect the marginal value?

The existing literature on private benefits of control and public to private transactions give some insight to how the value of a holding varies at different levels of ownership. When effective control (>50 %) is obtained the value of control increases the total value of the holding over and above the value of its cash flow rights. When taking a company private the value of the holding can be enhanced if the company no longer needs access to the public capital market and the costs of

being listed are higher than the benefits. Reaching above 50 % of the shares and taking the company private are hence two potential thresholds where the value of ownership may alter. However, no coherent explanation for how the marginal value varies in the entire range from effective control up to the firm is wholly-owned is offered. Another shortfall of these studies is that they fail to take into account the different objectives of different types of owners. In the case where an industrial owner evaluates its stake in a subsidiary, the decision on the appropriate level of holding should be taken to maximize the value of the entire corporate group rather than the single firm.

1.3 Purpose

The purpose of this study is to establish an understanding for the drivers of the marginal value of subsidiary ownership. Building on this understanding, it is furthermore the purpose to formalize the process of assessing the marginal value into a model that can be used by companies when deciding on the appropriate level of holding in a subsidiary.

The intended contribution of the thesis is also to provide AL with an improved decision bases in resolving whether to proceed with the strategy of taking the subsidiary private or staying at the current level of ownership awaiting the outcome of the ongoing legislation process.

1.4 Delimitations

The marginal value of subsidiary ownership is an undiscovered research area. Because of the lack of previous literature on this specific topic the scope of this thesis has been limited to only cover the range of 50-100 % ownership. The study only covers industrial owners and how their marginal value of ownership varies with the size of the subsidiary holding. The case study is conducted on a Swedish MNC (multinational company) and its Indian subsidiary. The identified drivers of the marginal value and the proposed model will be affected by this context, a Swedish MNC with a holding of 50-100 % in a foreign subsidiary.

1.5 Outline of thesis

The purpose of the outline is to first introduce the reader to the main result of the thesis and then present the theoretical foundation and the empirical findings that have lead up to this conclusion.

The model suggested to measure the marginal value of a subsidiary holding is thus presented in the following chapter (chapter 2). The next section (chapters 3-4) introduces the methodology and the theoretical framework. Since the marginal value of a subsidiary holding is an undiscovered area of research the theoretical framework consists of a literature review of adjacent theories. Chapter 5 and 6

contain the empirical findings that are of a more general nature whereas chapter 7 presents the specific findings from the case study and its contribution to the development of the model. The empirical findings are analysed and conclusions on its implications to the model are drawn in each chapter. Chapters 5-7 can be regarded as the main contribution of the thesis and presents the work that have led up to the result presented in chapter 2. The last section (chapter 7 - 8) provides a discussion on the overall findings. Together with chapter 2, chapter 8 summarizes the conclusions of the thesis.

2 The subsidiary marginal value model

This study proposes a model to be used by corporate groups when assessing the value of subsidiary ownership at levels ranging from 50 % - 100 % (see Figure 1). When conducting this assessment the fundamental analysis needs to be complemented by a valuation that estimates the marginal value of the holding. Furthermore, the model needs to consider that the aim of a corporate group is to maximize the return of the corporate group, not the return of the subsidiary. Hence, the perspective of the parent company has to be included. The model has been developed for Swedish corporate groups to evaluate subsidiaries around the world.

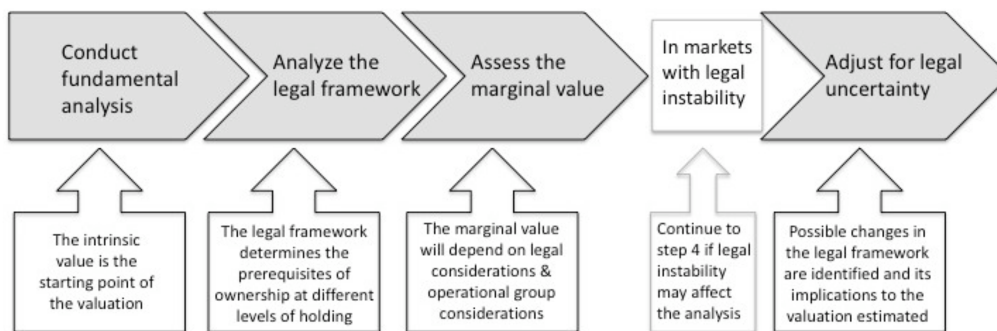


Figure 1 - Model suggested by the authors for assessing marginal value of subsidiary ownership to a parent company

1. **Fundamental analysis**. As starting point the model suggest a fundamental analysis to be conducted to establish the intrinsic value of the firm.

2. **Legal framework**. The legal framework refers to the legislation governing shareholder rights and the level of control a parent company can exercise over a subsidiary. This legislation will have a significant impact on how a parent company can operate its subsidiary and thereby affect cash flows. To understand how the value of ownership varies with the level of holding it is essential know the prerequisites spelled out by the legal framework.

3. **The marginal value**. The legal framework and the size and distribution of the minority holding affect the marginal value. To assess the value of the subsidiary at different levels of holding the fundamental analysis should be adjusted by the following three determinants:

    - *Value of control*. Control privileges include aspects as the ability to appoint management, change the capital structure, wind up the company, etc. These privileges will drive value to the controlling shareholder since he can direct the business in accordance with his interests.

- *Cost of compliance*. Whenever there is more than one investor in a firm there will be rules that prevent one investor, typically the majority owner, from expropriating value from the other investors. Costs incurred by complying with these rules are, for example, costs related to disclosure requirements and corporate governance standards.

- *Simplified group operations*. The owner of a corporate group has the option to allocate value between different entities. The larger the minority holding the more attention has to be paid to this allocation to ensure that value is not given away to the other shareholders of the subsidiary. This assessment will require resources to be invested by the parent company and hence drives cash flows.

4. **Uncertainties in legal framework**. Since all determinants are to some extent dependent on the legal framework, legislative changes can have a significant impact on the marginal value. If any existing proposals to amend the legal framework can be identified the analysis should be adjusted for its impact on the marginal value.

The fundamental analysis is regarded as a generic first step when assessing firm value and will not be further motivated in this study. The rationales for including the three other steps cannot be concluded from existing literature, and hence will be further explained in the report.

3 Methodology

3.1 Research approach

This study uses a qualitative research method and is intended to be exploratory by nature. The aim of the authors is to conduct an in-depth study to gain understanding of how the value of subsidiary ownership varies with the size of the holding. Patton argues in his book *Qualitative Evaluation and Research Methods* that “Qualitative methods permit the evaluator to study selected issues in depth and detail. Approaching fieldwork without being constraint by predetermined categories of analysis contributes to the depth, openness, and detail of qualitative inquiry”(1990:13).

Since no theory formation in this area has been found, the thesis will use an *inductive analysis*. The approach is defined by Patton as “…that an understanding of program activities and outcomes emerges from experience with the setting.”(1990:44) This implies that theories about the marginal value of subsidiary ownership diary can be generated through findings grounded in real-world patterns. It means that the authors will generalize theories from the results and experiences gained when studying how the shareholder value for AL in ALIL varies with the size of the holding.

Selecting ALIL as the case for this study is coherent with applying *purposeful sampling*, as described by Patton (1990). More specifically, ALIL can be described as a *deviant case*. By looking at a case that deviates from the normal situation Patton argues that the complicated conditions will help discover perspectives that would have been missed out if more typical cases were examined. The fact that AL requests a consultative report to provide a decision basis indicates that the case includes many different aspects and is rich in information. Furthermore, deviant case sampling is appropriate to use in situations with limited resources. When conducting this study time has been a limiting resource and hence only one case has been studied.

3.2 Work process

This study has been conducted by first examining the existing adjacent theories to gain a pre perception about the issue to be studied. Secondly, interviews were conducted to establish a general understanding of which issues that are of interest when conducting this type of valuation. This was primarily done by conducting interviews in Sweden with Academicians, Private Equitists and Chief Economic Officers at Swedish MNCs.

Furthermore, a field study was conducted by interviewing experts on the situation of ALIL. The interviews were primarily conducted in Mumbai, the financial centre of

India, New Dehli, the political centre of India, and Pune, where the ALIL head quarter is located.

When the literature and empirical studies where finished the results of the case study were analyzed and presented in three main documents. An analysis of the legal framework in India is presented in Appendix A, a DCF-valuation of ALIL and the net present value (NPV) of the different levels of ownership of interest in Appendix B and an adjustment of the NPV for the uncertainty in the legal framework presented in Appendix C. During the analysis complementing interviews and literature reviews have been conducted.

Finally, drawing on the results from the case, the valuation of ALIL, a suggestion for a generic model for estimating the marginal value of subsidiary ownership was generated.

3.3 Study of adjacent theories

In order to gain a basic understanding of what drives the marginal value of ownership in general an extensive literature review was conducted, starting in general valuation literature. Furthermore, large emphasis was put on literature recommended by the mentors and other experts in the area of valuation. By applying the approach of *related literature search*, presented by Rienecker and Jörgensen (2002), the up to date research was mapped out. The adjacent theories that were found were evaluated in the light of what parts that might apply to the issue of this study.

3.4 Empirical data collection

The purpose of the empirical data collection was two-fold. The first objective was to gather information to gain a general understanding of what determines the marginal value of subsidiary ownership. The second objective was to gather data about the case of AL and ALIL to be able to do the valuation asked for by AL. No clear distinction can be made between interviews held to establish the general understanding and the understanding for the case study. It has rather been an iterative process to gain understanding in both areas.

3.4.1 Choosing interviewees

In order to get an overall picture of the issue, it was important to find persons with different viewpoints. The three different groups identified were:

- Academicians
- Experts in the equity market
- Representatives of a parent company or a subsidiary

The group Academicians is constituted by professors with specialisation in macroeconomics, valuation or business law. These professors, especially within valuation and business law, were included to be able to give the perspective of which determinants that are important to the marginal value of ownership in a subsidiary. Furthermore, academicians can be said to have an objective viewpoint and hence be used to authenticate the objectivity of the other groups

Experts in the equity market are defined by persons that have specialised in a specific area of the equity market, such as investment bankers, corporate lawyers or financial journalists. They are included to provide the detailed knowledge in areas concerning the study. Some of these interviewees held interest in the case of AL and ALIL, which has been regarded when analyzing the information provided by them.

Representatives of a parent company or subsidiary are persons that work at AL, ALIL or at a corresponding company. They are included to provide the internal perspective.

The interviewees can further be divided into groups that provide information about the general case, the specific case of AL and ALIL or both. The nationality of interviewees has been either Swedish or Indian. This has to be taken into consideration when trying to generate a generic method that can be applied by Swedish MNCs when valuing subsidiaries around the world.

Furthermore, the authors have tried to establish an understanding of the Indian social and cultural context to be able avoid misunderstandings due to differences these contexts.

3.4.2 Choosing interview method

This study has used two different approaches to the interviews, *the informal conversational interview* and *the general interview guide approach* (Patton 1990).
The informal conversational interview was used since it is the most open–ended interviewing method. It was used in the beginning of the study when it was important that a maximum degree of flexibility in the interviews was maintained. With this flexibility the authors were able to peruse the information that seemed most appropriate given what emerged during the interview.

The general interview guide approach was used when a basic understanding had been established. This basic understanding was used to create a checklist used during the interviews to ensure that no topic was missed out. Another driver for using a more structured form for the latter part of the interviews was that they were conducted in India. The authors identified a risk for misunderstandings and that vital topics would be missed out due cultural differences and language complications.

3.5 Reliability and validity

The purpose of this study is twofold. Firstly, it is to examine how the marginal value of ownership for a majority shareholder varies with the size of the holding. Secondly, it is to provide AL with an improved decision base in resolving whether to proceed with the strategy of taking the ALIL private or staying at the current level of ownership awaiting the outcome of the ongoing legislation process. In order make sure that a satisfying level of *reliability* was achieved, the interviews were conducted until a saturation effect was observed (Kvale 1997). To achieve this effect the interviews were held until the answers became repetition and no new understanding was added.

To obtain a high level of *validity* the interviews have mostly been held at the respondents. This to achieve a good understanding for premises and the setting of issue studied (Wikipedia's Validity 2010). Furthermore, to establish a causal relationship large emphasis has been put at separating between value drivers for and determinants of the marginal value. Since this is a qualitative study, extra focus has been attended at making the results as transferable to situations with similar settings as possible (Yin, 2003). One example of this is the last part of the model that only is conducted when applied in markets with legal instability. This was done to increase the level of generalizability of the model.

4 Theoretical Framework

4.1 Private benefits of control

The value of control constitutes a significant part of the overall firm value (Nenova, 2003). The value of controlling a firm can derive from an ability to run it differently (Damodaran, 2005), but also from the existence of certain values that are not shared among all shareholders. These private values are associated with the voting power rather than the cash flow ownership. The concept of private benefits of control implies that a holder of a controlling block of shares enjoys other benefits than atomistic shareholders. Examples of these benefits are possibilities to relocate profit between companies through dividends or transfer pricing and the power to control strategic choices and redirect investments. Another source of private benefits of control is the benefits enjoyed by the top executives paid with money from the company.

Private benefits are largely considered to be synonymous to minority expropriation. However, there are values to be captured without appropriating resources that are valuable to all shareholders. Dyck and Zingales (2003) bring up the example of information about investment opportunities that is obtained through a controlling position, but does not provide appropriate business for the particular company. Such opportunities can be exploited by the owner through other companies without any disadvantages of the minority shareholders, hence additional value is created. Besides the monetary benefits there are also psychic private benefits, such as status, prestige and amenities, which may be equally important. These benefits are enjoyed by the controlling party without any cost to the other shareholders (Roosenboom & Schramade, 2005).

Within the corporate finance literature the existence of private benefits of control has been shown through diverse approaches and data. Important findings include evidence that the value of private benefits of control varies across countries with capital market development and legal environment (Huang & Xu, 2009). However, private benefits of control are by definition difficult to measure. If their value was easy to observe and quantify they would not be private anymore and minority shareholders would demand compensation for them. A controlling party can only appropriate value for himself when the value is not easily measured and hence the non-controlling shareholders are not able to stop the appropriation (Dyck & Zingales, 2003). A number of studies have been done to further examine the sources and value determinants of private benefits of control (e.g. Nenova, 2003, Albuquerque & Schroth, 2009). The legal framework, firm and industry characteristics and role of extra legal institutions in are identified variables to consider.

4.1.1 The legal framework

The most unanimous conclusion in the literature of private benefits of control is that law matters. International comparisons have found large country-level divergence in the proportion of firm value attached to the control of the company, depending on the legal frameworks and the degree of law enforcement. The controlling shareholders will always maximise their own utility, the question is to what extent they are able to do so and still comply with the legal restrictions in the country where the firm operates (Benos & Weisbach, 2004). Stricter laws imply lower benefits of control since the costs of expropriation will be higher reflecting the risk of lawsuits by minority shareholders (Nevova, 2003).

Investor protection in general and minority shareholder protection in particular are parts of the legal framework that influence the level of private benefits. Accounting standards is one important part of the minority shareholder protection. With stricter disclosure requirements, more information is made available to non-controlling shareholders. The higher the accuracy of the information the more difficult it will be for the controlling shareholder to appropriate value over and above the cash flow rights. Dyck and Zingales (2003) find that the value of control is reduced by 9% in the case of a one standard deviation increase in accounting standards. Other factors influencing the investor protection include the ability to sue the management and takeover laws that protect minority interests in case of a control transfer (Benos & Weisbach, 2004). Common law, with its generally stronger laws for investor protection, has been found to curb the extraction of private benefits of control whereas French civil law has weaker regulations and thereby implies a higher potential value of control benefits (Nenova, 2003).

4.1.2 Extra legal institutions

Coffee (2001) adds to the hypothesis that law matters (e.g. La Porta, Lopez-de-Silanes) by arguing that norms may be just as important. Particularly when laws are weak norms tend to have impact on private benefits of control. By using national crime rate as a proxy for norms of law compliance he attempts to explain the cross-country differences in private benefits of control that the differences in legal systems fail to explain. He finally provides the hypothesis that crime rate and private benefits of control are low in countries with strong social norms. Dyck and Zingales (2003) add to the discussion by suggesting that extra legal institutions have at least as much explanatory power as the legal framework, for example both public opinion and the pressure from media can have large effect on the private benefits, particularly in countries with strong social norms.

Furthermore, the quality of tax enforcement has been found to influence private benefits of control (Desai et al., 2003). It is foremost the use of transfer prices that can be disciplined by taxes and the degree of tax compliance. Dyck and Zingales (2003) find that a one standard deviation increase in tax compliance (measured by an index developed by the World Competitiveness Report) reduces the value of

control by 8.6 percentage points. The degree of tax compliance is affected both by the quality of tax enforcement and by the attitude toward cheating on taxes.

4.1.3 Ownership structure and provisions

A controlling block only has to hold enough shares to make the acquirer the largest shareholder. In a situation of diffused ownership that implies that smaller blocks can be controlling blocks as well. The Shapely value reflects the likelihood that a block of shares brings control depending on the number, composition, and interaction between the vote-holders (Nenova, 2003). However, Dyck and Zingales (2003) argue that although control is in theory assumed to be absolute and held by the largest shareholder, in reality a block of 20% cannot carry the same amount of control as a block of 51%. In the case where no owner holds a larger block than 50 % there is always a hypothetical risk of control contests. This is the only case when the minority owners have the potential to realize the value of control held by their shares. Furthermore the existence of other large shareholders should have a negative influence on the control premium as they may have a greater possibility than dispersed owners to limit the freedom of action of the controlling part (Nenova, 2003). Thus the size of the controlling shareholder’s stake and the composition of the diffused shareholders may affect the value of private benefits of control. This is confirmed by the finding that countries with higher concentration in ownership have higher benefits of control (Dyck & Zingales, 2003).

Different kinds of corporate charter provisions can further enhance the control of the dominant shareholder. Examples of such provisions are voting caps for other shareholders, golden shares, poison pills and limitations on transfer of shares. By attaching additional rights to the controlling shares, such as special decision-making right or restricting the possibility for other shareholders to obtain voting power or transfer their holding as they wish, the controlling party increases her control over and above her voting rights and thus larger benefits of control are to be expected (Nenova, 2003).

4.1.4 Firm characteristics

The size of the firm may influence the value of holding a controlling block of shares. Despite the ability to extract value from control benefits, control comes at a cost, the cost of financing a large block or participating in a control contest for example. Moreover, holding a large stake in one firm may prevent the investor from being well diversified and the investment thereby bears idiosyncratic risk (Nenova 2003). This will increase the cost of capital. The effect will be much more prominent in large companies since they require a larger investment in order to achieve and maintain control. In the models to assess private benefits of control by Dyck and Zingales as well as by Nenova, firm size is therefore accounted for by the ratio of the firm value and stock market capitalization of the country.

A second firm characteristic that has been found to influence the value of being in control is the asset composition of the firm. The controlling shareholder can more easily extract private benefits through redirection of investments, compensation and other perquisites when the firm has more cash (Jensen 1986). Dyck and Zingales (2003) add to the same line of argument suggesting that the controlling shareholder is more likely divert resources if assets are not tied down and easily observable. A large proportion of tangible assets should thereby imply more difficulties to extract private benefits of control.

Finally private benefits of control may differ across industries. So far, very little attention has been paid on analysing cross-industry differences. However, the media industry is brought up as an industry characterized by high levels of private benefits of control (Demsetz & Lehn, 1985). Dyck and Zingales (2003) show that firms in wholesale trade, finance and transportation and utilities have higher level of private benefits than firms in manufacturing, although these differences are not statistically significant. The degree of product market competition within the industry further affects the ability to extract value through transfer pricing. In industries with higher competition prices tend to more accurately reflect costs (Dyck & Zingales 2003).

4.2 Public to private transactions

Going public is one of the most important events in a company's life cycle and most of the large-scale companies are investor held. Up until 25 to 30 years ago the common opinion was that once gone public there were no rationales for going private again. By being listed on a stock market a company can raise funds in public capital markets, increase the share liquidity for investors and allow funders and entrepreneurs to diversify their wealth. However, there has been a significant increase in P2P transactions during the last ten years, both in the number of deals and in the average deal value (Renneboog & Simons 2005). Even though the phenomenon of P2P transactions is becoming increasingly common there are relatively few studies on the topic. A handful of relevant papers on the issue have been identified. Rooneboog and Simons (2005) present the recent development as well as the history of P2P transactions and furthermore investigate the motives for these transactions through a literature study. Bharat and Dittmar (2006) discuss P2P transactions in the US from 1980-2004. A study by Thompsen and Vinten (2006) investigates delisting from European Stock Exchanges 1995-2005 with focus on corporate governance on a country level. A common denominator for all these studies is that they have been conducted primarily in the light of management or leveraged buyouts.

These studies present theories concerning the determinants of the going private decision, apart from the direct costs induced by being listed. The determinants being; information considerations, capital structure, regulatory considerations,

liquidity, agency considerations and undervaluation. The variables can be expected to have different impact across various regions.

4.2.1 Information considerations

Signalling true value

Financial markets are characterized by the information asymmetry between borrowers and lenders. An entrepreneur or manager of a firm typically holds inside information about the industry and the quality of the firm. A lender, or investor, on the other hand does not have access to the same information. According to Leland and Pyle (1977), firms will have to signal their true value for the market to be able to distinguish between poor and well performing firms. If not, all firms will be traded at an average price in a group of comparable companies. To level this asymmetry, information need to be transferred between lenders and borrowers. This information transfer can be costly. According to Bharat and Dittmar (2006), signalling the true value to investors will be more difficult for small, young firms with low visibility and analyst coverage. This implies higher costs and hence making these firms more probable to gain from going private.

Duplicative monitoring

When there are a large number of investors in a firm they will all try to gather information on the fair value. Hence, costs of duplicating information will occur. These costs have ultimately to be borne by the firm and hence will deteriorate the value. A large shareholder would be able to convey information to the rest of investors, signalling a fair public price. Duplication costs can thereby be reduced. However, if the large shareholder were not compensated for this, the firm would go private since the value of the firm does not accurately reflect available information about the firm (Chemmanur & Fulghieri 1999).

On the other hand serendipitous information (information that stock market investors come across by chance) is likely to differ across investors. Although noisy, when aggregated, the serendipitous information can provide a useful signal on the firm value. According to Subrahmanyam and Titman (1999), as the costs of generating serendipitous information increases firms will go private.

4.2.2 Capital structure

Cost of capital

One of the most important aspects of going public is to minimize the cost of capital and thereby increase the value of the firm. As long as the cost of capital is lower on the public market compared to the private, the firm has an incentive to stay public. In reverse, a company will be going private when the cost of capital in the public market exceeds the cost in the private market (Modigliani & Miller 1963).

Overcoming financial constraints

Another important reason for a firm to go public is to raise capital in order to invest for expanding. Hence, going public would be more attractive for firms with a high growth rate or capital-intensive operations. On the other hand, a firm that is not financially constraint would be more reluctant to be private. A signal of low investment need can be low capital expenditures in relation to its size or large dividend payouts (Bharat & Dittmar 2006).

Tax benefits

When undertaking a P2P transaction a vast majority of firms substantially increase their leverage. When doing so, given the tax-deductibility of the interest of the new loans, a tax shield will be obtained. This tax shield will improve the cash flows and hence the value of the firm. Clearly, the extent of this tax shield-effect can play an important role in the decision of going private. The degree to which this wealth gaining effect matters in the going private decision is dependent upon the fiscal regime of the company and the marginal tax rate which it is subject to. Kaplan (1989) estimates the tax benefits of US P2P transactions for the period 1980-1986 to be between 21% and 72% of the premium paid. However, the need to actually go private to be able to enjoy these tax benefits can be discussed (Renneboog & Simons 2005).

4.2.3 Regulatory considerations

There are two different viewpoints on the impact of regulations on firm value. Legal infrastructure and new regulations are according to *the efficiency hypotheses* enacted to improve the functioning of stock markets and hence should improve the company performance and stock price. This implies an incline in firm value and a motivation for the firm to stay listed. On the other hand, according to *the overregulation hypotheses*, new financial regulation is the result of rent seeking powerful institutions, which seek to further their own interests. Boot et al (2006) predict that when managerial autonomy is restricted by public governance regulation this would motivate the controlling shareholder to take the company private. When looking at drivers for delisting it is interesting to separate general legal infrastructure and minority investor protection, which determines the distribution of power between controlling shareholders and minority investors. In general, the more corporate governance regulation, the harder it will be for a controlling shareholder to expropriate value from minority investors. If the cost for protecting minority investors exceeds the benefits of governance regulation, which in the long run will lower the cost of capital, they should leave the exchange (Thomsen & Vinten 2006).

4.2.4 Liquidity

The exchange of shares on a secondary market is cheaper compared to bilateral trades and hence firms tend to go public. The liquidity of a share traded on the secondary market is essential for the correct pricing. If the firm is traded in small

volumes this will imply great swifts in price if someone tries to offload or buy a substantial amount of shares. When liquidity is low this will in general imply lower valuation of the firm on the stock exchange since the possibility of exit becomes limited. According to Amihud and Mendelson (1988), this liquidity effect is a function of the volume traded. The more concentrated the ownership structure, the greater the impact of this effect. Bolton and von Thadden (1998) argue that when the value of controlling a firm without the interference of minority shareholders exceeds the value of stock liquidity the firm should be taken private.

4.2.5 Agency considerations

Incentive realignment

More than two centuries ago Adam Smith (1776) commented on the divergence of interests between the managers of a joint stock company and its shareholders. The main driver for this conflict of interest is that the managers, or controlling shareholder party, can expropriate benefits for themselves for which they bear only a fraction of the costs. When going private these benefits will be significantly reduced and hence it will be in the best interest of the owner to maximize the value of the firm (Renneboog & Simons 2005). However, the causal relationship between ownership structure and firm value is not undisputed. Studies using sophisticated econometric techniques (e.g. Himmelberg et al. (1999), Palia (2001)) have provided evidence for the claim of Demsetz (1983:384) that ownership structure “emerges as an endogenous outcome of competitive selection in which various cost advantages and disadvantages are balanced to arrive at an equilibrium organization of the firm”.

Free Cash Flows

Another example of agency considerations is on how to determine the optimal size of cash flows to be retained in the company. The money should be used were they create the most value to its shareholders. Managers or a controlling party could be more interested in keeping the cash flows to firm for things such empire building aspirations. This problem is most evident in mature business with high cash flows and low rates of growth. The relationship between a firm’s undistributed cash flow and the decision to go private is established by Lehn and Poulsen (1989). High cash flows can be represented by a high cash balance, high funds from operations and low dividends.

4.2.6 Undervaluation

As discussed above there is an asymmetric relationship between insiders and outsiders regarding the information used when establishing the appropriate value of a firm. Dann (1981) explain the increase in share price after the announcement of a P2P transaction with this asymmetry in information, where the buyback can be seen as a signalling of the firm’s true value. The more unevaluated the firm is, the larger are the incentives to go private. Baker and Wurgler (2002) find strong evidence for the occurrence of buybacks when the equity value is low, indicating firms engaging in market timing and conducting buybacks after decreases in market prices.

4.3 Contribution from adjacent theories to the issue of study

In this chapter the different determinants found in the adjacent theories will be evaluated to establish if they can be of importance to the issue of study. The determinants have been classified into three different categories; drivers of fundamental value, drivers of differences between fundamental and market value and non-applicable drivers. Only the determinants that drive fundamental value are of interest when assessing the marginal value. To be able to do this analysis, an evaluation of how the context of the existing theories differs from the one studied in this thesis has been conducted.

The literature on private benefits of control and P2P transactions try to explain the occurrence of transactions carrying premiums above the market share price. Common for both theories is that the acquiring party gains control through the transaction. In contrast, this study aims at understanding how the fundamental value of a subsidiary ownership varies with the size of the holding, independent of the market price.

The concept of private benefits of control deals with the situation when an investor who owns less than 50 % of the shares in a firm acquires a controlling block. The definition of a controlling block is quite vague, but the block of shares has to enable the acquiring part to extract benefits that are not available to all shareholders. The scope of the literature on private benefits of control is restricted to block sizes up to just above 50 %. This study examines how to value minority shares for a majority owner; hence an investor that already holds effective control.

If looking to the literature of P2P transactions, it describes the transaction when taking a company of the stock exchange and hence only covers a limited part of the scope for this study. The difference between the examined intervals of the adjacent theories and this study is illustrated in Figure 2.

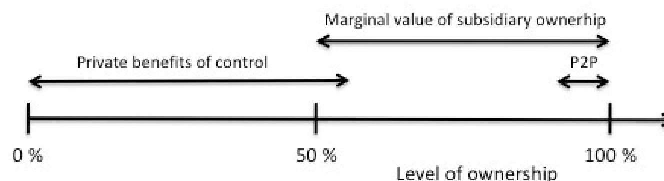


Figure 2 - Intervals considered in this thesis and adjacent theories

Apart from the intervals studied, another important difference is the type of owner. The work done on P2P transactions is made in the light of leveraged or management buyouts. This implies that the acquiring part is either a financial sponsor, the management of the target company, or a combination of both (Investopedia's Management Buyout 2010, Investopedia's Leveraged Buyout 2010). In the theory

formation on private benefits of control no consideration is taken to type of owner. This thesis take interest in situations where acquirer is an industrial investor and the target is a subsidiary to the parent company.

The different contexts imply that only some of the determinants identified in the literature study will drive the marginal value of subsidiary ownership. Below follows an analysis of the determinants provided by the two different theories discussed. This analysis has been conducted to establish which determinants that could be relevant to include in a model for assessing the marginal value of subsidiary ownership.

4.3.1 Drivers of fundamental value

The legal framework is brought up by both theories as a factor of great importance. It is investor protection legislation in general, and minority protection legislation in particular, that will determine the rights and obligations of an investor. In the same way, this kind of legislation will frame the control a parent company can exercise over the subsidiary. Moreover, the legislative framework will spell out the different obligations for the subsidiary depending on the level of parent company ownership.

The second determinant that will be of importance to the fundamental value is the ownership structure. As described in the literature on private benefits of control, the existence of other control blocks among the shareholders will decrease the value of a controlling block. This implies that the existence of controlling block among the minority shareholders decreases the parent company´s value of the subsidiary holding.

4.3.2 Drivers of differences between fundamental and market value

Two explanations for the difference between fundamental and market value are provided by the literature, undervaluation and liquidity considerations. Undervaluation may be a result of information asymmetry caused by high costs of duplicating information. Information availability and information considerations are hence another driver of this divergence. In the case where the parent company holds less than 100 % of its subsidiary there is reason to believe that these factors will be of significant importance. A parent company can potentially benefit from information asymmetry since it will have a superior ability than other investors to determine if the subsidiary is undervalued and hence increase the size of its holding. Moreover, a liquidity discount may appear on the secondary market if the parent company holds a large part of the shares, which may provide an opportunity for the company to be bought out at a price below the intrinsic value.

These factors will drive a lower market price compared to the fundamental value However, they will be of no importance when establishing the marginal value of subsidiary ownership.

4.3.3 Non-applicable drivers

With effective control comes the right to take decisions regarding most aspects of the firm. Hence, there are determinants identified through the literature study which do not apply when valuing minorities for a parent company. It is up to the parent company to decide on the capital structure, which in turn will affect the cost of capital, tax benefits, etc. Furthermore, the parent company will appoint the management of the subsidiary and hence agency issues will be minimized.

The determinant extra legal institution is considered to be of no importance since it deals with the curbing of unethical expropriation of the minority shareholders. The subsidiary of a parent company can be assumed to follow the same business ethics and codes of conduct as the parent company. Furthermore it is assumed that Swedish MNCs do not expropriate value from minority shareholders in an unethical manner. This is strengthened by the literature on private benefits of control that shows that the premium for control blocks is smaller in countries with strong extra legal institutions, such as Sweden.

4.3.4 Conclusion on the contribution from adjacent theories

Table 1 presents a summary on the determinants identified in the adjacent theories. Furthermore, the determinants in the table are grouped into three different categories depending on their estimated effect on the value of subsidiary ownership.

Determinants	Drivers of fundamental value	Drivers of differences between fundamental and market value	Non-applicable drivers
PBC			
The legal framework	X		
Extra legal institutions			X
Ownership structure & provisions	X		
Firm characteristics	X		
P2P			
Information considerations		X	
Capital structure			X
Regulatory considerations	X		
Liquidity		X	
Agency considerations			X
Undervaluation		X	

Table 1 - Determinants identified in adjacent theories and expected impact on the area of this thesis

Although the existing literature does not explicitly deal with the issue of marginal value of ownership, it has shed some light on the area of interest. The legal framework, ownership structure and firm characteristics are identified as value

drivers that appear to be relevant to include in a model that aims at determining the marginal value of ownership in a subsidiary. The empirical study of this thesis, presented in the following chapters, has taken us one step closer to creating a framework that can be applicable to ownership level decisions in the complete range.

5 The marginal value of subsidiary ownership

To be able to formalize the process of assessing the marginal value, the main drivers of this value have to be understood. In this chapter the findings of the study on the general determinants of the marginal value of subsidiary ownership are presented and analysed. Figure 3 provides a generic picture of the determinants and has been constructed on basis of these findings. The determinants are divided into two groups, legal and operational considerations. The legal considerations will determine what the parent company can and must do as a result of the degree of control and minority considerations at different levels of ownership. The operational group considerations will decide what they want to do, given that they are a corporate group with the goal to optimize group performance rather than firm performance.

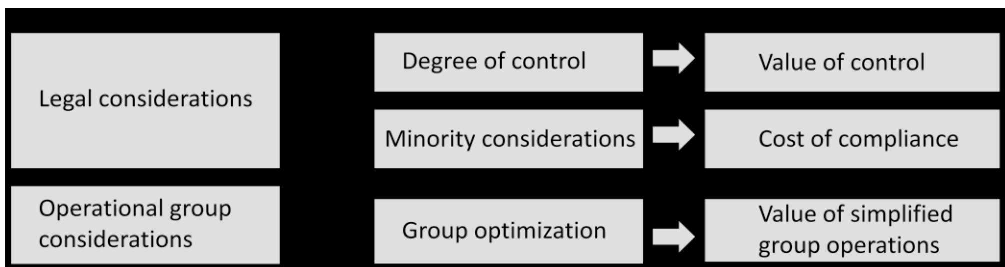
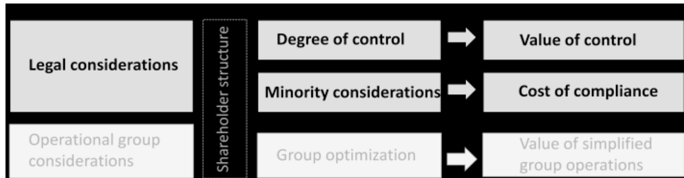


Figure 3- Drivers of marginal value of ownership for a parent company in a subsidiary
Legal considerations and operational group considerations are the main value drivers. Depending on the shareholder structure they will determine the degree of control, minority considerations and group optimization at any given level of ownership. These are turned into positive or negative cash flows that create value of control, cost of compliance and value of simplified group operations.

In the following sections the empirical findings behind Figure 3 are presented. Subsequently follows a discussion on how to incorporate these determinants in the valuation. Finally, it is described how the conclusions of this chapter have contributed to the development of the model for assessing the marginal value of a subsidiary ownership presented in chapter 2.

5.1 Legal considerations

"A parent company that holds 89 % of the shares decides everything but cannot do everything". (Bergström 15/2-10)



5.1.1 Degree of control

The degree of control that a parent company can exercise over its subsidiary at different levels of ownership will depend on the prerequisites spelled out by the legal framework. According to Bergström (15/2-10) the degree of control will affect the value of the holding since it determines what decisions can be made by a parent company and thereby increases the freedom to set the direction of the business. Control privileges typically include the ability to appoint management, formulate and change the business model, buy and sell assets, determine what suppliers to use, change the capital structure, etc, etc. The degree of control will decide the amount of control privileges obtained by the parent company (Thakore 3/3-10).

At 50 % plus one share effective control is obtained. Thereafter the laws and regulations in the country of operations will determine the location of the thresholds where the control of the company alters. In most countries decisions that require the passing of a special resolution can be made when reaching 75 % (Wikipedia's Extraordinary Resolution 2010), hence when passing this threshold the degree of control will increase remarkably. The level of holding required to delist a public subsidiary is another point of increased control that is found in most legal frameworks. According to Renström (4/2-10), to find the exact thresholds to be considered in each case the local corporate laws and regulations have to be studied. The change in control can be turned into cash flows that will determine the value of passing a specific threshold. Hence, it is of vital importance to study the legislation to which the subsidiary is subject and understand the implications of this. (Bergström 15/2-10)

5.1.2 Value of control

Intangible value drivers are predominant when determining the shift in value caused by a change in degree of control. The value of being able to independently control the business is difficult to quantify. The empirical findings on what premiums are paid to acquire control blocks can be used as a proxy; as they show what investors are prepared to pay to increase their control of a company. Where such data is not

available the value of a change in degree of control is best estimated by the majority owner (Bergström 15/2-10).

When estimating the value to the parent company it should be noted that two types of value changes occur when passing one of the thresholds. Firstly, there is the change in value that goes back to the company and thereby increases (or decreases) the return of all shareholders. Secondly, there is the change that only affects the majority owner. For example, when the parent company purchases the last stock to reach above 75 % it increases its value of the holding due to the value of control. However, it may also boost the firm value of the subsidiary since the parent company's incentive to monitor the management will increase and thereby reduce agency costs.

5.1.3 Minority considerations

The legal framework spells out the rights and obligations of the parent company as well as the minority shareholders. Investor protection and minority rights regulations restrict the actions of the parent company. Investor protection regulations primarily contain requirements to ensure that the same information will be available to all investors. Examples of these requirements are information that needs to be disclosed to the public, such as annual accounts or shareholding pattern. A substantial part of these requirements only apply to listed companies. (Moberg 11/2-10).

Apart from the required disclosures, many firms choose to provide the market with additional information to signal the true value of the company. A company with a larger floating stock will have a greater interest in revealing the correct value of the firm. Hence, the investor relations associated costs will depend on the size of the holding. The higher the value of the floating stock, i.e. the minority holding, the more analyst and media coverage is usually obtained and the more time and effort will be required to speak to investors, analysts and other market participants (Thuresson 29/3-10). This is not strictly a minority consideration, but since it deals with the main issue of investor protection regulations, the availability of the same information to all investors, it has been placed under this category.

Minority rights legislation is concerned with protecting the interests of the minority shareholders. The rights of the minority are typically strengthened at certain levels of minority holding. Examples of minority rights, as they exist in Sweden, are that a holder of at least 10 % of the shares in company can demand that an extraordinary general meeting will be held, or a holder of a single share will be allowed to fault a board decision. (Moberg 11/2-10)

5.1.4 Costs of compliance

As soon as there is more than one owner of the company, investor protection regulations will apply and consequently there will be costs of compliance. “A compliance cost is expenditure of time or money in conforming to government requirements such as legislation or regulation”. (Wikipedia’s Compliance Cost 2010) The requirements are highly country specific and hence the need for a thorough analysis of the legal framework in each case. However, there are some examples that can be generalized to apply for most countries in the world.

Disclosure requirements generally depend on the ownership structure in the company. Public companies will have to follow strict disclosure requirements, whereas a private company can keep more information undisclosed. There are direct costs that stem from generating and publishing the information, but also indirect costs that are caused by the release of private information. (Chandrasekhar 9/2-10) Renström (4/2-10) further highlights the relationship between the level of protection for intellectual property (IP) and the value of keeping private information. In countries with weak IP regulations the indirect costs of information disclosure can be significant.

The cost of complying with corporate governance standards is another example of compliance costs that varies with the ownership structure. For example when taking a company private there are generally less stringent demands on board and audit committee composition and the number of independent members. As stressed by Choudray (4/3-10), if decreasing the number of independent members you will as well decrease the compensation paid to board and audit committee members.

5.1.5 Implication to subsidiary valuation

Valuation models are usually built on the assumption of equal value of all shares outstanding. However, it has now been established that the size of the holding will regulate the degree of control and minority considerations, hence the freedom of action for the majority owner. Accepting the assumption that freedom of action can be turned into positive cash flows it will also affect the value of the holding. The assumption is supported by the findings in the literature on private benefits of control, showing that control blocks trade at a premium in most countries.

Since the degree of control and required minority considerations will alter when passing certain thresholds, this will also be where value of the holding shifts. These thresholds are from now on referred to as value breakpoints. Between the breakpoints the marginal value derived from degree of control and minority considerations will be constant, one additional share only carries the value of its cash flow rights. This relationship between the marginal value and the size of the holding is described in Figure 4. The value shifts at the identified breakpoints, which are illustrated by the non-linear graph.

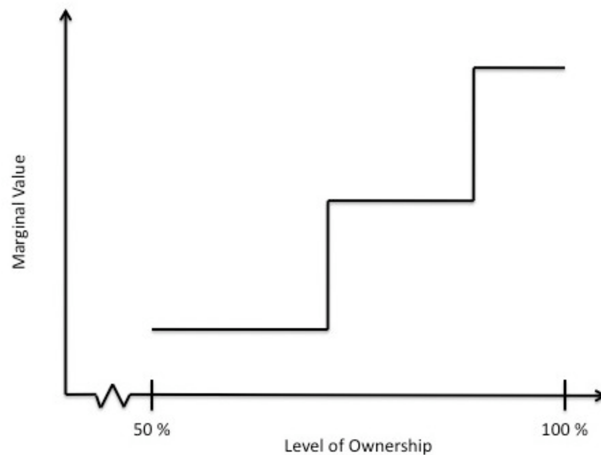
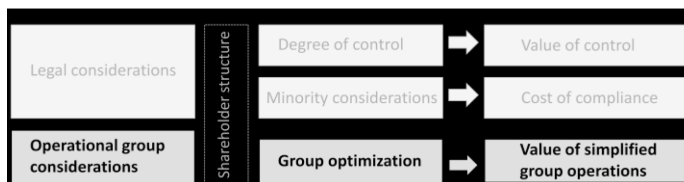


Figure 4 - Marginal value driven by the legal framework as a function of level of parent company ownership

To determine the fair value of a change in the level of subsidiary ownership the authors suggest that the valuation should be adjusted for the implications of passing any such value breakpoints. The first step in adjusting the valuation will be to identify the value breakpoints as provided by the legal framework in that particular country. The second step is to find the value determinants in each point, i.e. identify the change in degree of control and required minority considerations. Finally the implications of the new prerequisites have to be assessed. To what extent will the change in minority considerations and control of the subsidiary affect the cash flows? The value to the parent company of crossing one of the identified breakpoints can thereby be estimated.

5.2 Operational group considerations



The decision to change the size of the holding in a subsidiary can be improved by adjusting the valuation for any legal consequences of passing a value breakpoint. However, one more component has been identified in this study, the operational value of increased ownership. This value is derived from the decrease in time and resources that have to be spent by the parent company to defend its interest in the subsidiary and ensure that value is not transferred out of the group. Operational group considerations is one of the important value drivers in the range of 50-100%. The larger the minority holding, the greater the need for the parent company to analyze resource allocation decisions, set the right transfer prices, etc. According to

Thuresson (29/3-10), CFO of AL, the costs of governing the company decrease drastically as the holding in the subsidiary approaches 100 %.

5.2.1 Group optimization

Resource Allocation

A parent company that has more than one subsidiary, or available capacity itself, will generally have an opportunity cost of allocating resources to one particular entity. According to Thuresson (12/2-10), when there are other shareholders in the subsidiary it might be unfavourable to assign a certain project or production to that entity even if the costs of operations are lower. Despite higher costs the total return of the project to the parent company will simply be higher if assigned to another wholly-owned subsidiary. Consequently, the amount of time and energy required to optimize the resource allocation within the group will increase if the holding in one of the subsidiaries is reduced. The benefits of assigning a project to that entity will now have to be closely evaluated to assure that they exceed the costs of transferring value out of the group.

Transfer Pricing

Within corporate groups there are often internal transactions that need to be priced. In a wholly-owned subsidiary the result of the group will not be as dependent on transfer prices. There may be some tax benefits of adjusting prices between the entities; otherwise it is mainly a question of moving profits within the group. As soon as the stake in one of the entities is shared with other owners, transfer price considerations will be increasingly important. In most countries corporate laws will to some extent regulate the conditions for such transactions. Setting appropriate transfer prices that benefits the group and still compliy with these regulations will be yet another activity that demands increased attention as the holding of the parent company is reduced. The importance of transfer pricing considerations is supported by the literature on ownership structure in foreign investments (e.g. Louri et al 2002, Gatigenon & Anderson 1988) arguing that when greater control of the subsidiary is maintained transfer prices can be determined more easily.

Decision-making and ways of communication

In a private subsidiary the parent company can take decisions without having to involve any minority shareholders. Once the decision is made they pick up the phone and it can be implemented right away. As soon as a company is turned into a public entity decision-making becomes a much more complicated process. Investor protection rules will dictate what decisions can be made by whom and requiring the consent of what percentage of the shareholders. As the minority holding increases the costs of decision-making will thereby increase. In the interviews performed with CFOs of Swedish MNCs the facilitation of decision-making is broadly emphasized as one of the major benefits of taking a subsidiary private. Value is created from the ability to rationalize the decision-making and thereby be more operationally agile. (Bertilsson 10/2-10, Meyer 5/2-10, Salmén 11/2-10)

Monitoring & defending the interest of the parent company

On one hand, the incentive to monitor and govern the subsidiary may increase with the size of the holding as the parent company gets a larger share of the returns of such activities. On the other hand, the time and effort spent by the parent company to make sure that its rightful value is returned will decrease with an increase in the holding. Legal costs will increase as the interests of the minority shareholders must be seen to minimize the risk of a minority complaint and the relationship between the owners has to be regulated. One more intangible cost is the cost of sharing private information that will increase with the number of owners in the company. Sharing private information may lead to for example technology spill over, reducing the competitive advantage of the company. The risk of technology spill over further complicates the resource allocation decision. It might be better to keep production in the parent company if assigning it to the subsidiary means a risk of putting private information in the hands of competitors. (Choudray 4/3-10)

Dividend policy

A private company has a greater freedom to decide on the profit allocation. According to Barve (7/4-10), the company is free to set the dividend policy and to change it at any time without any considerable consequences. Once a company is listed on the stock exchange its financial performance and appropriation of profits will be scrutinized. There will be analyst coverage and market anticipations to consider. If the parent company wants to avoid large fluctuations in the share price or the risk of a minority complaint for value appropriation they should set the dividends to meet with expectations of the market. The larger the public holding in the company, the larger is usually the analyst coverage, media attention etc. The price-effect of announcing changes in dividend policy is empirically well documented (Ofer & Siegel 1987) supporting the idea of companies being reluctant to change the policy unless they wish to signal certain information to the market.

Creating shareholder alliances

Compare the situation where the parent company holds 70 or 75 % of the shares. Wanting to pass a decision through a special resolution they can simply announce the general body meeting and pass the resolution without the risk of interference if they hold 75 % themselves. In the case where they only hold 70 %, the minority shareholders can potentially block the passing of the resolution. Hence, to exercise full control of the company the majority owner will have to spend resources on creating alliances among the minority. This component of the operational value of increased ownership shifts at the value breakpoints, mainly when passing 50 % and the level required for passing a special resolution.

5.2.2 Value of simplified group operations

Simplified group operations will lead to improved cash flows and thereby create value. The time and effort spent by management and external consultants to ensure group level optimization is reduced leading to direct cost savings. Furthermore, the

management can focus its interest on other value creating activities. This value is generated mainly because the owner is a corporate group with the option to allocate value between entities. Whereas a financial owner will try to maximize the return for the particular company, an industrial owner wants to maximize the return of the corporate group.

5.2.3 Implications to subsidiary valuation

The value of simplified group operations will, like the value of control and cost of compliance, result in a shift of the marginal value at the different value breakpoints spelled out by the legal framework. For example, the cost of creating shareholder alliances will arise only when the level for passing ordinary or special resolutions are passed. However, the value of simplified group operations also has a linear component. When the level of parent company holding is reduced, so is the part of the profit that goes back to the parent company. To ensure that value is not given away to minority shareholders more attention has to be paid to issues such as resource allocation and transfer pricing. The larger the minority holding, the greater the incentive for the parent company to spend time and resources to ensure that value is not transferred out of the group. Hence, the costs thereof will increase in proportion with the decrease in the holding. The graph in Figure 5 illustrates the relationship between the level of holding and the marginal value of ownership derived from operational group considerations.

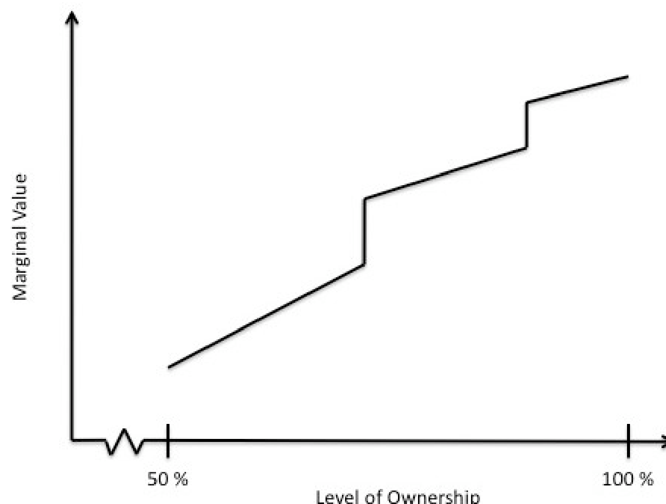
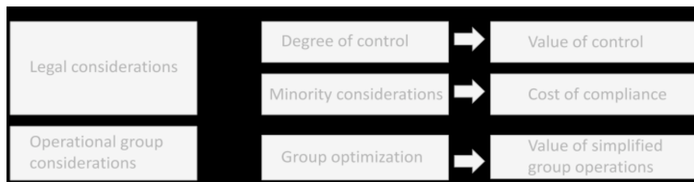


Figure 5 - Marginal value driven by operational group considerations as a function of level of parent company ownership

When considering a change in the level of ownership in a subsidiary the parent company should estimate the effect on the time and effort that will have to be spent on group level to ensure optimal resource allocation, transfer prices etc. To correctly reflect the value of the holding to the parent company the valuation should be

adjusted accordingly. The existing literature does not distinguish between different types of owners and thus gives little advice on how to estimate the value of simplified group considerations. The authors have found no previous attempts to empirically assess such values. The parent company's estimates are therefore considered the best available proxy. The value of simplified group operations will mainly affect the cash flows of the parent company, which should be taken into account when adjusting the valuation.

5.3 Shareholder structure & the value breakpoints



Although the legal framework provides the location of the value breakpoint in each country, they will not have the same impact on all companies. The location of the value breakpoints will in reality be affected by the shareholder structure. For example, an investor can hold effective control of company at level of 20 % ownership even though the level spelled out by the legal framework is 50%. In a case where the majority shareholder holds 74 % and one other person holds the other 26 % the value of reaching that additional 1 % + 1 share would be higher than if the 26 % was scattered amongst a large number of atomistic shareholders. (Pancholi 2/3-10)

To simplify the analysis, the minority shareholders can be regarded as one single investor. According to Bergström (11/2-10), if assuming that minority shareholders are rational they will act as one to obtain maximal bargaining power towards the majority owner. However, in reality far from all investors are rational. This will have an impact on the location of the value breakpoints. When the valuation has been conducted considerations regarding the ownership structure can be made.

5.4 Conclusion on the marginal value of subsidiary ownership

The findings of the empirical study strengthen the notion of the legal framework and its implications as one of the fundamental value drivers in the range between 50 and 100 % holding. The value of control and the cost of compliance to meet with minority protection regulations will vary with the size of the holding. The value of the parent company's holding in its subsidiary will thereby be affected. Furthermore, the implications of ownership structure and information considerations as presented by adjacent theories are supported by empirical findings, whereas no additional conclusions can be drawn on the impact of firm characteristics. Moreover operational group consideration is identified as a value driver of the marginal value of subsidiary holdings within a corporate group.

The marginal value alters at certain value breakpoints, spelled out by the legal framework. However, some of these value breakpoints will shift depending on the ownership structure. Finally, the marginal value will have a linear component as well, due to the simplified group operations.

5.4.1 Contribution to the model

Figure 6 - Contribution to the model from legal considerations and operational group considerations

To understand how the value of ownership varies at different levels of ownership, it is essential to know the prerequisites spelled out by the legal framework. Experts such as investment bankers and corporate lawyers can typically be consulted to perform an analysis of the legal framework in the country of operations.

When the legal framework has been established the following step is to assess the marginal value of any considered shift in the level of ownership. This value is derived by adding the NPV of the three different determinants; value of control, cost of compliance and simplified group operations, to the fundamental analysis. When adjusting the valuation it is important to separate the consequences in each value breakpoint into two levels. A change in level of ownership can incur a change in the marginal value by altering the cash flows in the parent company as well as in the subsidiary.

By estimating the NPV of the economic consequences of passing the identified value breakpoints the premium that could be paid to reach an ownership level just above each breakpoint can be decided more accurately. If the parent company is looking at a specified range, for example the affect on the value of going from 75 to 90 %, it will be sufficient to estimate the value change in any breakpoints within the particular range.

6 The impact of regulatory changes

The value at different levels of ownership is to a large extent determined by the regulatory framework. Hence, changes in this framework might have a significant impact on the value of the holding. There exist many studies that try to measure the value of regulations by looking at firm value and stock price, such as *The Impact of Merger-Related Regulations on the Shareholders of Acquiring Firms* by Schipper and Thomson, or *Using Financial Data to Measure Effects of Regulation* by Schwert. These studies show that changes in the legal framework are correlated to changes in stock prices. There is consequently a value of monitoring any ongoing regulatory changes to decrease the uncertainty of the development.

In countries with mature capital markets the legal framework tends to be stable and the pace of regulatory changes is usually moderate. In emerging markets where capital markets are developing legal instability may be a great consideration. Thus, when business is conducted in such a country there is a particular need to actively monitor the progress of the lawmakers. This line of reasoning is supported Koller et al. (2005); who argue that when valuing a firm in an emerging market you need to account for the increased level of risk. Not only do you have to consider the conventional risks related to industry, market position, etc., you also have to adjust the valuation for risks caused by higher volatility in, for example, political and regulatory environment.

When assessing the marginal value of ownership in a subsidiary that is located in a country with legal instability, the valuation should be adjusted for the risk of changes in the regulatory framework.

6.1 Implications to subsidiary valuation

The most common way to adjust for the higher risk deriving from legal or political instability is to add a risk premium to the cost of capital (Koller et al. 2005:634). If any suggested regulatory changes are already known, the authors of this thesis argue that these could be adjusted for more accurately by assessing the consequences of these particular changes. Whereas a risk premium on the cost of capital would only assumes a very small, undefined probability of any given regulatory change, the probability of a known initiative to be adopted can be estimated and its impact thereby accounted for more precisely.

To understand how the risk of such future regulatory changes affects the marginal value of ownership the first step would be to identify any existing initiatives for regulatory changes. Secondly the impact on cash flows of these initiatives, if they come in into effect has to be estimated. Finally, the valuation has to be adjusted for the impact of each initiative taken together with the probability of the initiative coming into effect.

6.1.1 Identifying initiatives for future regulatory changes

How changes in the legal framework are initiated is highly dependent on the legislative procedure of the country where the subsidiary operates. When analyzing the legal framework (step 2 in the suggested model) an understanding of where to find initiatives for amendments to the legal framework can be developed. These initiatives can generally stem from different stakeholders in a capital market, such as bankers, politicians, government officials, industry organizations, investor organizations, the public, etc. Hence, it is important to cover as many channels of information as possible to pick up any ongoing discussions.

The implications of changes in the legal framework to the value breakpoints, and hence the valuation of the subsidiary, may be significant. Basically it can imply two scenarios; that the locations of the value breakpoints are shifted, or that the prerequisites for controlling the subsidiary at a certain level of holding are changed.

6.1.2 Adjusting for the value of possible regulatory changes

The first step in adjusting the valuation is to decide what method to use to assess the consequences of a regulatory change. According to Damodaran in *Strategic Risk Taking: A Framework for Risk Management* there are three possible approaches to adjust the value of an asset for its risk. These approaches and when to use them are presented in Table 2.

Risk Approach	*Sequential/Concurrent*	*Correlated/Independent*	*Discrete/Continuous*
Decision Tree	Sequential	Independent	Discrete
Scenario Analysis	Concurrent	Correlated	Discrete
Simulation	Either	Either	Continuous

Table 2 - Choice of risk approach depending on the nature of the risk (Damodaran 2007)

The approach best suited for handling political uncertainty is reckoned to be decision trees. Different initiatives for regulatory changes constitute discrete risks. Moreover can it be assumed that the risks are independent since they stem from different stakeholders and sequential because the amendment often is followed by issues how it will be implemented and enforced.

However, if there are several initiatives for regulatory changes it may be difficult to organize them in chronological order. One problem when applying decision tree analysis is thus that it requires the risks to be sequential. When many different

initiatives have to be considered simulations is a superior method. Since simulations can be used in the continuous case it can be applied to the more basic discrete case.

The value of flexibility

When there is uncertainty there is a value of flexibility. Once the outcome of the ongoing discussion on the regulatory change is known the appropriate adjustment of the valuation can be decided more accurately since it is no longer built on assumptions on the probability of events. If using the valuation to determine the preferable level of ownership in legal instability the value of flexibility should be considered.

To value flexibility Real Option Analysis (ROA) is often used. A real option implies that the management has the right but not the obligation to make a business decision. The discipline has been developed from financial options to be applied when making decisions under uncertainty. The method is typically used when deciding upon a capital investment, such as expanding an existing factory or selling it building a new. However, ROA can be applied to non-business decisions as well like when deciding on start working after high school or to give up years of income to attend university. The value of a real option is the difference in the NPV of a decision with flexibility compared to the same decision without flexibility. (Copeland & Antikarov 2003) Furthermore, Koller et al. (2005) conclude that value of a real option is increasing with the level of uncertainty and flexibility.

Once the appropriate method is selected the next step is to assess the consequences of the change in the legal framework to the marginal value. The decision tree or simulation analysis is then used to adjust the firm valuation for the probability of these implications to be actualized, i.e. the probability that the regulatory change is adopted.

6.2 Contribution to the model

Figure 7 - Contribution to the model from the impact of legislative changes

When assessing the marginal value in markets characterized by legal instability the valuation should be adjusted for the implications of legal uncertainty. When there are identified proposals for legislative changes, their consequences if adopted should be closely evaluated. To estimate the economic consequences of an amendment, its impact on cash flows should be assessed and then adjusted for the probability that the amendment is accepted. Furthermore, the parent company has

the opportunity to react on the outcome of the proposals for legislative changes. This flexibility, as well, has a value that has to be incorporated in the valuation. Important to keep in mind is that traditional methods for valuating risks do not consider the value of flexibility.

7 The case of Alfa Laval India Ltd

Alfa Laval (AL) is a Swedish corporate group that was founded more than 125 years ago by Gustav de Laval, technical genius who, among other things, invented the centrifugal separator. The business today is based on three core technologies; heat transfer, fluid handling and separation and supplies most industries. AL has a yearly order intake of more than 27 464 million SEK and employs 12 000 persons. The company has 27 manufacturing units around the world but most of the operations concentrated to Sweden, Denmark, India, the US and France. (Alfa Laval 2010)

Let's recall the situation of ALIL, the Indian subsidiary of AL, which was presented in the background of the thesis. AL currently owns 88.77% of the shares in ALIL. The intention of the parent company has for some time been to increase the level of ownership and delist the subsidiary from the stock exchange. Since new delisting regulations were notified in June 2009 the level of ownership required to delist the company has been increased from 90 % to 94.38 %. The amended regulations implies that the delisting will be more difficult, and most probably more expensive, since a larger part of the minority shareholders will have to agree to sell their shares. To determine whether an increase in the holding would still be value creating to the parent company the marginal value between the current holding and the level required for delisting has to be estimated. If the company cannot be delisted at a price below the total value, the transaction should not be performed. However, the ongoing discussions to raise the public float requirement for all listed companies introduce the risk of not being able to stay at the current level of holding. If keeping the company listed they would be forced to issue additional shares or sell parts of the existing holdings in order to comply with the new rules.

AL is now faced with the option to either proceeding the buyout, or remain at the current level of holding, risking an involuntary divestment to obtain the required level of public float. This is a typical situation where the marginal value of the holding has to be closely evaluated to provide an appropriate decision basis.

This chapter will explain the work conducted that has resulted in a recommendation for AL on how to act in the situation with ALIL. The presentation of the case study will follow the steps included in the suggested model. However, it is important to stress that the model has not first been developed and then applied to the case. The findings from the case have rather been one of the important steps in the work leading to the construction of the model. The case study can still be considered an example of how the model can be used.

7.1 DCF-valuation

Figure 8 - First part of the case study identified as step 1 in the model proposed

Pratt et al. (1996) and Damodaran (1999) propose a two-step model to value closely-held companies. Although this is not mainly an issue of valuing a closely-held company, but actually assessing the marginal value of subsidiary ownership, the model can be used as a starting point. According to Pratt and Damodaran the firm value should first be calculated using a DCF-based model. To arrive at the stock value the debt is subtracted from the calculated firm value. The second step is to adjust the value for unsystematic risk, i.e. differences in control, size, liquidity etc. commonly found between quoting and non-quoting companies. A similar logic is applied in this valuation.

The first step is to calculate the intrinsic value of the company by using a DCF-model. One of the main arguments of this thesis is the contradiction of the assumption of equal value of all shares, as presumed by most valuation models. The existence of values derived from other sources than cash flow rights, such as private benefits of control, operational considerations, etc., stresses the importance of assessing the marginal value of ownership when faced with a decision to change the size of the holding. Accepting this assumption implies that the current holding in ALIL most certainly differs from the value of 88.77 % of the cash flow rights, as calculated by the DCF-model. However, it can be argued that regardless of which of the two options that is chosen, the price offered (or demanded) should reflect the value of the cash flow rights of the shares and the change in value of the total holding that is caused by the increased (decreased) level of ownership. Therefore the DCF valuation is an appropriate first step.

The intrinsic value of ALIL is estimated to INR 1258. However, the cost of capital used in the valuation is rather high (13.93 %) reflecting the capital structure of almost 100 % equity. The value of a levered firm would be significantly higher assuming that the cost of debt could be kept well below the cost of equity. A scenario with the same capital structure as the consolidated AL group, 25 % debt, and a cost of dept of 6 % would implicate a share value of INR 1800. Details on the valuation are presented in Appendix B.

7.2 Analyze the legal framework in India

Figure 9 - Second part of the case study identified as step 2 in the model proposed

There are two main acts that regulate shareholder rights in India, the *Companies Act 1956* and the *Securities Contract Regulation Act 1956*. A summary of the prerequisites for different levels of ownership spelled out in these acts, and its subordinated rules and regulation, is presented in Appendix A. The identified thresholds are presented in Figure 10. These thresholds will make up the value breakpoints of this case.

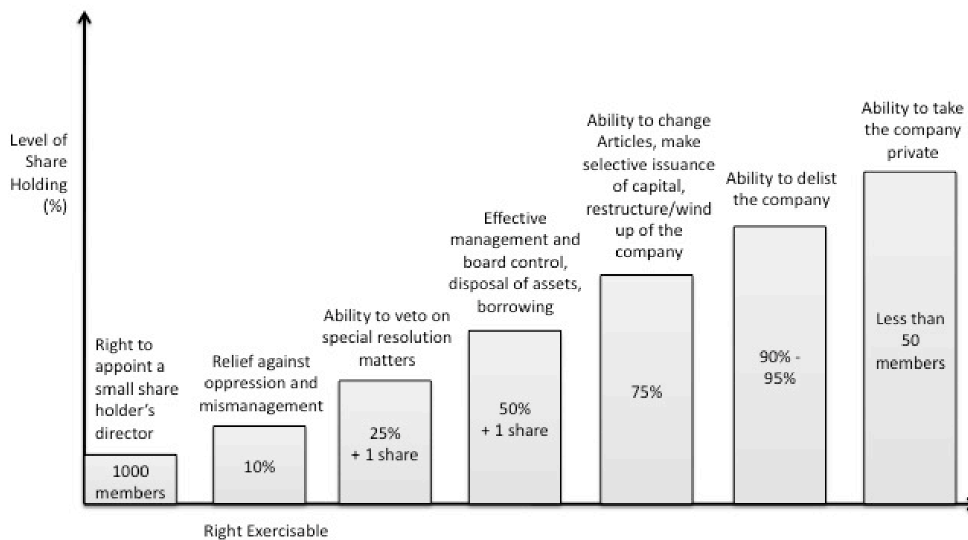


Figure 10 - Prerequisites at different levels of ownership in India

The analysis of the legal framework also clarified the status of the proposed raise of the public float requirement. The amendment is most likely to be made and is expected to be notified in May/June 2010. The implementation plan is not yet formalized. However, the Indian authorities assert that it will be done in a manner assuring enough liquidity in the market to absorb the equity that will have to be floated. A phase schedule will probably be provided covering a period of 3-5 years, depending on the current size of the majority holding as well as the market's capacity to absorb the capital without major impact on the share price.

With the amendment of the new minimum level of public float AL will not be able to stay at their current holding in ALIL. They either have to dilute their ownership down

to 75 % or go for delisting by reaching another 5.62 % of the shares. Looking at the identified value breakpoints only the latter will imply the passing of one of these thresholds; hence the legal considerations will be most prominent if choosing to delist the company. However, a dilution of the ownership will enable an investor to acquire a block of 10 %, giving that investor additional rights. The operational considerations will be of considerable importance in both cases as the size of the holding is significantly altered.

7.3 Assessing the marginal value of ownership in ALIL

Figure 11 - Third part of the case study identified as step 3 in the model proposed

The next step is to assess the marginal value of the holding in ALIL. The effect of a change in level of ownership to the total value of the holding is estimated by identifying the economic consequences of increasing or decreasing the size of the holding. The marginal value together with the fundamental analysis should determine the price that can be offered to buy or sell shares in the subsidiary. It is the purpose of this section to identify these consequences and to calculate the NPV thereof. Since two main alternatives are identified for the future size of AL's holding in ALIL, 94.38 % and 75 %, the consequences of a shift from the current holding to these levels are analyzed.

88.77 % – 94.38 %

At 94.38 % ALIL can be delisted from the stock exchange. With the Indian corporate laws this is not the same thing as taking the company private. For a public company to be converted to a private company the number of shareholders have to come down to 50 or less. No squeeze-out-provisions are provided by the Indian laws. (Choudary 4/3-10) Given the number of shareholders today, ALIL will most certainly have a lot more than 50 shareholders even after delisting (Pancholi 2/3-10). Although ALIL will still have to comply with the laws and regulations of being a public company, the overall compliance costs will go down remarkably as they no longer have to follow the listing agreement leading to substantial cost savings.

Once the company is delisted media and analyst coverage will decrease and the time spent by the company executives on communication with analysts and investors is reduced. These consequences can ultimately be turned into improved cash flows in ALIL. Furthermore, there is value to be captured on group level from the increased ownership. Assuming that the time and effort spent on operational group considerations has an opportunity cost, value is created in the parent company as the demand for such activities decline. The identified determinants that will affect

the value of the overall holding when going from 88.77 % to 94.38 % holding are summarized in Table 3.

Type	**INR/year**	**NPV**
Listing fee	1 000 000	14 430 014
Cost of compliance	1 000 000	14 430 014
Publications	2 000 000	28 860 029
Independent board members	4 000 000	57 720 057
Cost of IR-related activities	300 000	4329004
Operational benefits	5 000 000	72 150 072
Total	**13 300 000**	**191 919 192**

Table 3 - Determinants of the NPV for 94.38 % AL ownership in ALIL

The benefits gained by delisting ALIL would increase the value of AL's holding with INR 191 919 192. This would motivate a price of INR 188 above the fundamental value for the holding of today per share, if acquiring 5.62 % of the shares outstanding.

88.77 % - 75 %

At 75 % AL will still be in complete control of its subsidiary. They will still have enough voting power to pass any decisions, even those requiring a special resolution. However, the minority owners will claim a larger share of the earnings as their holding increases. This will require more attention to recourse allocation, transfer prices etc, to ensure that value is not transferred out of the group. The costs associated with increased demand on these operational group considerations will affect the cash flows in the parent company.

Although no value breakpoint is passed the decreased holding will introduce some limits to the flexibility of future actions. Standing at 75 % the possibility of issuing further equity without AL subscribing for at least 75 % of it will be gone, given that AL wants to keep above the required level to pass a special resolution. This could be a problem in a case where both the parent company and the subsidiary were under financial constraint. The possibility of delisting the company may also be affected by the new ownership structure. On one hand, the Indian delisting regulations state that the majority holding required for delisting is the higher of 90 % of the shares outstanding or the aggregate percentage of the pre-offer promoter holding and 50 % of the offer size in order to delist. This means that the delisting threshold will actually come back down to 90 % when AL only owns 75 % of the shares. On the other hand, if the shares offloaded by AL were to be bought by one or a few investors that might have implications for the bargaining power and thus the price at which AL would be able to buy back the shares.

The prerequisites for AL to control its subsidiary will not change due to any legal considerations. The intrinsic value is thus adjusted only for the increased costs of

operational considerations and any costs of selling the shares. The shares will have to be marketed and transaction costs should be covered. Regarding the flexibility of future actions, the stand is taken that a situation where ALIL needs to raise further capital through an equity issue is quite unlikely given the current capital structure. If the company need more capital to expand they would be more likely to turn to the debt market as ALIL is presently completely unlevered. For the risk of having to pay more in a delisting attempt that should be overweighed by the reduced transaction costs of having to deal with only one or a few sellers.

Type	INR/year	NPV
Cost of IR-related activities	600 000	8658009
Operational benefits	12 000 000	173 160 173
Transaction costs	42 000 000	40 424 554
Total	**54 600 000**	**222 242 736**

Table 4 - Determinants of the NPV for 94.38 % AL ownership in ALIL

By diluting their ownership in ALIL to 75 % AL the total value of the holding would decrease by INR 222 242 736. The minimum price above the calculated fundamental value required to compensate the decreased value per share of the total holding is thus INR 83.

Conclusion on the marginal value of ownership

Although no value breakpoint is passed when diluting the ownership to 75 %, the value loss is higher than the value gain of the delisting option. This mainly reflects the substantial increase in costs of operational group considerations. Which option that would be most value creating (or least value destroying) would ultimately depend on the actual market price at which the transactions could be made.

As argued in chapter 5.3 the value breakpoints are defined by the legal framework in the country, but may actually have different implications to different companies as a result of the shareholder structure. In the case of ALIL the composition of the minority shareholders have been found to largely impact the delisting threshold. ALIL have more than 10 000 minority shareholders, approximately 25 % of the shares are still held in physical form implying that they have not been traded the past ten years. Merrill Lynch have performed an analysis of the situation estimating that AL could reach 1.14 % of the shares in a delisting attempt, the best-case scenario would give 1.68 %, thus still far from the required 5.62 %. According to Balakrishnan (2/3-10) at Merrill Lynch, it is practically impossible for AL to acquire enough shares for delisting the company. They will simply not be able to reach out to enough shareholders with their offer. Assuming that the analysis is correct only one option still exists, to dilute the ownership to 75 %.

In a market with a stable legal framework this would have been the last step of the analysis. However, this is not the case in an emerging market like India. Capital

market regulations undergo constant changes. According to Sabayasachi at the Institute of Economic Growth in New Delhi (11/3-10), stock markets are not yet fully understood in the emerging markets. Therefore amendments of the legal framework often have some unforeseen consequences. The new delisting regulations taken together with the new requirement of public float can imply an involuntary divestment for owners with a holding above 75 %. This is probably an unintended consequence. Considering the situation it is the perception of Sabayasachi, together with a number of interviewees, that it might be possible to address the authorities to achieve a transfer regulation that would make it possible to delist. The purpose of the transfer regulation would be to temporarily lower the threshold for companies that are currently not able to delist and otherwise would be forced to dilute their ownership. For further details on the transfer regulation see Appendix A.

The uncertainty of the situation introduces a need to further evaluate the options at hand. Moving on to the last step of the model the intention is to investigate the implications of the legal uncertainty. To provide a recommendation to AL, the impact of these uncertainties have to be valued and the flexibility to act on different outcomes taken into account.

7.4 The impact of legal uncertainty

Figure 12 - Final part of the case study identified as step 4 in the model proposed

The legal uncertainty in the case of ALIL is constituted by questions regarding the implementation of the new public float requirement. Firstly, the time frame given to ALIL to reach a public float of 25 % and thereby comply with the new rules is not yet finalized. As mentioned above, a time period of 3-5 years from the date when the amendment is announced has been discussed. If AL decides to divest, this will have to be done well in time before the final date provided by the regulators to avoid having to sell down the shares at a substantial discount. Secondly, companies in the situation of ALIL might together be able to influence the market regulators and achieve a transfer regulation reintroducing the option to delist the company.

To be able to determine the economic impact of the uncertainty and the different alternatives available to AL simulation methods will be used. However, due to limitations in the simulation the time when AL has to start divesting in ALIL to be able to comply with the legal framework has to be assumed to be deterministic. Building on the findings in Appendix A, a good estimation would be that there is a probability of 80 % of achieving a transfer regulation before the time AL has to start

divesting in ALIL to be able to comply with the legal framework. The alternatives available to AL are displayed in Figure 13 and further explained below.

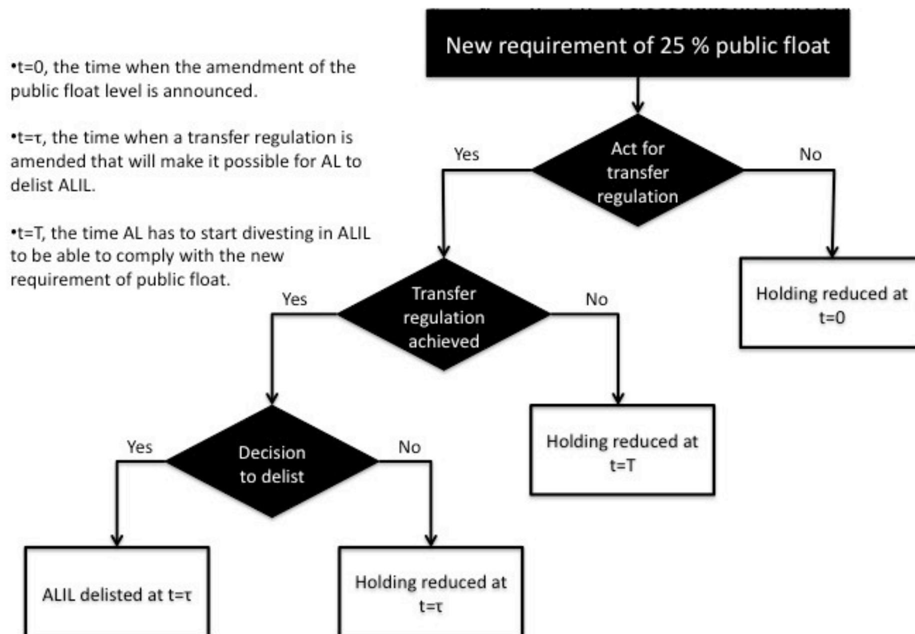


Figure 13 - Alternatives of action available to AL as response to the adoption of a new requirement of public float

The different alternatives available to AL and the outcomes thereof can be summarized by:

A. Bring their ownership down to the minimum level of public float, i.e. a holding of 75 % as soon as the amendment of the public float level is announced (t=0).

B. Stay at their current level of holding and act for a transfer regulation that will allow them to delist ALIL.

- A transfer regulation is amended before the time when AL has to divest to be able to comply with the legal framework (τ<T). When the transfer regulation is adopted AL can either choose to delist ALIL or bring down their ownership depending on what will be the most value creating.

- A transfer regulation has not been amended before the time when AL has to divest to be able to comply with the legal framework (t=T). AL then has to bring down their ownership in ALIL to 75 %.

Details on the simulation are presented in Appendix C. The result of the simulation is an adjusted NPV of INR -162 million in the base case. This implies that the value of

the option to stay at the current holding is INR 60.2 million. If looking at the case of the levered company the NPV will be INR -58.8 million and value of the option INR 163 million. It is important to notice that this is the NPV for staying at the current level and decide upon whether to delist or not if a transfer regulation would be achieved. The option value would hence be the value of the option to stay at the current level and not start divesting as soon as the new level for public float is announced.

7.5 Recommendations to Alfa Laval

The result of the case study is that the requirement of a minimum public float of 25 % will most certainly be notified in May/June 2010. Since it today is practically impossible for ALIL to delist due to the ownership structure, AL then will be forced to dilute their ownership during a provided timeframe. The alternative to dilute directly has been compared to the one of staying at the current ownership level and act for a transfer regulation that will make it possible for ALIL to delist. The NPV of latter is significantly higher (INR 60.2-163 million) and hence this is the recommendation of the authors. More details of how this alternative should be carried out can be found in Appendix A.

8 Discussion

The contribution of this thesis is twofold. Firstly, it has examined the drivers of the marginal value of subsidiary ownership. Secondly, it has provided a model for companies to use when assessing the marginal value of subsidiary ownership. The model can be useful when considering altering the level of ownership, like in the case of Alfa Laval. Since no previous research has been found on the topic the study has been conducted in somewhat of a greenfield area. This study is just a first contribution to the topic and needs to be further developed by other studies.

8.1 Drivers of the marginal value of subsidiary ownership

The drivers of marginal value of ownership are identified from three sources, the study of adjacent theories, the general empirical study and the case study. The importance of the legal framework was emphasized by all three sources and is therefore regarded as the determinant that can be established with most certainty. The legal framework stipulates what the parent company can and must do to comply with investor protection rules and will thereby have a significant impact on the level of control and hence the value of the holding.

The general empirical study and the case study have introduced the concept of operational group considerations. When reducing the level of ownership in one subsidiary the time and effort that will have to be spent to assure group level optimization increase dramatically. Thereby additional costs of ownership are introduced and the value of the holding is affected. The case study has also contributed to the finding of the impact of legal uncertainty. It is clear that the marginal value of the holding in ALIL will be largely affected by the outcome of the ongoing legislative process.

8.2 The subsidiary marginal value model

Assessing the marginal value of a subsidiary holding is not a new phenomenon. The CFOs of various corporate groups that have been interviewed all perform this type of valuations continuously, and they implicitly possess most of the knowledge needed to perform the analysis. However, there is a need to formalize the process. This has been the main purpose of developing the subsidiary marginal value model. By gathering the input on how to perform such valuation from different sources the model that is suggested in this thesis can be seen as a first step towards the formation of a generic model.

8.2.1 General applicability of the model

The model has been developed to suit a Swedish MNC that needs to evaluate the marginal value of one of its subsidiary holdings. However, the case study has been complemented by a general empirical study where CFOs of a number of corporate

groups have been interviewed. To further add to the perspective academicians with special knowledge in firm valuation and business law, as well as representatives of the private equity sector have been consulted. It is the view of the authors that this model could provide valuable insights to any company that wishes to assess the marginal value of its subsidiary. Firm characteristics should not be of critical importance since the marginal vale should be driven by legal considerations and group level optimization regardless of industry or business type.

9 Conclusion

The marginal value of subsidiary ownership is foremost affected when passing certain thresholds, defined as value breakpoints. The legal framework in the country of operations and the company's ownership structure provide the locations of the value breakpoints. Between these breakpoints the marginal value will increase linearly with the size of the holding. The relationship between level of ownership and marginal value is displayed in Figure 14.

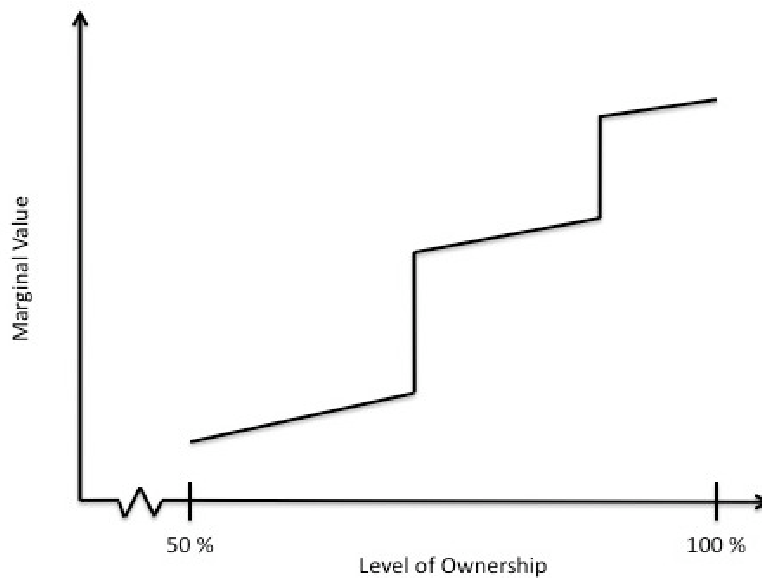


Figure 14 - Marginal value as a function of parent company ownership

This study confirms the legal framework and ownership structure as important drivers of the marginal value. However, when assessing the marginal value of a firm included in a corporate group simplified group operations will constitute an important driver as well. The value of simplified group operations emerges because the industrial owner wants to maximize the return of the corporate group rather than the single firm. In the case of ALIL the value of simplified group considerations represents 38 % of the change in NPV if delisting.

Finally, due to the importance of the legal framework, uncertainty concerning the development of the framework will have a significant impact on the marginal value. Hence, it is of importance for a corporate group to continuously monitor the development and evaluate any proposed amendments in countries where they own subsidiaries. If proposed changes are identified, their impact on the marginal value can be estimated and the parent company can adjust the size of the holding to maintain as high value as possible of their subsidiary ownership. In the case of ALIL

the value of flexibility, i.e. the value for AL to be able react to changes in the legal framework, was estimated to 0.5 % of the value of their total holding.

9.1 Suggestions for further research

Since no previous studies in this area have been found, the contribution of this thesis can be regarded as a hypothesis for how the marginal value for of subsidiary ownership varies with the size of the holding in a subsidiary. It is the authors' view that the next step would be to test the hypothesis. A suitable approach would be to conduct a study, deductive to its nature, including a larger number of randomly chosen cases. Apart from validating the theoretical contribution of this study it could lead to new perspectives being added.

This study presents a driver of marginal value that has not been mentioned in previous studies; simplified group operations. However, these findings are derived from studying only one case. Hence, further research is needed to fully understand how the value of simplified group operations varies with the level of subsidiary ownership. Moreover, it would be interesting to examine what proportion of the total marginal value of subsidiary ownership that is derived from simplified group operations.

Finally, the authors believe that an established method for measuring the marginal value can be of importance for many corporations. Hence, it is proposed that when the determinants of the marginal value are established, further research should address the issue of how to measure these. This would enhance the understanding of how the marginal value varies and the schematic graph presented in the conclusion could be made more precise.

10 List of references

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