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APPLICATION OF MINORITY DISCOUNT AND CONTROL PREMIUM IN BUSINESS VALUATION: ESTONIAN EVIDENCE

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ABSTRACT

This paper presents results of a survey discussing implementation of minority discount and control premium in business valuation practices in Estonia and is the first study related to this topic. Two-thirds of Estonian practitioners use a revenue-based approach to valuing a company and apply both a minority discount and a control premium using the DCF for valuation, while operating under the FCFE or FCFF model. 77% of respondents consider the use of a minority discount appropriate in assessing the value of minority interest when interest is being transferred. Estonian practitioners are willing to implement discounts exceeding 30%; while typical control premiums that practitioners use to value a company is 15%. 77% of respondents would apply the control premium if the value of the majority shareholding is assessed in the situation of transferring the shareholding of a non-listed company. Most of the Estonian practitioners who responded to the survey highlighted that the factors affecting the size of the minority discount or control premium were related to minority shareholders' rights. The survey was conducted on a sample of 26 respondents, from February to May of 2020. The population of survey consists of brokers, advisors, valuation analysist, and other financial experts.

Keywords: business valuation, minority discount, control premium, survey analysis

CERCS: S180, S181

INTRODUCTION

Every company has two things a value and an owner. Depending on the size of shareholding, the owner could be majority or minority shareholder, in other words, there could be control owners and minority owners. If the negotiable interest enables the buyer to gain control of the company, its monetary value is estimated by calculating the corresponding value of the total economic capital of the company, known as the "control premium" and the opposite is. If the interest exchanged does not give the buyer significant influence over the operation of the company, its market value is estimated by reducing the corresponding base value by a certain percentage. This reduction is called a "minority discount."

Many studies (Damodaran 2011a; Emory *et al.* 2002; Silber 1991) have pointed out that liquidity/marketability and control have value, and that a lack of these attributes is grounds for complementary compensation, perhaps in the form of a premium or a discount. Scheibel and Klein's (2013) empirical research showed that, the discount applied to the value of private companies (or controlling stakes) can be quite significant. Furthermore, Pratt stated that, "Control owners have rights that minority owners do not and the differences in those rights and, perhaps more importantly, how those rights are exercised and to what economic benefit, cause a differential in the per-share value of a control ownership block versus a minority ownership block" (Pratt 2012).

The practice of valuing Estonian companies often sees disputes rise over the application of discounts and premiums (Case numbers: 3-11-1355; 2-05-1031; 3-2-1-114-05). Differing opinions debate on which methods have been used to value companies and whether these have been the appropriate given the situation. The aim of this thesis is to determine the most used practical approaches of Estonian financial analysts in applying minority discounts or control premiums. The results of this survey sought to help understand not only what are the main factors that affect the size and applicability of minority discount or control premium in assessing the value of the company, but also what are the approaches and valuation methods Estonian practitioners look for when evaluating companies.

The international community of practitioners has been working on the theoretical development of appropriate methodologies for calculating control premiums, especially in the view of the economic value of shareholding. (Cornell 2013; Covrig *et al.* 2015; Suzuki 2015) Many researchers and practitioners have therefore focused on assessing control premiums, turning their attention to transactions in regulated markets (Covrig *et al.* 2016; Hauser and Lauterbach 2004), from which most of the currently used methodologies have been derived. (Bogatyrev and Dobrynin 2015; Chari *et al.* 2010) There have been plenty of studies that deal with analyzing the economic rationale for control premiums, which refers to the incentives of the majority shareholder such as monetary or non-monetary benefits from the company. (Bae *et al.* 2002; Barclay and Holderness 1989; Damodaran 2011b; Doidge *et al.* 2009; Gopalan and Jayaraman 2012; Nenova 2003) Several researchers (Pratt 2012; Yee 2005) as well as practitioners in the field (banks, law firms and financial consulting firms) have tried to find both theoretical and empirical methods for determining the value of minority shareholding in listed companies (Nath 1990; Weaver 1997). However, due to these methods not being designed to estimate the minority shareholding value of unlisted companies, as these are simply “variations” of already developed models for estimating the control premium for buying / selling holdings in listed companies. (Booth 2005; Ferraro 2017) There is little research regarding the analysis of the economic rationale for minority discount (Cheng and Mak 2015; Luo *et al.* 2012; Saanoun 2013). Most of this research relates to adapting theories developed for analyzing control premiums. (Scheibel and Klein 2013) Some researchers have focused their studies on the liquidity-related minority discount, where the holding cannot be easily sold to third parties at fair value and within a reasonable time. (Anderson and Long 2012; Buchner 2016; Finnerty 2013) Due to no uniform and unique methods being found for determining the values of minority discount or control premium, it was also an important topic to include while compiling the survey.

As previous studies have found, the minority discount and control premium may vary significantly depending on the size of the shareholding sold, the countries in which the companies are located, the form of operation of the company and whether the transaction is performed within public or private company. One of the thematic topics of the questionnaire prepared for this study was focused on the implementation of minority discount and control premium. The goal being too was to find out the experiences and assessments of Estonian practitioners regarding the amounts of minority discount and control premium. The final and fourth part of the survey was aimed at understanding what Estonian practitioners think are the most important factors in assessing the size of minority discount and control premium.

As Sander and Kantšukov (2016) noted, the most important aspect in corporate mergers, acquisitions, restructuring or when raising money is company valuation and security analysis (making IPO). The most challenging part of the valuation is the application of discounts and premiums. As Ferraro and Rubino (2017) said when appraiser is valuing the business, it is appraiser's responsibility to be knowledgeable with every aspect of discounts and premiums, such as, when to apply or not to apply them and how to quantify them. As Kenton K. Yee said "The practice of valuation is an inexact art, not a precise science" (Yee 2005).

Due to the small size of the Estonian market with only some universal banks, investment banks, a few dozen evaluation companies – consulting companies, law firms, asset management companies, auditing companies – the sample of the study was not random and instead all active financial Estonian analysts were aimed to be questioned. Data collection for the survey was conducted via an online questionnaire. The questionnaire included 9 background questions followed by 18 thematic questions. The questionnaire was compiled by the author of this thesis, and the questions have been significantly influenced by professional literature, research articles and expert evaluations. Invitations to participate in the survey was sent to the employees of 44 Estonian companies engaged in valuation of companies. In total, 26 respondents from 23 organizations gave answers in the survey. The survey was also sent to several finance lecturers of Estonian universities. However, due to the survey period (March to May 2020) coinciding with a difficult situation in Estonia and elsewhere in the world, several practitioners cited the emergency situation related to the COVID-19 pandemic as a reason for refusing to answer the questionnaire.

The structure of the thesis is as follows: the first chapter reviews the literature of this work concerning – the approaches and methods used in the valuation of a company, and the implementation of the minority discounts and control premiums. The second chapter addresses the research conducted for writing this thesis, and the compiling the questionnaire. The third chapter analyses the of results of the survey conducted and has been written considering the thematic blocks included in the questionnaire. The fourth and final part of the thesis acts as a summary of the survey results.

To the author’s knowledge, a survey on minority discount and control premium and the effect it has on business valuation has not been previously conducted in Estonia.

1. REVIEW OF LITERATURE

This chapter on literature review discusses the practice of valuing companies and how the nature of minority discount and control premium factor into it. The authors whose works this chapter is based on, are Shannon P. Pratt, Warren G. Cole, Douglas K. Fejer, Aswath Damodaran, Richard Booth, Eric Nath. Materials that American Society of Appraisers has published in ASA Business Valuation Standards and National Association of Certified Valuators and Analyst has published in International Glossary of Business Valuation Terms[1] have been incorporated.

1.1. Minority discount and control premium

The aim of this subchapter is to introduce the topic of minority discount and control premium and where they apply. IGBVT defines the control premium as “an amount or a percentage by which the *pro rata* value of a controlling interest exceeds the *pro rata* value of a non-controlling interest in a business enterprise, to reflect the power of control” and minority discount as “a discount for lack of control applicable to a minority interest.” Pratt (2012) states that the purpose of a discount or premium is to make an adjustment from some base value and that adjustment should reflect the differences between the characteristics of the subject interest (the interest being valued) and those of the base group on which of which value is based.

[1] The International Glossary of Business Valuation Terms - hereinafter abbreviation IGBVT

Next is the abstract from the generally accepted key methodological steps specified by the American Society of Appraisers in their publication (2009) of Business Valuation Standards on BVS-VII Valuation Discounts and Premiums:

The concepts of discounts and premiums (American Society of Appraisers 2009):

- A discount or premium has no meaning until the conceptual basis underlying the base value to which it is applied is defined.
- A discount or premium is warranted when characteristics affecting the value of the subject interest differ sufficiently from those inherent in the base value to which it is applied.
- A discount or a premium quantifies an adjustment to account for differences in characteristics affecting the value of the subject interest relative to the base value to which it is compared.

The application of discounts and premiums (American Society of Appraisers 2009)

- The purpose, applicable standard of value, or other circumstances of an appraisal may indicate the need to account for differences between the base value and the value of the subject interest. If so, appropriate discount should be applied.
- The base value to which the discount or premium is applied must be specified and defined.
- Each discount or premium to be applied to the base value must be defined.
- The primary reasons why each selected discount or premium applies to the appraised interest must be stated.
- The evidence considered in deriving the discount or premium must be specified.
- The appraiser's reasoning in arriving at the conclusion regarding the size of any discount or premium applied must be explained.

Discounts and premiums applied at company level vs. equity level

Discounts and premiums are usually applied at two levels, the company level, or the equity level. Discounts applied at the company level affect all investors as it affects the value of the entity itself, but only affects some of the (e.g. minority shareholders). At the company level, discount categories such as key personnel or environmental liability are applied; while others reflect ownership characteristics such as “corporate control” vs. minority shareholder and lack of marketability. (Pratt 2012)

Company level discounts

Some discounts apply to the company as a whole and to all shareholders, individually or as a group and does not depend on any individual shareholder’s characteristics or attributes.

Fallowing are company level discounts by Pratt (2012):

- Discount for trapped-in capital gains;
- Key person discount;
- Discount for known or potential environmental liability;
- Discount for pending litigation;
- Concentration of customer or supplier base.

And usually these discounts are applied before shareholder discounts, that is, discounts affecting the entity as opposed to those affecting the individual share ownership.

Shareholder level discounts and premiums

Pratt (2012) has pointed out in his book, that before applying discounts or premiums, it is necessary to determine the basis on which the discount or premium will be applied. This being especially true in shareholder level discounts. Discounts can be based on one of the defined levels, for example:

- Control value
- Minority marketable value (also sometimes called “publicly traded equivalent value” or “stock market value”)

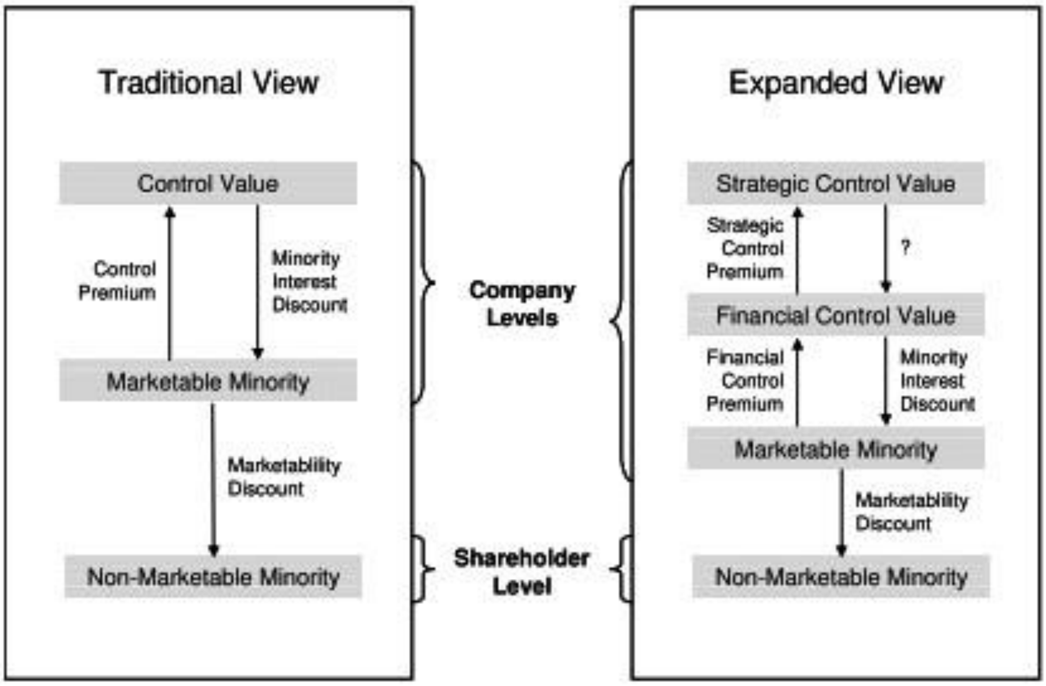
Other shareholder level premiums or discounts may include voting or non-voting shares as well as a share package (a share package that is so large in value that it would lower the share price when put up for sale all at once, this is usually applied to publicly traded shares). The most common share packages are the ones that reflect the characteristics of ownership and generally fall into two main categories:

- Degree of control or lack of control. The issue of voting versus nonvoting stock may be regarded as a subcategory of control or as a separate issue.
- Degree of lack of marketability.

Evaluation analysis usually considers the level of control before the level of marketability. This is because, although control and marketability are separate issues, the level of absence of control of an enterprise affects both the amount of discount due to low marketability and the procedures suitable for quantifying the discount in the absence of marketability. The issue of marketability is distinguished from non-marketability at the level of minority participation, but not at the level of controlling participation. At the level of minority interest, marketability describes an active or liquid public trading market, hence a share that can be sold immediately and cash be received within three days. Controlling interest is usually less liquid than a normally traded security, but more liquid than minority shares in private companies.

The "levels of value chart" as a cornerstone of discounts concerning the characteristics of ownership appears in works of e.g., Mercer (1997, 2004). For illustration, see Figure 1.

Figure 1. Levels of Value Chart



Source: (Mercer 2002)

Level of Control or Minority

The level of control covers a wide range of structures, from 100% control of the company to small minority interest with no control. Therefore, non-control discounts vary depending on how many and what types of control attributes are available.

Richard Booth writes in his work form 2005 "Minority discount and Control premium in Appraisal Proceedings" that there is no mathematical relationship between the control premium and minority discount. He states, "There is no reason to think that the discount (if any) suffered by a minority shareholder trading in the open between a control premium and a minority or marketability discount. In other words, there is no reason to think that the discount (if any) suffered by a minority shareholder trading in the open market is somehow offset by an equal gain to a controlling shareholder." Eric Nath (1990) noted in his article "Control premium and minority interest discounts in private companies" that although in theory there is no difference in the value of minority and majority shareholdings in most publicly traded companies, that is not the case with private companies. When making a strategic investment in a private company, significant discount is expected on the value of the minority interest.

Size of minority discount may be affected by the following factors (Nath 1990):

- Whether the shareholders' rights have been set out in the company's articles of association, incl. the rights to buy and sell shares or whether Employee Stock Ownership Plan (ESOP) exists.
- Historical liquidity of the holding.
- Subjective goodwill of the controlling owner in relation to other shareholders.
- If there is no controlling owner, structure of the minority shareholders and management of the company.

New York University professor Aswath Damodaran (1993) has said that there are strong evidence practitioners apply control premiums in private business transactions, ranging from 15 to 20% for majority shareholdings and, conversely, translating to a equivalent discount for minority shareholdings. In the research "Value of Corporate Control: Some International Evidence" (2001) conducted by Hanouna, Sarin and Shapiro, they attempted to estimate the degree of minority discount by classifying transactions in publicly traded businesses into minority and majority transactions. They concluded that minority transactions were valued at a discount of 20-30% on majority transactions in “market oriented” economies like US and UK, but the discount is smaller in “bank oriented” economies like Italy, Germany, France, and Japan. While studying block buys Barclay and Holderness found in their research (1989, 1991) that premiums exceeded 10% for large negotiated block transactions in the US. Nicodano and Sembenelli (2004) analysed block transaction in Italy and they found that the average premium for large block trade was 27% and that they increased as block size increased reaching premiums up to 31% all the way down to 10%. Some researchers have found that the size of the stake purchased in the company usually affects the size of the control premium. (Rodionov and Perevalova 2012) However, it has also been found that the investor's ability to diversify his portfolio decreases with the purchase of a large shareholding; which increases the cost of the so-called control premium (Barclay and Holderness 1989). This fact shows a negative correlation between the control premium and the size of the holding to be purchased. Negative correlations have also been found between the size of the "toehold" and the size of the control premium (Betton and Eckbo 2000). Simonyan (2014) also found negative correlations between pre-purchase ownership and control premium in the US market.

Table 1 shows the results of studies by different authors on average discount rates. Minority discount rates vary by 7% (in a study by Bajaj *et al.* 1990-1995), by up to 48.67% (in a study by Willamette Management Associates 1891-1984).

Table 1. Results of different studies on average discount rates

Authors	Years	Size of discount
Mercer Capital Inc.	1988- 1995	29.12%
Moroney	1969- 1973	36%
Maher	1969- 1973	35%
Silber	1981- 1988	34%
Gelman	1968- 1970	33%
Trout	1986- 1972	33%
Willamette Management Associates	1891- 1984	31%
Management planning, Inc	1980- 1995	28%
SEC Institutional Investor	1966- 1969	26%
FMV Options, Inc	1980- 2005	22.1%
Columbia Financial Advisors	(I) 1/1996- 04/1997	21%
Johnson	1991- 1995	20%
Finnerty	1991- 1997	20%
Harris	2007- 2008	18%
Hertzel and Smith	980- 1987	14%
Columbia Financial Advisors	(II) 5/1997- 12/1998	13%
Bajaj, Denis, Ferris, and Sarin	1990- 1995	7%
W. Baird and Co.	1980- 2000	47.20%
Willamette Management Associates	1891- 1984	48.67%

Source: (Ferraro and Rubino 2017)

Damodaran (2011b) wrote that the value of "corporate control" varies from company to company. As the control premium is the difference between the company's *status quo* value and its optimal value, Damodaran believed that the premium should be higher for poorly managed companies and lower for well-run companies. The article also states that the control premium should be zero for companies that are well managed with management making the right decisions.

Table 2 shows the results that different researchers have reached on the sizes of control premium on developed markets.

Table 2. Control premium based on transactions in developed markets.

Authors	Countries	Years	Observations	Size of premium
Dual-class stock				
Nenova (2003)	18 countries	1997	618	USA 2%; Korea 47.72%
Hong (2013)	20 countries	2002– 2007	263	56.51%
Block transactions				
Barclay and Holderness (1989)	USA	1978–1982	63	20.40%
Maux and Francoeur (2014)	European countries	1998-2006	515	27.38
M&A method				
Hanouna *et al.* (2005)	G7	1986-2000	6119 -USA; 3477-others	20–30% (standard)[2]
Wickramanayake and Wood (2009)	Australia, Canada	1997-2007	92-Australia; 103-Canada	Australia 71.8%; Canada 54.2% (standard)
Thraya and Hagendorff (2010)	European countries	1994-2001	231	44.39% (standard)
Raad (2012)	USA	1990-2005	190	24.39–44.9% (standard)
Alexandridis *et al.* (2013)	USA	1990-2007	3691	(1) 43.76% 42.23% (standard) (2) 35.38%, 20.32% (event studies)
La Bruslerie (2013)	European countries	2000-2010	528	37.59% (event studies)
Simonyan (2014)	USA	1985-2005	2116	35.54% (standard)

Source: (Ivashkovskaya and Chvyrova 2020)

Table 3 presents the results of studies on emerging markets. Researchers have used different methods to determine the control premium in the tables:

- Dual-class stock method
- Block transactions method
- Merger and Acquisition method

[2] This method allows the control premium to be adjusted according to changes in market return and the price of the acquirer's offer is not necessary for the calculation of the control premium. This method can be used if reliable data is missing for the transaction price.

The dual-class stock method can be applied to companies that have issued both voting and non-voting stock. Two assets with the same risk, which generate identical free cash flows, have equal values. Then the difference between the market prices of the voting and non-voting stock of the same company is the value of the control rights granted to the shareholders with voting power.

The block transaction method is based on the private benefits of control, i.e. direct benefits such as receiving a share of higher cash flows (e.g. dividends or participation in a company's share issue at a special price) and indirect benefits. However, the empirical results of this method vary significantly due to differences in the percentage of stock sold.

The Merger and Acquisition method is a market-based approach that uses pricing multipliers derived from the transactions of companies in the same or similar areas of business.

Table 3. Control premium based on transactions in developing markets

Authors	Countries	Years	Observations	Size of premium
Dual-class stock				
Nenova (2003)	18 countries	1997	618	Brazil 23%, Mexico 36.42%
Saito (2003)	Brazil	1994– 2002	3591	-1.3%
da Silva and Subrahmanyam (2007)	Brazil	1994–2004	141	-8.7% to 35.13%
Muravyev *et al.* (2014)	Russia	1997- 2006	672	125.1%
Block transactions				
Evstafjeva and Fedotova (2008)	Russia	2005– 2008	130	29%
da Silva and Subrahmanyam (2007)	Brazil	1994–2004	141	65.00%
Saito and Silveira (2010)	Brazil	1995- 2006	87	7.68%
Byrka-Kita *et al.* (2012)	Poland	1997– 2009	139	10.48%
M&A method				
Dragota *et al.* (2007)	Romania	2002- 2004	44	(1) 82.44% (standard) (2) 44.62% (event studies)
Sonenshine and Reynolds (2014)	Worldwide	2000- 2010	553	34% (standard)
Dragota *et al.* (2013)	Romania	2000- 2011	173	3–160% (standard)

Source: (Ivashkovskaya and Chvyrova 2020)

Although many have written of experiments (Cornell 2013; Covrig *et al.* 2015; Suzuki 2015) that have tried to find a common method for calculating the control premium, Damodaran (2011b) believed that there is no single rule of thumb for calculating a control premium that would apply to all companies in the same way. He thought that the general opinion of control accounting for 20-30% of company's value is incorrect. Damodaran (2011b) also thought that control premiums should be higher for companies doing badly due to bad management decisions and not due to external factors; which the management has limited or no control.

1.2. Valuation approaches

This chapter briefly explains the basic concepts and methodologies for valuing companies that can be used to value a minority discount or control premium.

By using different valuation approaches and methods, different levels of baseline values are calculated. The evaluator then needs to analyze these base values to determine whether discounts or premiums should be applied. Understanding different approaches and methods is important for the correct application of minority discount and premiums. As a rule, there are three main approaches that are considered in determining the value of an entire company, a company's net assets, blocks of shares or individual shares:

- Income approach;
- Market approach;
- Asset-based approach.

Income approach

The income approach is defined as: a general way of showing the value of a company, business interest, security or intangible asset using one or multiple methods that convert the expected economic benefits into a modern single amount (ASA 2009). Pratt wrote that: "Most analysts believe that the question of whether revenue-based approach provides a minority or control value mostly depends on whether the discounted or capitalized income or cash flows are from a minority interest (business as usual) or adjusted to reflect any policy that the control holder may have in place" (Pratt 2012).

Cole and Fejer (2013) have pointed out in their work that the income approach should be used if the company has had historically positive revenues that are expected to continue. Meaning, that this approach should be used when the company's revenues reflect the true value of the company. The income approach uses two main methods: (1) discounted future income methodology and (2) the capitalization of income methodology. Cole, Fejer (2013) explained the use of two methodologies. The discounted future income methodology should only be used if the company's future earnings significantly differs from its current earnings, and the capitalization of income methodology should be used when the company's future earnings is expectedly like its current earnings. The discounted future income methodology uses either the discounted cash flow method (DCF) or the discounted future earnings methodology (DFEM).

- Discounted cash flow is defined as: A method within the income approach whereby the present value of future expected net cash flows is calculated using a discount rate.
- The Capitalization of Earnings Method is defined as: A method within the income approach whereby economic benefits for a representative single period are converted to value through division by a capitalization rate.
- Discounted future earnings method is defined as: A method within the income approach whereby the present value of future expected economic benefits is calculated using a discount rate (NACVA 2001).

Pratt wrote in his book, *Business valuation. Discounts and Premium*s (2012), about models that can be used to find the discount rates that can be used with DCF method: The Capital Asset Pricing Model (CAPM) and the build-up method.

- "Capital Asset Pricing Model (CAPM)—a model in which the cost of capital for any stock or portfolio of stocks equals a risk-free rate plus a risk premium that is proportionate to the systematic risk of the stock or portfolio" (NACVA 2001).
- The build-up method is used to determine the discount rate for net cash flows after tax. The build-up method is the sum of the risks associated with different asset classes. This method is often used to assess the value of small and medium-sized enterprises.

To explain the use of these methods, Pratt (2012) pointed out that regardless of the method used to estimate the discount rate, the rate itself is derived from public market data and reflects the presumption of full marketability, i.e. the marketability of the assessed part of the company. Therefore, if the cash flows of a minority interest are used, the result should be the marketable value of the minority interest. If the cash flows of the controlling interest are used, the result should be the value of the controlling interest; although there may be room for a modest control premium to reflect the ability to exercise control benefits and therefore derive economic benefits from it. For example, most buyers believe that they can improve profitability through better management (Pratt 2012).

Market approach

This approach emphasises the comparison of the characteristics of the assets being valued and is useful in cases where sufficient data is available on comparable companies. Meaning that this approach requires the existence of a developed and well-functioning market with a long history. Due to the small size and short history, the Estonian capital market is often unable to apply this method. Yet, this method can be used in the Estonian market if enough relevant data can be found in foreign markets, which can then be transferred to the conditions found in our market. In developed capital markets with long histories, significantly higher standards of liquidity, transparency and pricing policies, the market approach to valuing companies may offer significant benefits to valuers.

The definition of market approach by IGBVT is – "A general way of determining a value indication of a business, business ownership interest, security, or intangible asset by using one or more methods that compare the subject to similar businesses, business ownership interests, securities, or intangible assets that have been sold" (NACVA 2001).

The market approach seeks to determine the value of a company in relation to either their share transactions or transactions of comparable publicly traded companies. Some authors (Bronstein and Typermass 2010; Cole *et al.* 2013) have stated that one of the main problems with this approach is if the valued company is *closely-held*, it is difficult to find comparable transactions within publicly traded companies that could be comparable with the closely-held company. As differences increase within the comparable companies, the market approach becomes less reliable.

The identification of comparable companies under the market approach also includes the adjustments of items in the income statements and balance sheets of the comparable companies to make comparison possible. Finding comparable indicators is important but are difficult to implement. As a rule, these indicators differ in the following ways: (1) sizes of the companies; (2) special capital structure and accounting methods; (3) trends in the activities of the companies; as well as (4) available information.

Often, the valuers do not find comparable companies. As a result, companies that are active in a similar industry are compared instead. Adjustments must be made here as well, so that comparative data would be comparable (Cole et al., 2013).

The market approach identifies (Bronstein and Typermass 2010; Cole *et al.* 2013; Pratt 2012) two main and distinguishable methods: (1) The guideline publicly traded company method; (2) The guideline merged and acquired company method.

Definition by IGBVT of a Guideline Public Company Method is – “a method within the market approach whereby market multiples are derived from market prices of stocks of companies that are engaged in the same or similar lines of business, and that are actively traded on a free and open market” (NACAV 2001).

This method should be used if the analysed enterprise has a good stock market benchmark. Under this methodology, the valuer should conduct a thorough analysis of how the company and the comparable publicly traded companies can be compared. In most cases, the financial statements of the analysed company should be reviewed at least for a period of five years, analysis of shorter periods does not show cyclical economic trends and changes to be seen. To determine how comparable a company is, the following factors should be comparatively considered: i) products; ii) markets; iii) management; iv) earnings; v) solvency of the dividend; vi) book value; vii) the company’s position in its industry; viii) capital structure; ix) credit status; x) management depth; xi) personal experience; xii) nature of the competition; xiii) maturity of the business (Bronstein and Typermass 2010; Cole *et al.* 2013; Evans *et al.* 2013).

The guideline merged and acquired company method is usually based on observations of either transfers of ownership of the whole company or transfers of controlling interest.

These transactions may have taken place with either publicly traded companies or private companies. In both cases, the controlling interest was transferred to the new owner and therefore the inclusion of control premium is not justified here, as it would be included in the transaction price (Pratt 2012).

Asset-based approach

The asset-based approach is defined by IGBVT as – "a general way of determining a value indication of a business, business ownership interest, or security using one or more methods based on the value of the assets net of liabilities" (NACVA 2001). The focus of the asset-based approach is to assess the value of the company based on its underlying assets. The asset-based approach is mainly used for companies where most of the value is derived from underlying assets or when the underlying assets are the real value of the company, such as real estate holding companies.

When valuers use the asset-based approach, two methods are considered: (1) The asset accumulation method or adjusted net asset value method; and (2) The excess earnings method. IGBVT defines the adjusted net asset method also known as the adjusted book value method as – "a method within the asset approach whereby all assets and liabilities (including off-balance sheet, intangible and contingent) are adjusted to their fair market values." The Adjusted net asset value method requires the valuer to adjust the cost-based value of the company's assets and liabilities from the cost of the asset to the asset's fair market value and to use the company's current liabilities.

Excess earnings is defined in the IGBVT as – "that amount of anticipated economic benefits that exceeds an appropriate rate of return on the value of a selected asset base (often net tangible assets) used to generate those anticipated economic benefits." The Excess Earnings Method is defined in the IGBVT as – "a specific way of determining a value indication of a business, business ownership interest, or security determined as the sum of (a) the value of the assets derived by capitalizing excess earnings; and (b) the value of the selected asset base" (NACVA 2001). The excess earnings method sees the company's property, plant and equipment be adjusted to its present value. The value of the tangible assets is then multiplied by a reasonable rate of return on those assets. If the company's total income is higher than this, then the difference is excess earnings. Excess earnings are capitalised at a rate that reflects the riskiness of that income and is calculated as the total value of all intangible assets. The sum of the values of tangible and intangible assets is equal to the value of the company (Pratt 2012).

Regarding these two methods, Pratt (2012) wrote that the value derived from both methods is the value of the majority shareholding, and if one of them is used, then a separate control premium should not be added to the value of the majority shareholding. However, if the value of the minority interest is assessed, then there is a reason to apply a minority discount.

The questions compiled by the author in the third block of the questionnaire used - “Questions about methods and approaches for valuing minority discount or control premium” and were largely derived from literature and research articles analyzed for writing this subchapter.

1.3. Factors influencing minority discount and control premium

There are many factors in assessing a company's value that affect the amount of the minority discount or control premium. Many researchers have been involved in finding various factors and evaluations in assessing the value of a company.

Ivashkovskaya and Chvyrova (2020) found in their study “What Drives the Control Premium? Evidence from BRIC Countries” that the control premium was positively influenced by the size of the shareholding purchased, the buyer and the company operating in the same economic sector. Thraya and Hagendorff (2010) pointed out similar results in their work. Ivashkovskaya and Chvyrova (2020) found that the control premium increased when the transaction took place during a crisis or if the purchasing party was domestic. Connections between a higher control premium and a domestic transaction have also been indicated by Dragota *et al*. (2013) Dyck and Zingales (2004b), when their study concluded that the control premium increased when the buyer was not domestic. Sonenshine and Reynolds (2014) stated that the control premium is likely to be higher in case of a hostile M&A. However, the size of the premium was negatively influenced by financial leverage, the buyer’s pre-purchase shareholding (toehold), and, once again, the size of the shareholding to be purchased (Ivashkovskaya and Chvyrova 2020). Researchers have found that, in general, the premium added to the purchase price is based on synergies and, therefore, purchasing the shareholding has less added value than if purchasing a controlling shareholding (Nenova 2003). Furthermore, it has been found that the control premium may be information-based and reflect the revaluation of the acquired since its been undervalued prior to the transaction (Sorwar and Sudarsanam 2010). Some researchers (Harford and Li 2007; Loderer and Martin 1990) found that the size of the premium may also be due to overconfident managers who are motivated by self-interest. Nath (1990). found that a control premium was paid even for a minority interest if the transaction took place with a publicly traded company. Trojanowski (2008), Fan *et al*. (2012), Dragota *et al*. (2013) showed that the smaller the company being purchased, the higher the control premium. The control premium is lower if the buyer already has a stake in the company (Dragota *et al*. 2013; Simonyan 2014; Trojanowski 2008). Furthermore, researchers (Saito 2003; Thraya and Hagendorff 2010) found that the lower the debt of the acquired company, the higher the control premium added to its purchase price.

Many authors have studied the size of the minority discount or control premium applied to a company’s value and the factors that affect those values. One of the research topics of this thesis was to determine the sizes of the minority discount or control premium applied by Estonian practitioners, and to understand the factors that, in their opinion, most influence these values. The questions compiled by the author in the second block of the questionnaire used in the study – “Questions about factors that affecting the size of the minority discount and the control premium” were largely derived from literature and research articles analysed for writing this subchapter.

2. DATA AND METHODOLOGY

The questionnaire created for the survey has been prepared by the author of this thesis and the questions themselves have been significantly influenced by academic literature, research articles and expert evaluations. The data required for the survey was collected in the form of a questionnaire which respondents were able to take online. The questionnaire consisted of 18 topical questions and nine questions on the respondent's background. The questionnaire was structured with a combination of both qualitative and quantitative questions, including both questions with set answers and open-ended questions; which allowed respondents to express their opinions.

The analysis the survey's results sought to help understand what are the main factors that affect the size and applicability of minority discount or control premium in assessing the value of the company. As well as, to understand what the approaches and valuation methods are used by Estonian practitioners, and the minority discount and control premium values most used in evaluating companies.

The survey was divided into four parts as follows:

1. Questions about respondent;

2. Questions about applying minority discount and control premium;

3. Questions about methods and approaches for valuing minority discount or control premium;

4. Questions about factors that affecting the size of the minority discount and the control premium.

Section 1. First part of the survey asked for information about the respondents – name, company or organisation to which the respondent belongs, education and professional experience (how many cases of company valuation they conduct on average and how many cases have they conducted in the last 12 months). The aim of the first section was to get an overview and understanding of the background and professional experience of the average Estonian analyst. Although the name of the respondent was also asked in the survey, it was possible to answer the survey anonymously, as some respondents decided to do. There were nine questions in this part of the questionnaire.

Section 2. The second part of the survey saw the respondents being asked on the application of a minority discount or control premium. Questions were centred around the decision of implementing a minority discount or a control premium. The respondents were given situational questions and had to choose the most appropriate ways to implement the minority discount or control premium. Respondents' opinions on deriving the value of listed companies were also studied. They were asked to answer questions about the size of the minority discount and the control premium they would apply when given the number of shares to be sold. Two questions concerned majority shareholders and company directors, and the benefits and remuneration paid to them. This section of the survey also contained open-ended questions, where the respondents could answer the question based on his / her own experiences. Other researchers have addressed issues such as the level of remuneration paid to company executives and the benefits paid to managers (Blanco *et al.* 2016; Luo *et al.*, 2012; Poulsen 2011). Respondents were asked what the average percentage of the minority discount or control premium that they applied as well as what their highest was. Then the survey asked whether the respondents would apply a control premium to a share in the company that would be worth less than 50% of its stock if all other shareholdings were smaller. There were twelve questions in this part of the survey. The study of minority discount and control premium applied to the value of a company has seen the involvement of several researchers, including Barclay and Holderness (1989), Nenova (2003), Saito (2003), Hanouna *et al.* (2005), da Silva and Subrahmanyam (2007), Dragota *et al.* (2007, 2013), Evstafjeva and Fedotova (2008), Wickramanayake and Wood (2009), Thraya and Hagendorff (2010), Saito and Silveira (2010), Raad (2012), Byrka-Kita *et al.* (2012), Hong (2013), Alexandridis *et al.* (2013), La Bruslerie (2013), Simonyan (2014), Sonenshine and Reynolds (2014), Muravyev et al. (2014), Maux and Francoeur (2014), Ferraro and Rubino, (2017), Ivashkovskaya and Chvyrova, (2020).

Section 3. The third part of the questionnaire studied the valuation methods and approaches for valuing minority discount or control premium that are used by the respondents. The questions provided the respondents with different methods and approaches and tasked to answer assessment situations. Furthermore, in this part of the survey, respondents were asked to answer which sources and estimates they use to derive the size of the minority discount or control premium. Several researchers have also written about the different approaches and methods used to assess the value companies. (Byrka-Kita *et al.* 2012; Celli 2017; Damodaran 2011b; Greene 2014; Nath 1990; Ødegaard 2007; Pratt 2012)

Section 4. The fourth and final part of the questionnaire asked the respondents to answer about the factors influencing the size of the minority discount or control premium. There were 22 different factors provided and the respondents were asked to pick the five most important factors. This section of the survey also included an open-ended section to add any other influential factors the respondents could think of. Many researchers have written about the factors influencing the size of the minority discount and the control premium. Their work helped to compile the questions for the survey – (Blanco *et al.* 2016; Celli 2017; Damodaran 2011b; Desmond and Kelley 1988; Johnson *et al.* 2000; Luo *et al.* 2012; Nath 1990; Poulsen 2011). The survey sample was formed via the Internet. Many contacts were found through the website of the Estonian Private Equity and Venture Capital Association[3]. A total of 127 contacts were included in the sample and invited to participate in the survey. Many contacts declined the invitation to participate as they felt they were not competent enough to answer. Some contacts refusing to reply to the questionnaire, forwarded the invitation or contacted a more competent colleague. Respondents were also invited to participate in the survey by phone.

[3] https://www.estvca.ee/

In total, the survey was sent to 127 Estonian practitioners in 44 different organisations and 26 respondents from 23 different organisations replied to survey. Five respondents remained anonymous. Table 4 presents the sample organizations.

Table 4. Sample composition by company type

Field of activity/number of respondents	Organization
Auditing (5)	Grant Thornton Baltic OÜ, Ernst & Young Baltic AS, KPMG Baltics OÜ, Rödl & Partner OÜ, AS PricewaterhouseCoopers
Financial advice (9)	Finantsakadeemia OÜ, Karma Ventures OÜ, Nordic CF Advisory OÜ, Sentio Corporate Finance OÜ, Berghal OÜ, Finantsplaan OÜ, Eesti Finantsteenuste Agentuur OÜ, Oasis Capital OÜ, Investment Agency OÜ
Asset management companies (4)	Avaron Asset Management, Trigon Asset Management AS, Trind VC OÜ, LHV Varahaldus AS
Investment firms (3)	Redgate Capital AS, LionCliff Capital OÜ,
Other (5)	ForensicE OÜ, Estiko AS, TalTech, anonymous

Source: compiled by author

Considering the overall size of the Estonian market and the fact that 23 of the 44 organisations replied along with 5 anonymous responses makes this survey sample quite representative. This allows general conclusions to be drawn showing the Estonian practitioners’ approaches to applying minority discount and control premium. When comparing the number of respondents to previous studies in other, much larger, parts of the world, this study can be considered representative: Barclay ja Holderness (1989) in the US had 63, Byrka-Kita and Grudziński (2018) in Poland had 191, Ferraro1 and Rubino (2017) in Italy had 58 respondents. As the period of the survey (March – May 2020) coincided with the emergency established in Estonia, several practitioners cited complicated circumstances due to the COVID-19 pandemic as a reason for not answering to the questionnaire. Several others, however, cited that the questionnaire would have been too time consuming to complete.

3. RESULTS AND DISCUSSION

3.1. Professional and educational background of the respondents

50% of the respondents have a master's degree, 38% have a bachelor's degree, 8% of the respondents have a bachelor's degree, which is equivalent to a master's degree, and one respondent obtained a bachelor's degree at the time of the survey. Respondents level of education is presented in the following Table 5.

Table 5. Level of education

Education	Total
Master's degree	13
Bachelor's degree	10
Bachelor's degree equivalent to a master's degree	2
Bachelor's degree on graduation	1

Source: compiled by author

58% of the respondents carry out an average of up to 10 company valuations a year, 23% answered that they carry out up to 30 company valuations a year and 19% of the respondents said that they carry out more than 30 valuations a year. Answering, how many valuations respondents have carried out in the last 12 months, 73% respondents said they had carried out up to 20 valuations and 27% respondents said they had carried out more than 25 valuations of companies in the last 12 months. Respondents included sworn auditors, state-recognized financial experts, as well as CFA certificate holders, however, most respondents did not have any financial certificates or certificates in the field of finance.

Professional background

When asked what valuation situations respondents face, most respondents answered that they have evaluated private companies (92%). 85% respondents answered that they have been engaged in the valuation of private companies, where the company as a whole and the value of the company's total equity are assessed. 73% of the respondents also answered that they had been part of valuation of equity in the case of majority shareholding and 69% respondents answered that the valuation of equity was carried out in the case of minority shareholding. 81% respondents answered that they evaluate market value of equity. Only 50% of the respondents were exposed to the valuation of listed companies, and nine answered that they had valuated the company, and the value of the company's total equity. Only four respondents have assessed the value of equity in the case of majority shareholding, and slightly more, eight respondents have assessed the value of equity in the case of minority shareholding. See summary Table 6.

Table 6. Methods and/or contexts of valuation

	Equity valuation for minority shareholders	Equity valuation for majority shareholders	Enterprise value	Market value of equity
Publicly listed companies	31%	15%	35%	35%
Private companies	69%	73%	85%	81%

Source: compiled by author

The answers to this part of the questionnaire revealed that most analysts working in the sector have a higher education and 58% of them have a master's degree. On average, the majority (81%) of respondents have up to 30 company valuations to perform per year and are mainly exposed to the valuation of private companies, i.e. unlisted companies, which is not surprising considering the small size of the Estonian market and stock exchange.

3.2. Application of minority discount and control premium

Section 2 of the survey studied minority discount and control premium application by the respondents. This subsection presents the answers to the questionnaire, which were mentioned by more than 30% of the respondents. However, the author found that for some questions it is important to also mention that were mentioned by less than 30% of the respondents.

First, respondents were asked in which situations it would be more appropriate to use a minority discount, or a control premium compared to other options for resolving the situations described in the questionnaire. All descriptions of the situations are given in the questionnaire attached to this work.

77% of the respondents found that the use of a minority discount would be appropriate in assessing the value of a minority interest in transferring a shareholding, 15 (58%) considered the use of a minority discount important in a situation where a minority interest is valued equally, 54% respondents considered the use of a minority discount to be important if the minority interest was assessed in the context of estate distribution (where the estate is a shareholding in a company) or the minority interest was assessed in the context of marital property distribution. 46% of the respondents thought that it would be appropriate to include a minority discount when estimating the value of a minority interest for financial reporting purposes. 42% of the respondents indicated that the minority discount could be added when assessing the minority interest in the takeover of shares of minority shareholders by the majority shareholders (i.e. squeeze out). Also, 42% respondents considered it important to use a minority discount when assessing the value of a holding in the context of mergers and acquisitions (M&A) when the majority shareholder of one merging company becomes a minority shareholder in the merged company. More than a third of the respondents, 35%, considered that the use of a minority discount would be appropriate for the purpose of assessing damages if the damage is assessed based on the change in the value of the holding. The use of a minority discount in assessing the profitability of a project launched by an unlisted company from the perspective of a minority shareholder was considered important by 31% respondents.
77% of the respondents considered the application of control premium to be important, where the value of the majority shareholding is assessed in the situation of transferring a shareholding of a non-listed company. 54% of the respondents considered it important to add a control premium when assessing the value of the majority shareholding for the purpose of transferring the shareholding of a listed company. 50% respondents thought that it is reasonable to use the control premium in the context of a division of a company, where the minority shareholder of the company being divided becomes the majority shareholder of one of the divided companies. In 46% cases, the respondents thought that it would be appropriate to use the control premium in assessing the value of the minority shareholding if the purchaser becomes a majority shareholder after the acquisition of the shareholding. 42% respondents considered that the control premium could be used to

assess the value of a majority interest for financial reporting purposes, and equally 38% respondents considered the control premium to be relevant in both mergers and acquisitions (M&A), when assessing that majority shareholder of one merging entity becomes a minority shareholder, as well as when assessing the profitability of a project launched by an unlisted company from the perspective of a majority shareholding. Equally again, 35% respondents considered the inclusion of a control premium important when assessing the value of a majority shareholding in the context of estate distribution (where the estate is a shareholding in a company) and in the context of marital property distribution. Almost a third, i.e. 31% respondents also noted a situation where the value of a minority interest is assessed when the buyer is a majority shareholder.

Next, the respondents were asked to choose from the given activities how they derive the value of an unlisted company. 65% of the respondents would derive the value of an unlisted company from the view of the majority shareholder, which they would adjust with the minority discount if the object of valuation were a minority shareholding in that company. 35% of the respondents stated that they would derive the value of the company from the point of view of the minority shareholder, which should be adjusted by the control premium if the object of the assessment were the majority shareholding in this company.

Having to answer a question about the exemplary situation described in the questionnaire, where respondents were asked to choose how they would behave if the company, they were evaluating, is responsible for costs related to the benefits offered to the majority shareholders (sports cars, holidays, yachts, etc.), 46% respondents indicated that such costs would always be eliminated. 23% respondents answered that they would mostly eliminate such costs and 7% said that they would never eliminate such costs.

In the following exemplary situation, where the remuneration paid to the owner or manager of the company being valued is unreasonably high or low, respondents were asked to indicate whether they take it into account when valuing the company, i.e. adjust cash flows or take it into account in some other way. 69% of the respondents answered that they always take this into account when evaluating the company.

Next, respondents were asked to answer questions about the size of the minority discount and the control premium. First, the estimated size of the company's shareholding was given, and respondents were asked to choose the size of the minority discount or the control premium they would apply. Respondents were first asked to determine the minority discount they would apply to the sale of 5%, 10%, 25%, 0.33 and 49% shares in the company and then asked to indicate the control premium they would apply to the sale of 51%, 75%, 0.67, 90% and 95% of the company's shares. The results are shown in following Table 7.

Table 7. Percentage of minority discount and control premium respondents would apply when selling subsequent parts of the company

Size of the share hold	Minority discount 1-9%	Minority discount 10-19%	Minority discount 20-29%	Minority discount above 30%
5%	12%	19%	27%	42%
10%	12%	19%	50%	19%
25%	19%	35%	35%	12%
0,33	31%	35%	27%	7%
49%	46%	35%	15%	4%
	Control premium 1-9%	Control premium 10-19%	Control premium 20-29%	Control premium above 30%
51%	35%	46%	12%	7%
75%	23%	46%	19%	12%
0,67	15%	50%	23%	12%
90%	15%	42%	19%	23%
95%	15%	38%	23%	23%

Source: compiled by author

When asked what the typical minority discount rate applied by the respondents was (see chart 1), 15% respondents did not answer and 31% of those who answered said that the typical minority discount rate used is 20%.

A minority discount of 15% and 25%, respectively, is applied by 19% of respondents, and 13% of respondents said that they typically apply a minority discount of 10%.

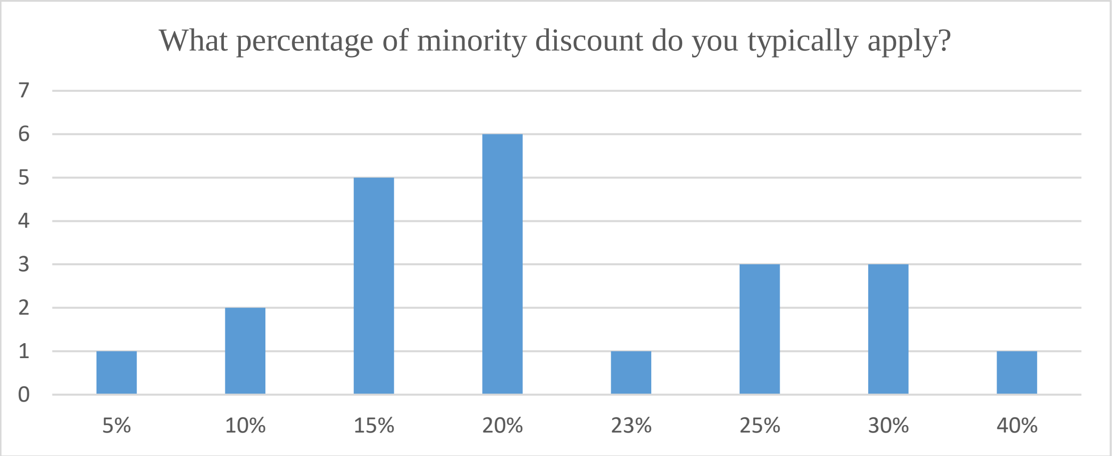


Chart 1. Typical percentage of minority discount (compiled by author)

The typical size (see chart 2) of the control premium applied by 33% of respondents who answered, was 15%. An equal 14% of respondents would apply a control premium of either 25% or 20%. Five respondents did not answer this question.

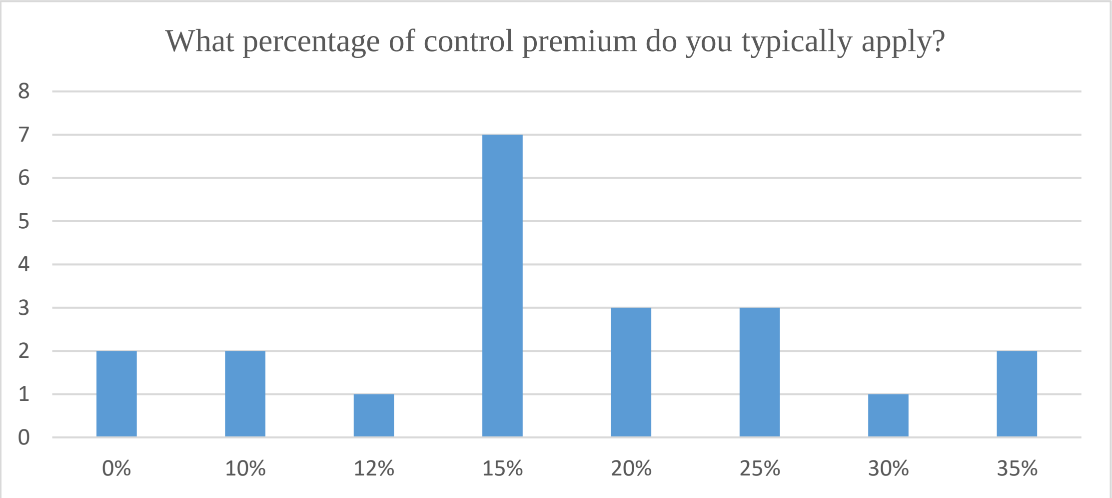


Chart 2. Typical percentage of control premium (compiled by author)

Next, respondents were asked what is the maximum percentage that the respondent has applied either as a minority discount or as a control premium. Seven respondents answered that the maximum minority discount they have applied is 20%, equally 14% of respondents said that they have applied either 10% or 20% minority discount, and equally

9% of respondents indicated that they have applied a minority discount of either 25%, 90 % or 100%. Three respondents did not answer the question regarding the maximum minority discount (see chart 3).

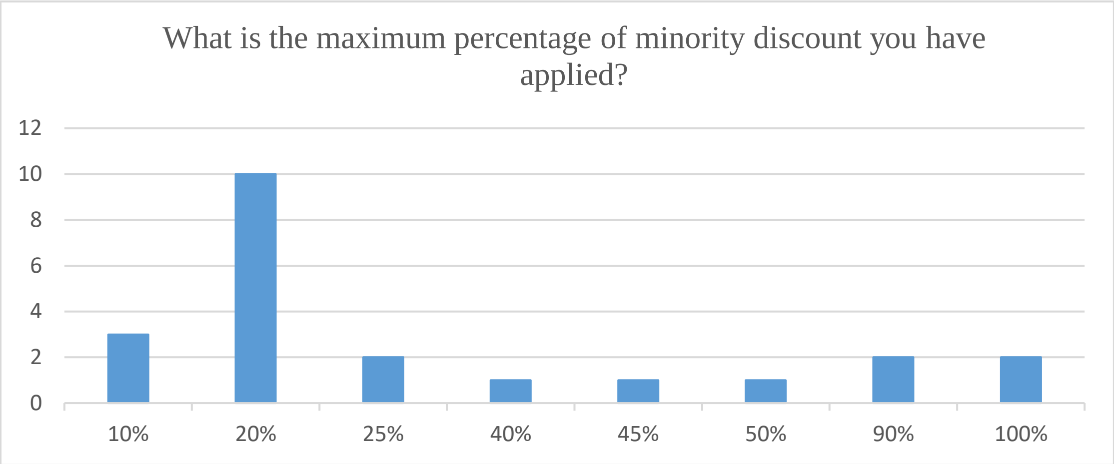


Chart 3. Maximum percentage of minority discount (compiled by author)

19% respondents did not answer the question of the maximum control premium. Of those who responded (see chart 4), 30% of respondents said that the maximum control premium they had applied was 20%. Equally 20% of the respondents answered that the maximum control premium applied by them has been either 50% or 30%. 15% of the respondents have indicated a maximum control premium of 0% and equally 5% of the respondents have used a control premium of 35%, 25% or 10% respectively.

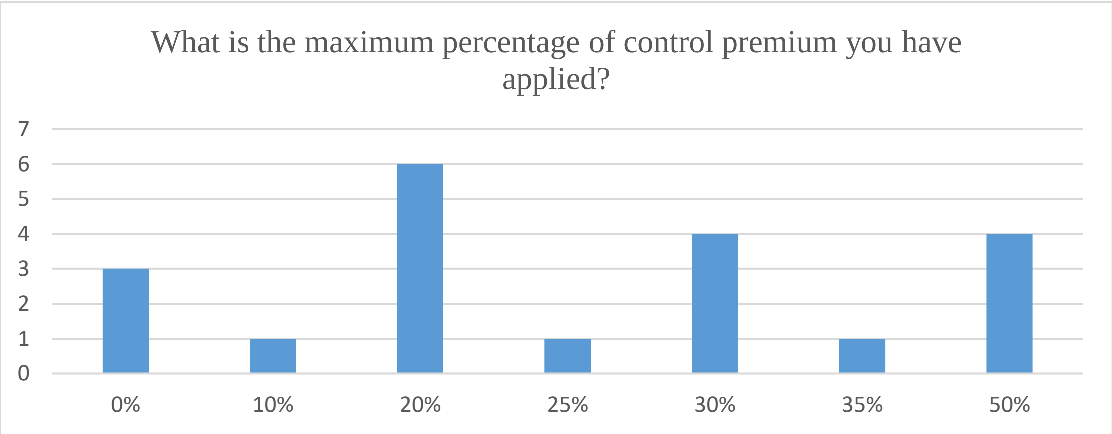


Chart 4. Maximum percentage of control premium (compiled by author)

Respondents were asked whether they would apply a control premium, in a situation where less than 50% of the company is sold and the other parts are all significantly smaller than the part sold. 65% said that they would not apply the control premium in such a situation.

3.3. Methods used to assess the size of minority discount and control premium

Third section of the questionnaire focused on the methods used to assess minority discount or control premium. Respondents were asked for their opinion on the situation where the company is not listed on the stock exchange and the value of equity is being valued, they were asked to choose appropriate methods that the respondent would use in the valuation, either to determine minority discount or control premium. Nine different variants of the evaluation method were proposed.

First, respondents were asked whether they would apply a control premium. The option “Discounted cash flow method - free cash flow to equity (FCFE)” was mentioned the most by the respondents, it was mentioned by 65% respondents. Next, the respondents equally mentioned two options - “Listed companies-based value multipliers method” and “Discounted cash flow method - free cash flow model to the firm (FCFF)”. These options were both noted by 58% respondents. 50% of the respondents also mentioned the option “Transaction-based value multiplier method” and 38% respondents picked the option “Discounted cash flow method - discounted dividend model (DDM)” as a suitable choice.

The next question regarded the same situation as the previous one, where the valuation was based on the value of the unlisted company's equity, but this question asked about the application of a minority discount, and nine different valuation methods were also provided. Like the answers to the previous question, the most chosen option in this question was “Discounted cash flow method - free cash flow to equity (FCFE)”, which was mentioned by 65% respondents. 62% of the respondents mentioned the option “Discounted cash flow method - free cash flow model to the firm (FCFF)”. Of the respondents, 58% indicated the option “Transaction-based value multiplier method” and 54% marked the option “Listed company-based value multiplier method”. Of the respondents, 42% indicated the option “Discounted Cash Flow Method - Discounted Dividend Model (DDM)” and 31% indicated that they would apply a minority discount to the value of equity if they used the capitalized profit method for valuation.

In addition, this section of the questionnaire asked to know to which base value, either the market value of equity or the value of the company, the respondents would apply a minority discount or a control premium. 77% respondents would apply a minority discount or control premium to the market value of equity.

Respondents were also asked to name what other estimates they use to derive the value of the minority discount and the control premium. The opinions of other experts, including evaluation documents, reports and reports prepared by them, are considered most important. The opinions of other experts were considered important by 85% respondents. Public databases, which are available to everyone free of charge, were considered important by 73% respondents. Research articles and the opinion of colleagues were marked equally by 54% respondents, closed and paid databases were marked by 42% respondents.

3.4. Factors affecting the size of the minority discount or control premium

The fourth section of the questionnaire asked the respondents to indicate the five factors they consider the most important for affecting the size of the minority discount or control premium. The questionnaire identified 20 most common different factors that could affect the size of the minority discount or control premium when assessing the value of a company. The influencing factors in this section of questions are based on literature, scientific articles, and expert assessments. See summary of respondents' responses from Table 8.

The most important factor influencing the size of the minority discount was considered, by the respondents, to be the "Minority shareholders' sell-out right (by operation of law or through agreements made by shareholders)", this factor was mentioned by 69% respondents.

According to the respondents, the next most important factor was "Minority shareholders' right to complete or partial dividend distribution (by operation of law or through agreements made by shareholders)", which was marked as important in 62% cases.

Table 8. Most relevant factors that influence the calculation of minority discount or control premium

Influencing factors	Factors influencing the size of the minority discount	Factors influencing the size of the control premium
The possibility of cumulative voting when electing new members to management and supervisory boards (by operation of law or through agreements made by shareholders)	31%	27%
Minority shareholders' right to complete or partial dividend distribution (by operation of law or through agreements made by shareholders)	62%	38%
Minority shareholders' sell-out right (by operation of law or through agreements made by shareholders)	69%	35%
Dispersed ownership (lack of majority interest)	27%	46%
The size of the minority interest being valued	58%	15%
The size of the company being valued	15%	23%
Profitability and profit stability of the company	15%	23%
The company's historical pay-out ratio	7%	4%
The existence of a clearly formulated pay-out policy and its consistent application	23%	15%
Existence of a joint selling right due to agreements between the shareholders	42%	23%
Good reputation and ethical conduct of the company's management	12%	15%
Adequate remuneration for executive shareholders (compliant with market conditions)	4%	-
Minority interest liquidity	50%	4%
Length of the investment horizon	7%	4%
Good prospects for listing shares on the stock exchange	27%	31%
Swing-vote influence (for example, a 2 % minority shareholder becomes the swing vote if the remaining 98 % is held in two equal parts of 49 % and wields considerably more influence than when 49 shareholders own 2 % each)	31%	23%
The purpose of valuation – gift, ESOP (employee stock ownership plan), divorce, inheritance	12%	4%
Restrictions on share transfer or put option	4%	15%
Market situation in the company's area of operation – market slump vs. market boom	19%	23%
Presence of potential synergy with potential buyer	12%	27%

Source: compiled by author

The third important factor in determining the size of the minority discount was the “size of the assessed minority interest”, which was marked as important by 58% respondents. The fourth most important factor was chosen to be “Liquidity of minority interests”, which was indicated by 50%respondents. According to the respondents, the fifth important factor influencing the size of the minority discount was "Existence of a joint selling right due to agreements between the shareholders", this factor was mentioned by 42% respondents.

The most important factor influencing the size of the control premium was found to be “Dispersed ownership (lack of majority interest)”, which was considered important by 46% respondents. The next most important factor in determining the size of the control premium was, in the opinion of the respondents, " Minority shareholders’ right to complete or partial dividend distribution (by operation of law or through agreements made by shareholders)", 38% respondents thought so. " Minority shareholders’ sell-out right (by operation of law or through agreements made by shareholders)" was considered an important factor by 35% respondents. The next factor that respondents considered important was "Good prospects for listing shares on the stock exchange", which was noted as important by 31% respondents. According to the respondents, the fifth most important factor in determining the size of the control premium was both “Potential synergies with a potential buyer” and “The possibility of cumulative voting when electing new members to management and supervisory boards (by operation of law or through agreements made by shareholders)”. These factors were equally indicated by 27% respondents. It should be added that the following factors were equally mentioned, they were mentioned by 23% respondents - “The size of the company being valued”, “Profitability and profit stability of the company”, “Market situation in the company sector - low sector vs. successful sector”, “The so-called weighted minority shareholding - where a 2% shareholding may be more valuable (if two majority shareholders each have a 49% shareholding) if 49 shareholders have a 2% shareholding) (swing vote consideration)” and “Existence of a joint selling right under agreements between shareholders”.

CONCLUSION

Assessing the value of the company before the final valuation, additional write-downs or revaluations are considered in certain situations, distinguishing discounts or premiums applied at the company level from discounts and premiums applied at the equity level. The aim of this study was to determine the aspects related to the practical application of discounts and premiums used in the valuation of a company. Based on the results of this study, it was possible to draw conclusions about which methods and approaches are used in determining the sizes of minority discount and control premium, and what were the average sizes of minority discount and control premium applied by Estonian practitioners.

The sample for this study included practitioners who worked in investment firms, banks, audit firms, asset management companies, financial consulting firms, law firms or were freelance financial advisers. A total of 26 financial analysts from different companies were included in the sample, several of whom are state financial experts recognized by the Estonian Forensic Science Institute.

The survey revealed that Estonian practitioners mainly deal with the valuation of unlisted companies, which is not particularly surprising given the Estonian market, as most companies in the country are privately owned. Practitioners assess the company as a whole or the value of the company's total equity.

Two-thirds of Estonian practitioners surveyed use a revenue-based approach to valuing a company and apply both a minority discount and a control premium using the discounted cash flow method (DCF) for valuation, both when using the free cash flow to equity (FCFE) model and when using free cash flow model to the firm (FCFF) model. This result was not surprising, as one previous Kantšukov and Sander (2016) study on the valuation of companies conducted in Estonia revealed that FCFF and FCFE were the most widely used valuation methods among Estonian practitioners. Bogatyrev and Dobrynin (2015), Booth (2005), Byrka-Kita and Grudziński (2018), Cole *et al.* (2013), Damodaran (1993), Matthews (2016), Pratt (2012) have also pointed out that the preferred method for estimating the amounts of discounts and premiums is the discounted cash flow method.

It is important to know that most of Estonian practitioners, 77%, considered that the use of a minority discount is appropriate in assessing the value of a minority interest when the interest is being transferred. The largest, more than 30% minority discount would be applied by Estonian practitioners for the sale of 5% of the company's shares. Although Estonian practitioners are willing to implement 30% and larger discounts, the typical size of the applicable minority discount is 20%, and one third of the respondents answered that 20% is the largest minority discount they have applied in the Estonian market. It all depends on how much the company is included in the transaction. Several international researchers (Gelman 1972; Moroney 1973; Silber 1991; Trout 1977) have found in their research that in practice discounts of 30% or more are applied to the sale of company shares.

Most Estonian practitioners who responded to the survey, 77% of would also apply the control premium if the value of the majority shareholding is assessed in the situation of transferring the shareholding of a non-listed company. The typical control premium that practitioners use to value a company is 15%. The maximum control premium applied by one third of the surveyed practitioners in the Estonian market is 20%. Similar use of a control premium of up to 20% has been found, by several authors in their studies, to be used (Alexandridis *et al.* 2013; Barclay and Holderness 1989; Hanouna *et al.* 2005)

Interestingly, most of the Estonian practitioners responding to the survey highlighted those factors affecting the size of the minority discount or control premium that were related to minority shareholders' rights: the minority shareholder's right to demand a buy-out by the majority shareholder and the minority shareholder's right to partial or full dividends. These two were the most significant factors influencing the size of the minority discount. Holmen, Knopf (2004) and Rýdlová (2013) have also touched upon minority shareholders' rights in their research. Among the factors influencing the size of the control premium, these two factors concerning the rights of minority shareholders were also mentioned, but according to Estonian practitioners, the most important factor affecting the size of control premium, was the dispersion rate of ownership, i.e. situations where the company has no majority shareholder. La Porta *et al.* (1999) also pointed out the structure of the corporate ownership as a factor influencing the amount of the control premium

The respondents were more in agreement when naming the most important minority discount factors than when naming the most important influencing factors for determining control premium, where the respondents' answers were scattered among more different factors.

To get a better overview of the research topic, more practitioners would have needed to participate in the survey. Unfortunately, due to the emergency created by COVID-19, the number of respondents was lower than expected. However, the study provided some overview - whether, how and to what extent Estonian practitioners apply a minority discount or a control premium when assessing the value of companies.

Due to the multitude of factors that affect the size of one or the other (minority discount or control premium), a study in more depth should be undertaken, thus providing a chance to for example conduct a case study examining the sales and purchasing transactions of a specific company with one or the other indicator being applied. Separate questions would be related to which company is assessed, how large portion of the company is assessed, from whose point of view (majority vs. minority shareholder) the assessment is done and for what purpose the assessment is compiled, etc.

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APPENDIX

Questionnaire

Your first and last name

Your organisation’s name

Your official title

On average, how many cases of valuation do you perform each year?

How many cases of valuation have you performed in the last twelve months?

What is your highest level of education?

- Bachelor’s degree
- Master’s degree
- Other:

What other certifications and/or licences do you hold?

What methods and/or contexts of valuation do you have experience of? Please tick all relevant boxes:

	Equity valuation for minority shareholders	Equity valuation for majority shareholders	Enterprise value	Market value of equity
Publicly listed companies				
Private companies				

Would you like to receive a summary of the study?

2. Applying a minority discount or control premium

2.1. In which of the following situations is it appropriate to use a minority discount compared to other possibilities to solve the described situation?

- Calculating minority interest before the disposal of shares
- Calculating enterprise value with the purpose of damage compensation, when damages are estimated based on change in shareholder value
- Calculating minority interest for accounting purposes
- Assessing the profitability of a project initiated by a privately held company from the perspective of a minority shareholder

- Calculating minority interest in a squeeze out
- Calculating minority interest in case of estate division (when the estate consists of shareholding in a company)
- Calculating minority interest in case of marital property division
- Calculating shareholder value in M&A in which a majority shareholder in one of the merging companies becomes a minority shareholder in the merged company
- Calculating minority interest if the buyer is a majority shareholder
- Other:

2.2. In which of the following situations is it appropriate to use a control premium compared to other possibilities to solve the described situation?

- Calculating majority interest in a privately held company before the disposal of shares
- Calculating majority interest in a publicly listed company before the disposal of shares
- In demergers in which a minority shareholder in the merged company becomes a majority shareholder in one of the demerged companies
- Calculating enterprise value with the purpose of damage compensation, when damages are estimated based on change in shareholder value
- Calculating majority interest for accounting purposes
- Assessing the profitability of a project initiated by a privately held company from the perspective of a majority shareholder
- Calculating minority interest if the buyer becomes a majority shareholder after acquisition of the shares
- Calculating minority interest in a squeeze out
- Calculating majority interest in case of estate division (when the estate consists of shareholding in a company)
- Calculating majority interest in case of marital property division
- Calculating shareholder value in M&A in which a majority shareholder in one of the merging companies becomes a minority shareholder in the merged company
- Calculating minority interest if the buyer is a majority shareholder
- Other:

2.3. Which of the following steps describes best your approach towards valuing privately held companies?

- Value from the perspective of the majority shareholder that must be adjusted through minority discount, if the object of valuation is minority shareholding in this company
- Value from the perspective of the minority shareholder that must be adjusted through control premium, if the object of valuation is majority shareholding in this company
- Other:

2.4. When valuing a company that incurs costs connected to majority shareholder benefits (such as sportscars, holidays, yachts), on valuation you

- Always eliminate such costs
- Mostly eliminate such costs
- Never eliminate such costs
- Other:

2.5. If the owner or manager of the company receives unfair compensation (either too much or too little), do you take it into account when valuing the company, that is to say do you modify cash flows or account for it in some other manner?

2.6. What percentage of minority discount would you apply when selling subsequent parts of the company?

	Minority discount 1-9%	Minority discount 10-19%	Minority discount 20-29%	Minority discount above 30%
5%				
10%				
25%				
0,33				
49%				

2.7. What percentage of control premium would you apply when selling subsequent parts of the company?

	Control premium 1-9%	Control premium 10-19%	Control premium 20-29%	Control premium above 30%
51%				
75%				
0,67				
90%				
95%				

2.8. What percentage of minority discount do you typically apply?

2.9. What percentage of control premium do you typically apply?

2.10. What is the maximum percentage of minority discount you have applied?

2.11. What is the maximum percentage of control premium you have applied?

2.12. Would you apply a control premium on ownership interest of less than 50 % if all the other ownership interests are significantly smaller?

3. Methods and approaches for assessing minority discount and control premium

3.1. If the company is privately held, do you apply a control premium in the following valuation methods when valuing equity? Please indicate all applicable choices:

- Modified book value method
- Replacement value method
- Liquidation value method
- Valuation multiples method based on publicly listed companies
- Transaction multiples method
- Discounted cash flow method – free cash flow to the firm (FCFF)
- Discounted cash flow method – free cash flow to equity (FCFE)
- Discounted cash flow method – dividend discount model (DDM)
- Capitalisation of earnings method
- Other:

3.2. If the company is privately held, do you apply a control premium in the following valuation methods when valuing equity? Please indicate all applicable choices:

- Modified book value method
- Replacement value method
- Liquidation value method

- Valuation multiples method based on publicly listed companies
- Transaction multiples method
- Discounted cash flow method – free cash flow to the firm (FCFF)
- Discounted cash flow method – free cash flow to equity (FCFE)
- Discounted cash flow method – dividend discount model (DDM)
- Capitalisation of earnings method
- Other:

3.3. To which of the following indicators do you apply a minority discount or control premium?

- Market value of equity
- Enterprise value
- Other:

3.4. What information and/or opinions do you use to determine discounts and control premium?

- Public databases (available to everyone for free)
- Private databases (available to use for a fee or requiring special permission)
- Expert opinions, including documents and reports complied by experts/expert bodies
- Colleagues' opinions
- Earlier judicial decisions
- Scientific articles

4. Factors influencing the size of minority discount and control premium

4.1. Based on your experience, please indicate up to five most relevant factors in both columns that influence the calculation of minority discount or control premium.

Factors influencing the size of the…	minority discount	control premium
The possibility of cumulative voting when electing new members to management and supervisory boards (by operation of law or through agreements made by shareholders)		
Minority shareholders' right to complete or partial dividend distribution (by operation of law or through agreements made by shareholders)		
Minority shareholders' sell-out right (by operation of law or through agreements made by shareholders)		
Dispersed ownership (lack of majority interest)		
The size of the minority interest being valued		
The size of the company being valued		
Profitability and profit stability of the company		
The company's historical pay-out ratio		
The existence of a clearly formulated pay-out policy and its consistent application		
Existence of a joint selling right due to agreements between the shareholders		
Good reputation and ethical conduct of the company's management		
Adequate remuneration for executive shareholders (compliant with market conditions)		
Minority interest liquidity		
Length of the investment horizon		
Good prospects for listing shares on the stock exchange		
Swing-vote influence (for example, a 2 % minority shareholder becomes the swing vote if the remaining 98 % is held in two equal parts of 49 % and wields considerably more influence than when 49 shareholders own 2 % each)		
The purpose of valuation – gift, ESOP (employee stock ownership plan), divorce, inheritance		
Restrictions on share transfer or put option		
Market situation in the company's area of operation – market slump vs. market boom		
Presence of potential synergy with potential buyer		

4.2. If any important factors are missing from the list above, please describe them here:

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