TALLINN UNIVERSITY OF TECHNOLOGY
School of Business and Governance
Department of Finance and Economics

Chantell Theron

FUNDAMENTAL VALUATION OF NORDECON AS

Bachelor's thesis
Programme INTERNATIONAL BUSINESS ADMINISTRATION, specialisation Finance and Accounting

Supervisor: lecturer Kalle Ahi, MA

Tallinn 2018

I declare that I have compiled the paper independently
and all works, important stand points and data by other authors
have been properly referenced and the same paper
has not been previously been presented for grading.
The document length is 8613 words from the introduction to the end of summary.

Chantell Theron ……

(signature, date)

Student code: 157280 TVTB
Student e-mail address: chantelltheron3@gmail.com

Supervisor: Kalle Ahi:
The paper conforms to requirements in force

……

(signature, date)

Chairman of the Defence Committee: / to be added only for graduation theses /
Permitted to the defence

……

(name, signature, date

TABLE OF CONTENTS

ABSTRACT

A publicly held company can be assessed in numerous different ways, and this raises the question as to which approach/method is best suited for valuating a specific firm. The valuation approaches consist mainly of three, the market, income, and cost approach.

This paper applies the income approach to evaluate an Estonian publicly held company Nordecon AS. The objective of this paper is to analyse Nordecon AS, to see whether the firm is being over or undervalued by using the appropriate method, in this case, it is the discounted cash flow method that is part of the income approach.

The author used the discounted cash flow method in this paper because it was the better option, taking into consideration the fact that the firm is a public held firm and in the Estonian market.

The author used historic financial information and estimates to compute forecasts. The author computed the WACC of the firm. The author came to results that indicate that Nordecon is neither over nor undervalued at the market. In other words, the firm is valued at the right market price. Future investors can be assured that if they invest into Nordecon, the firm is valued at the right market price.

Keywords: Nordecon AS, Discounted cash flow valuation (DCF), Weighted average cost of capital (WACC), relative valuation.

INTRODUCTION

Fundamental valuation is a wide spectrum with numerous ways of evaluating a firm. Three main approaches used in fundamental valuation of the market, income and cost approach. The three main approaches used are further divided to different methods on how to evaluate a business. The valuation of a company is very important not only to see how the firm is doing but to analyse the growth prospects of the firm and to see whether a firm is being over or undervalued at the market. Analyst tend to evaluate much bigger firms rather than smaller firms for instance the firm selected by the author, which are quite often overlooked by analyst. From the findings computed by the author with the use of the appropriate approach and method, the author can propose to future investors whether to invest or not to invest into the firm.

The discounted cash flow method used in this paper is one of the most used methods when it comes to evaluating a private or public firm.

The aim of this paper is to see whether Nordecon is over or undervalued at market price, and with the results the author can propse a strategy to future investors.

In finding the fundamental value of the firm, the author has established a set of tasks that will contribute to the final goal. Firstly, the author is conducting the theoretical concept of fundamental valuation. Secondly, the author provides a description on the processes and methods that are used for business valuations. The author took the approach that is best suited for this paper, considering the fact that the firm is small, Estonian and a public company. Thirdly, the author the author introduces Nordecon and gives an overview of its financial performance, main drivers and industry overview. Lastly, the author conducts a practical evaluation of Nordecon and analyses the results.

The discounted cash flow method used in this paper is one of the most used methods when it comes to valuating a private or public firm.

The company, the author, selected is a public company and focuses on general contracting and project management. The works of the following authors were used in the value assessment of Nordecon AS: Tim Koller, Marc Goedhart, David Wessels, Tim Beitel, Pablo Fernandez, Aswath Damodaran, Steven Bragg, Feldman, Stanley J. and others.

The author has divided this paper into two main chapters. The first chapter consists of the theoretical overview of valuation, and the second chapter consists of valuation of Nordecon AS.

1. THEORETICAL OVERVIEW OF VALUATION

Under this topic the author will be explaining the main approaches/methods and principles of how to value a firm.

1.1. The Concept of Fundamental Valuation

"Value is the defining dimension of measurement in a market economy." (Koller, Goedhart, & Wessels, 2010). According to the article An Introduction to Business Valuation by Capital Valuation Group Inc, The fair market value is commonly considered to be the value of a closely held security. (Capital Valuation Group, s.a). "Cash (or cash-equivalent) price at which the security would change hands between a willing buyer and willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of relevant facts" (Capital Valuation Group, s.a) has been commonly defined as its fair market value.

According to Pablo Fernandez, it may be different for buyers and sellers when referring to a company's value. (Fernandez, 2007). Value and market price are also two different concepts and should not be confused with one another. The quantity agreed between the buyer and the seller in the sale of the company is referred to as the price. Many reasons may be the effect of company's value for instance economies of scale, economies of scope or even perception may result in different values from different buyers.

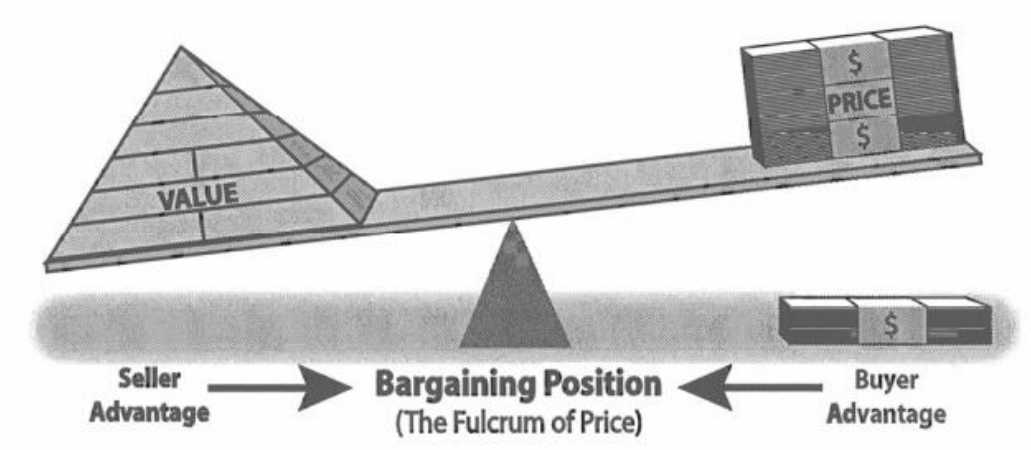

Figure 1: Price and Value

Source: (Capital Valuation Group, s.a)

The author has provided a few purposes that have been used to evaluate a company according to Pablo Fernandez (Fernandez, 2007). For instance in the company buying and selling operations, valuation of companies listed, public offerings, inheritances and wills, compensation schemes based on value creation, identification of value drivers, strategic decisions on the company's continued existence and strategic planning. The purpose of this paper is to analyse Nordecon which is a smaller company. Analysts tend to analyse much larger companies and not smaller companies. The author would like to see whether the firm is being over or undervalued at the market.

1.2 Approaches, and methods to valuation

When evaluating a firm, there are three main approaches used. All three approaches are based on the economic principles of price equilibrium, the anticipation of benefits or substitutions. (IVSC, 2016). The three main valuation approaches are:

- Market Approach: The value of a business, business ownership interest, security, or intangible asset is generally determined through the market approach by using one or more methods with comparable subjects. (Walters, 2014)
- Income Approach: Cash flow for a firm’s valuation processes over some period are projected by these methods, values are discounted to present, and then the value of the firm is obtained by adding these values. (Feldman, 2005)

Cost Approach: Calculating the cost of replacing or reproducing buildings on the land, less depreciation and added value sit to determine the value of the site. This value may or may not equal to the market value. (Nevada, 2017)

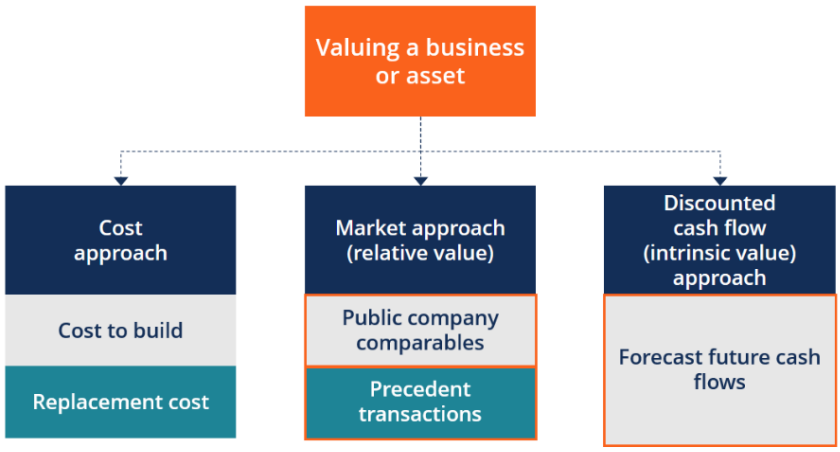

Figure 2: Valuating a Business

Source: (CFI, 2016)

Different detailed methods of applications are included in each of these main valuation approaches.

The most suitable method under the particular circumstances is the goal in choosing valuation approaches and methods for an asset. In every situation no one method is suitable. At a minimum the selection process should consider the following (IVSC, 2016): Firstly by determining the terms and purpose of the valuation on suitable bases of value. Secondly of the possible valuation approaches and methods have strengths and weaknesses that need to be considered, thirdly in view of the nature of the asset by participants in the relevant market, the appropriateness needs to be considered and last but not least information needed to apply the method(s), the availability of reliance of it needs to also be considered.

When the valuer has a high degree of assurance in the accuracy and reliability of a single method, then it is not required of them to use more than one method for the valuation of an asset. To arrive at an indication of value more than one valuation approach or method may be used, to produce a reliable conclusion particularly when there are insufficient factual or observable inputs for a single method. The conclusion of value based on those specific multiple approaches and/or methods should be reasonable, where multiple approaches and methods are used, or even multiple methods within a single approach, the process of analysing and the valuer should describe in the report the differing values into a single conclusion. (IVSC, 2016)

When results in widely divergent indications of value may occur due to different approaches and/or methods the valuer should understand why the value indications differ, and in doing so the valuer

should perform procedures. In cases such as this the valuer should in all three approaches, maximise the use of observable market information.

A valuer must perform analysis to assess those inputs and assumptions and their appropriateness for the valuation purpose, regardless of the source of the inputs and assumptions used in a valuation. (IVSC, 2016)

1.2.1. Market Approach

According to Capital Valuation Group Inc, Market Approach is the "The price indicated by applying pricing ratios derived from publicly traded companies that are similar to the closely held business being priced". (Capital Valuation Group, s.a).

Guideline companies are derived from stock price information related to appropriate financial data for pricing ratios. To arrive at an specified price of the business as if it were traded as a series of publicly traded minority shares of stock, these pricing ratios are then applied to similar financial data of the closely held business.

Common pricing ratios include: (Telmer, 2016) (Kalle Ahi, 2017)

- Price/earnings (P/E)
- Price/sales
- Price/cash flow
- Price/book value
- EV/EBITDA

Inorder to reflect to the stock of the closely held business, that are not publicly traded, the prices will indicate that using this method and that the controlling position may be the ownership interest in the business which is being valued and not a minority one.

According to International Valuation Standards Council the Market Approach by comparing the asset with identical or comparable (that is similar) assets for which price information is available, an indication of value is provided. (IVSC, 2016) The market approach is the ideal valuation approach when reliable, verifiable and relevant market information is available.

Under the following circumstances, the market approach should be used as the primary basis for valuation, for instance, an appropriate transaction for consideration by value. The bases of value in which the asset has recently been sold in, an actively publicly traded assets or substantially similar assets and a substantially similar in assets that are frequent or recent observable transactions.

When the above-mentioned criteria are not met then additional circumstances may be appropriate for the market approach, for instance considering the level of volatility in the market transactions involving the subject asset or substantially similar assets are not recent enough, publicly traded but not active assets or substaintially similar assets, availability of informaiton on market transactions. Taken into consideration that the subject asset has significant differences to the comparable assets, none reliable information on recent transactions (for instance hearsay, missing information, synergistic purchaser, not arm's-length, distressed sale, etc), and the price it would achieve in the market is the critical component affecting the value of the asset rather than the cost of reproduction or its income-producing ability (such as shopping centre, artwork, heritage assets). (IVSC, 2016)

Comparable Transactions Method: Involving assets that are the same or similar to the subject asset to arrive at an indication of value, utilises information on the transaction. In business valuation included price/EBITDA multiples, price/earnings multiples and price/revenue multiples are a few of the multiple common units of comparison used. According to the Business valuation & Financial advisory services, the transaction method the pricing metrics is used to derive the value of historical or interests in the subject company of contemporaneous transactions. (Walters, 2014)

Guideline publicly-traded comparable method: Publicly-traded comparables that are the same or similar to the subject asset to arrive at an indication of value utilises information. According to Walters, the public-traded method uses transaction information to derive value from publicly traded securities of companies that are in the same line as the subject company. (Walters, 2014)

Other Market Approach Considerations: Short-cut market approaches such anecdotal or "rule-of-thumb" valuation benchmarks are sometimes used. When the comparables are deemed to have superior marketability to the subject asset, discounts for Lack of Marketability (DLOM) should be applied. When comparing otherwise identical assets the concept DLMO reflects, a readily marketable asset would have a higher value compared to an asset with a long marketing period or restrictions on the ability to sell the asset. To reflect variances between the comparables and the

subject asset with regard to the ability to make decisions, Control Premiums and Discounts for Lack of Control (DLOC) are applied. (IVSC, 2016). According to Walters another method known as Guideline Transactions Method uses pricing metrics of merges to derive the value of companies in the same line of business and by involving controlling interests of companies both private and public. (Walters, 2014)

1.2.2 Income Approach

According to Capital Valuation on Group Inc, Income Approach is subdivided into two methods Capitalization of earnings and Discounted Cash Flow. (Capital Valuation Group, s.a)

Capitalization of earings: “Converts a single normalised cash flow ¨Base¨ into a value for all future cash flows” (Nammacher, 2005)

Applying to a enterprise’s established annual earnings, the price obtained is the base factor that reflects n United States Treasury obligations, the risk-free rate of return available to investors. The business enterprise being priced with the particular risks associated with the additional rate of return and the business enterprise’s annual expected earnings in future years' growth rate.

Discounted Cash Flow: During the investment period projecting the expected cash flow, the price obtained by this and determining its present value using a discount rate that reflects: (Capital Valuation Group, s.a). In United States Treasury obligations, the risk-free rate of return available to investors and by the particular risks related with the business enterprise being priced, the additional rate of return required

DCF discount future income streams at the weighted average cost of capital (WACC). When a company maintains a fairly stable debt-to-value ratio, then the WACC-based models work best. In cases where a firm’s debt-to-value ratio is expected to change, then the WACC-base models can still be used accurately, but in such cases are more difficult to apply. Because it is difficult to apply, recommendations are made to use an alternative such as adjusted present value (APV). This alternative is recommended because rather than embedding their value in the cost of capital APV explicitly forecasts and values any cash flows related to the capital structure separately (Koller, 2010).

Income Approach converts future cash flow to a single current value by indicating value. (IVSC, 2016). Under the income approach the value of income, cash flow or cost savings generated by the asset, by reference to the value of an asset is determined.

Under the following circumstances, the income approach should be used as the primary basis for valuation. Firstly the critical element affecting value from a market participant perspective is the income-producing ability of the asset and secondly projections of the amount and timing of future income are available for the subject asset are reliable projections. Nonetheless there are few, if any, related market comparables.

When the above criteria is not net, the following additional circumstances may be appropriate to use the income approach, such as only one of several factors affecting value from a market participant perspective is the income-producing ability of the asset. When regarding the amount there is significant uncertainty and related to the subject asset the timing of future income ,when the related subject has a lack of access to information (for instance, a smaller owner may have access to historical financial statements but not forecasts/budgets) and when generating of income has not yet begun but is expected to do so.

Investors assume to receive a return on their investments and the return should reflect the perceived level of risk in the investment, this is the fundamental basis of the income approach. A higher return is demanded from the investors in riskier assets to compensate for the risk. (IVSC, 2016)

Systematic risk (market risk/ undiversifiable risk) is the only risk that investors can expect to be compensated for.

1. Discounted Cash Flow (DCF) Method

According to Tim Koller Marc Goedhart and David Wessels, the conservation of value is driven by discounted cash flow value. (Koller;Goedhart;& Wessels, 2010). This means that when a company changes the ownership of claims to its cash flows but doesn't change the total available cash flows the value is conserved/unchanged. Tim Koller, Marc Goedhart and David Wessels had been told by a leading sell/side analyst that to analyse and value companies he uses discounted cash flow regarding implied multiples. (Koller, Goedhart, & Wessels, 2010)

According to Aswath Damodaran (2010) discounted cash flow valuation is the value of an asset and the present value of predicted future cash flows on that particular asset. (Damodaran, Valuation Approaches and Metrics, 2006)

One can calculate the Net Present Value (NPV) of future free cash flows from the DCF-model. The current value for gains which have not occurred yet, can seen from the NPV. (Beitel, 2016).

Access gains attained by a firm and cash which is not required for operations or reinvestments are what is a free cash flow consists of according to "Brealey et al, 2010" (Beitel, 2016). To get to the PV of future cash flows, a discount rate which is concluded from the model discounts on the basis of the risk related with the financing of the company at hand.

$$PV = \sum_{t=0}^{\infty} \frac{CF_t}{(1+r_t)^t} \quad (1)$$

Where
PV - Present Value
CF_t - net cash inflow in year t
r - discount rate
t - year

DCF method has a few key steps: (IVSC, 2016)

Firstly the nature of the subject asset needs the most appropriate type of cash flow to be chosen. (for instance, gross or net, pre-tax or post-tax, total cash flows or cash flows to equity, real or nominal, etc.). Secondly, determine the most appropriate explicit period for cash flow forecasting. Thirdly cash flow for that period has to be prepared. Then at the end of the explicit forecast period determine whether a terminal value is appropriate for the subject asset and the appropriate terminal value for the nature of the asset should be determined. After that, the appropriate discount rate should be determined . Lastly, the forecasted future cash flow, including the terminal value if any, should be applied.

Table 1: Types of cash flows

CASH FLOWS	APPROPRIATE DISCOUNT RATE
FCF. Free cash flow	WACC. Weighted average cost of capital
ECF. Equity cash flow	Ke. Required return to equity
CFd. Debt cash flow	Kd. Required return of debt

Source: (Fernandez, 2007)

Note that the discounted rate and other inputs must be consistent with the basis chosen. (IVSC, 2016)

The three basic cash flows mentioned above the CFd is the easiest to understand, which is:

$$The\ interest\ to\ be\ paid\ on\ debt\ + pincipal\ repayments \tag{2}$$

Debt to cash flow must be discounted at the required rate of return to debt to determine the present market value of the existing debt. (Fernandez, 2007)

The company's total value (debt + equity) can be obtained by free cash flow (FCF) allowing. The value of equity can be found by allowing the equity cash flow (ECF). Both flows FCF and ECF and determine the company's value, but discounted rates must be used for both flow. (Fernandez, 2007)

$$FCF\ = EBIT\ (1 - T) + dep - FCInv\ - WCInv \tag{3}$$

Dep = depreciation
FCInv (CAPEX) = investment in fixed capital (commonly known as capital expenditures)
WCInv = investment in core (net) working capital.

$$FCF\ = EBIT\ - [Taxes\ + Tm\ (interest)] - Net\ Investment \tag{4}$$

Tm = marginal tax rate

Instead of discounting cash flow at the weighted average cost of capital, the equity cash flow model values equity directly to equity at the cost of equity. Since the capital structure is embedded in the cash flow, the equity method can be quite difficult to implement accurately. Therefore forecasting is difficult. The equity method is suitable for companies whose operations are related to financing, for instance, financial institutions (Koller et al, 2010).

In short, according to Fernandez after covering fixed asset investments and working capital requirements and paying the financial charges and repaying the corresponding part of the debt's principal. (Fernandez, 2007)

The cash flow that is allocated to both the debt and the equity holders is the free cash flow to the firm, on the other hand, cash flow allocated to investors after all the cash requirements for operations and debt-financing is satisfied is considered the free cash flow to equity. (Beitel, 2016)

The free cash flow of equity and firm are not the same; there is a difference. The following equation expresses that either ECF or FCF is part of the equation, therefore, cannot be the same:
(Beitel, 2016)

$$ECF = FCF - [interest\ payments \times (1 - T\mathrm{m})] - principal\ repayments + new\ debt \quad (5)$$

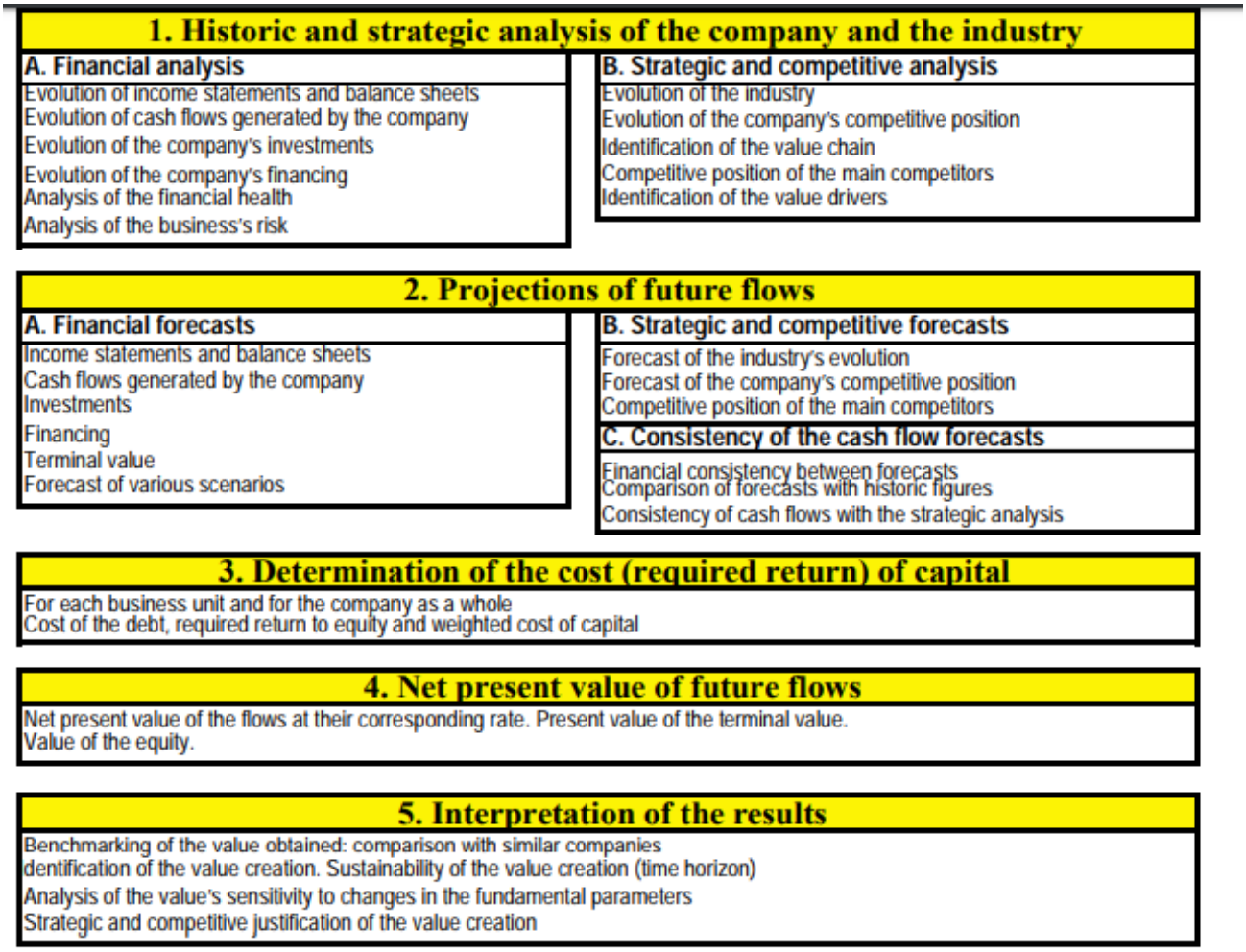

Figure 3: Cash Flow Discounting Basic Stages in the Performance of Valuation

Source: (Fernandez, 2007)

As seen in figure 2, there are three main methods of valuation. Discounted cash flow (intrinsic value approach has to do with forecasting future cash flows of a firm. In order to calculate the future cash flow, the discounted rated of a firm needs to calculated. The discounted rate is also known as the weighted average cost of capital (WACC) of a firm. According to Koller, Goedhart and Wessels WACC is the anticipated return that investors expect to receive from the company and therefore is considered to be the appropriate discount rate for the free cash flow (Koller;Goedhart;& Wessels, 2010). A sustainable capital structure should be merged by WACC and expected industry conditions with a fundamental approximation of business risk consistency.

$$WACC = \frac{Equity}{Debt+Equity} \times Cost\ of\ Equity + \frac{Debt}{Debt+Equity} \times Cost\ of Debt \qquad (6)$$

Source: (Beitel, 2016)

Cost of debt is referred to as Kd in table 1, mentioned earlier, is equal to the cost of required return to debt. Cost of debt has been reduced by the marginal tax rate, reason for this is that the interest tax shield is not part of the free cash flow. Interest tax shield should be incorporated in the valuation, due to the fact that interest tax shield has value. (Koller, Goedhart, & Wessels, 2010). In Estonia, tax adjustment is not needed, therefore in the case of Nordecon the author did not reduce the cost of debt with the marginal tax rate.

Cost of equity is referred to as Ke in table 1, mentioned earlier in this paper. Cost of equity of a firm is calculated by using a model introduced by Sharpe in 1964 (Beitel, 2016) known as The Capital Asset Pricing Model (CAPM). CAPM model is the sum of the return expected by equity investors which consist of the dividends and capital appreciation. (Lee, 2004). According to Damodaran cost of equity should be lower for safer investments and higher for riskier investments. (Damodaran, s.a.)

CAPM model consists of three factors risk-free rate, the market premium /equity risk premium and beta (β) are all used in the model: (Beitel, 2016).

Expected return is the same as the actual return on risk-free assets. Therefore the expected return has no variance. Riskfree investments need no default risk nor reinvestment risk. (Damodaran, s.a.).

How much risk one sees in an economy/market reflects fundamental judgements that one makes about the equity risk premium. (Damodaran, 2012).

To regress stock return against market returns is the standard procedure for estimating betas (β) (Damodaran , Valuation: Part IDiscounted Cash Flow Valuation (63-92), s.a.)

Once all the components for WACC, future cash flows and forecasts have been determined, valuation of the firm can be calculated.

$$value = \frac{FCF_{t=1}}{WACC - g} \quad (7)$$

g – growth rate of revenues

The equation can be rewritten by substituting FCF the following way:

$$FCF = NOPLAT\ (1 - IR) \tag{8}$$

IR- Investment Rate

Net Investment - Invested Capital(t+1) − Invested Capital(t)

NOPLAT – Net operating profit less adjusted taxes

IR can be substituted more as:

$$IR = \frac{g}{ROIC} \tag{9}$$

ROIC – return on investment

The final equation will be as follows:

$$value = \frac{NOPLAT\left(1 - \frac{g}{ROIC}\right)}{WACC - g} \tag{10}$$

The profits generated from the firm's core operations less the income taxes is represented by NOPLAT. (Koller;Goedhart;& Wessels, 2010)

ROIC is the return on capital or invested capital to measure the return earned on capital invested in an investment of a business venture (Damodaran, 2007)

1.2.3. Cost Approach

Using the cost approach unless time, inconvenience, risk or other factors are involved provision is made using the economic principle that a consumer will pay no more than the cost to obtain the asset of equal utility. By calculating the current replacement or reproduction cost of an asset, cost approach provides an indication of value, and for physical deterioration, deductions are made and all another form of obsolescence that could be relevant. (IVSC, 2016)

Primary basis that should use cost approach for valuation is when recreating an asset with substantially the same utility as the subject asset, by market participants with no legal restriction, and recreation would be done fast enough to prevent paying a significant premium in order to use the asset immediatel. When none direct or indirect income-generating asset and the unfeasibility of using an income or market approach by the nature of the assets and when fundamentally replacement cost is the basis of value being used, for instance reinstatement value. (IVSC, 2016)

To date in the creation of the asset, the asset will generally reflect the costs incurred and value of the property when complete, the potential market participants, but time and cost required should be considered as well as profit and risk-appropriate adjustments. (IVSC, 2016)

Two drawbacks of the cost approach are: (Koller;Goedhart;& Wessels, 2010) Firstly, assets that are tangible are not all replaceable. The cash flow the company generates could be the basis of which the company's organizational capital can be valued. Tangible assets may greatly understate of the company's value by just the replacement cost. Secondly, replacement of all assets will never be replaced. Replacement of certain assets such as a machine that produces positive inflow would be not economical, especially when the replacement costs are costly. (IVSC, 2016)

Several analytical related methods are within the cost approach to intangible asset valuation. Two most common cost approach types or definitions are: (Galitskihh, 2015)

1. Reproduction cost: The construction of an exact replica is contemplated by reproduction cost of the subject intangible assets. (Galitskihh, 2015). Reproduction cost does not ponder the market demand nor does it consider the market approval of the subject intangible before appropriate modifications are made for the purpose of deriving an indication of the value.

2. Replacement cost: The replacement cost contemplates the cost to recreate the utility of the subject intangible asset, but in methods that are not similar to the replica of the actual intangible property subject to evaluation.

The replacement cost concept does consider the market demand unlike the reproduction cost concept and the market acceptance for the subject intangible assets. (Galitskihh, 2015)

2. VALUATION OF NORDECON AS

2.1 Description of Nordecon

Nordecon AS was previously known as AS Eesti Ehitus and Nordecon International AS. In 1989 Nordecon AS began operations as a construction company. Since then, Nordecon AS has advanced so well that it is known to be one of the leading construction groups in Estonia and in all segments of the construction of a strong player. (Nordecon, 2016)

Nordecon AS has had a business strategy for years that, underpinned by a consistent focus on general contracting and project management and reasonable policy of maintaining a balance between building and infrastructure construction.

Nordecon AS has over the years have been gradually extending their presentings with activities which sustain the core business such as road maintenance, concrete works and other services that provide added value , improve their operating efficiency and help manage risks. In the construction of commercial, residential, industrial and public buildings as well as infrastructure – roads, landfill sites, utility networks and port facilities Nordecon's specialists offer high-quality integrated solutions. (Nordecon, 2016)

Moreover, Nordecon is involved in the construction of concrete structures, leasing out heavy construction equipment, along with road maintenance. Other then Estonia, Nordecon entities operate in Sweden, Finland and Ukraine.

Since May 18^{th,} 2006, Nordecon AS's shares have been listed on the NASDAQ OMX Tallinn Stock Exchange. Nordecon AS have a few shared values that are composed of professionalism, openness, reliability and employees. (Nordecon, 2016)

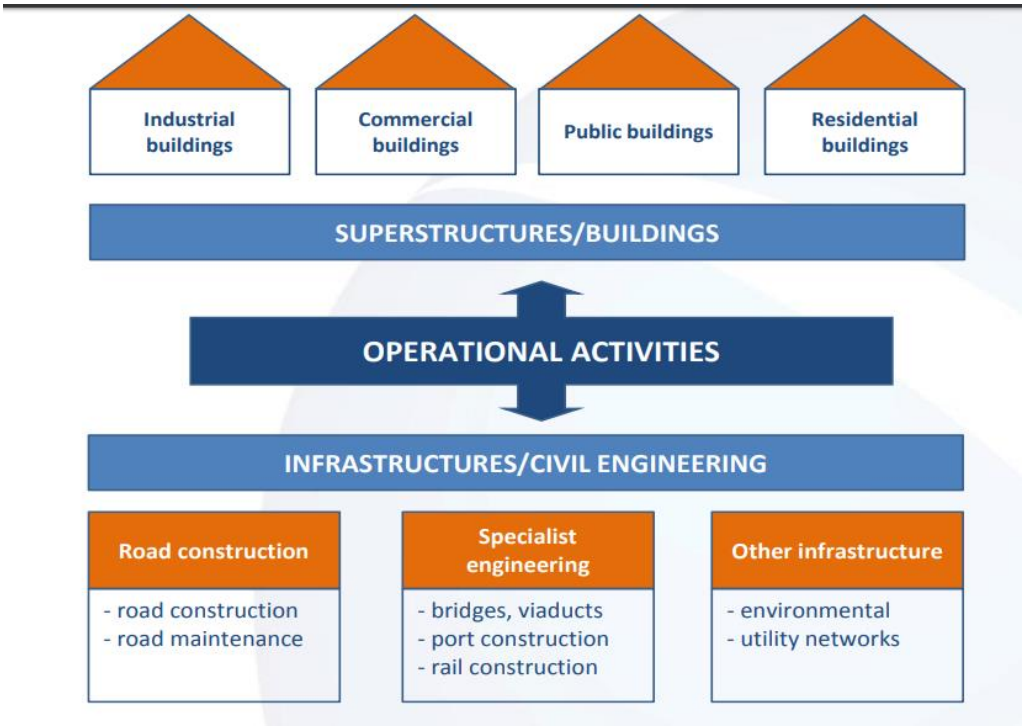

Figure 4: Business Model

Source: (Talviste, 2012)

Nordecon's core competencies are (Talviste, 2012) road construction and maintenance, environmental construction, other infrastructure, industrial, civil and commercial buildings and real estate development.

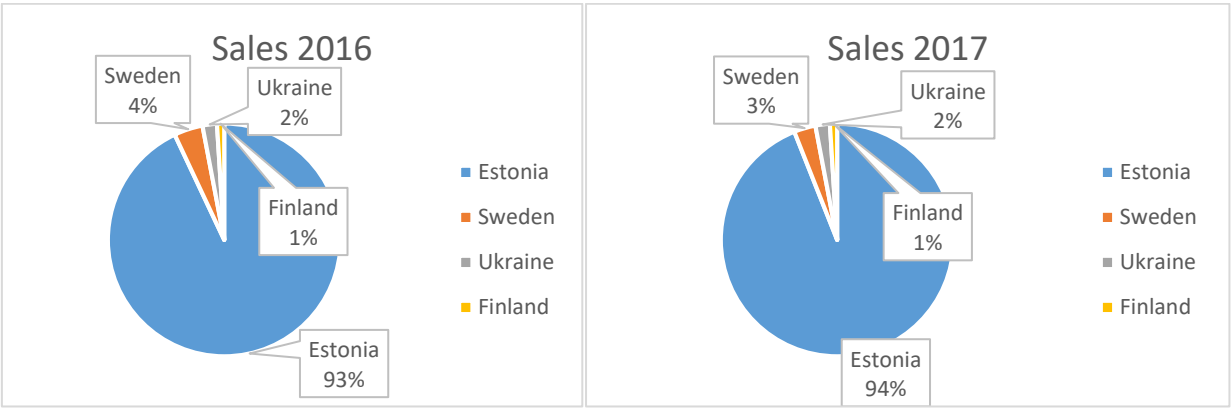

Figure 5: Distribution of revenue by Geographic Regions 2016 -2017

Source: By Author (Nordecon, 2017)

Growth per share for total stock return for one year is 5.3%, for three years 8.7% and for five years 5.2%. (MorningStar, 2018)

Revenue received outside of Estonia in 2017 is lower than the revenue received in 2016 by approximately 1%. The strongest revenue contributor in market terms was Sweden where general contractor's services under three contracts have been provided by Nordecon. The revenue decreased by 1% from 4 in Sweden. Revenue shares in Ukraine remained stable at 2% with general contractor's service under three building and one infrastructure construction contract provided by Nordecon and in Finland at 1% which is from the concrete works in the building construction segment.

Turnover has been fluctuating the last three years, but the most recent year has had the largest turnover in millions compared to the last two years. In (2015: 1.17), (2016: 1.3) and in (2017: 2.6). (Nordecon, 2017)

A share option plan aimed at motivating the executive management of Nordeocon AS had been convened on 27 May 2014. In doing so, they are including them to ensure management and improvement of the company's performance and allows benefits to the executive management from their contribution in the growth of the company's share. (Nordecon, 2017)
Shares that may be acquired by the chairman of the board of Nordecon AS is up to 291,380 shares, up to 259,000 shares each may be acquired by a member of the board and 129,500 shares each to all other members. (Nordecon, 2017)

The financial performance of Nordecon in 2017 showed that gross profit decreased since 2016 from 10,979 euros to 8,695 euros and gross margin decreased from 6% to 3.8%. Reasons behind this were due to the drop in gross margin from the Building segment, and due to the drop it in the gross margin it attributed to certain growths for Nordecon for instance in prices, materials and labour costs. For instance one of the increasing influencers of the firm's performance is lack of available skilled workers and subcontractors. Administration expenses grew due to the termination benefits of two board members, and because of the increase in the number of board members. Despite the changes and added expenses, cost-control measured good results. The administrative expenses were below the target of 4% of revenue. Operating profit and EBITDA have decreased as well. (Nordecon, 2017).

The main drivers of Nordecon as a company are its people. The firm depends on the value of the people, which includes their professionalism, motivation and loyalty. Therefore the firm determined to create a place that fosters professional growth and development in a creative modern work environment. (Nordecon, 2016)

To foster the great environment, Nordecon makes sure that everyone has a safe and healthy working environment, that all employees are satisfied and engaged, that employees get training and education and other related activities towards employees.

Proper safety standards are of utmost importance not only towards the employees but also to the firms business partners, for instance, avoiding accidents and occupational diseases, appropriate work equipment, an ergonomic clean environment and even healthy lifestyle promotions. (Nordecon, 2016)

2.2 Industry and market overview

Compared to 7% in 2016, Nordecon earned around 6% of its revenue outside of Estonia in 2017. Sweden was the strongest revenue contributor amongst the three contracts where they provide general contractor's services. Ukrainian share revenue remained constant, with its general contractor's services under three building construction contracts and only one infrastructure construction contract. The concrete works in the building construction segment are where the Finnish revenues mostly come from. A consciously deployed strategy by which they mitigate the risks resulting from excessive reliance on a single market is a geographical diversification of the revenue base. (Hõbemägi, 2017)

Table 2: Revenue of Nordecon 2012-2016

	2012	2013	2014	2015	2016
Estonia	98%	95%	94%	96%	93%
Sweden	0%	0%	0%	0%	4%
Ukraine	0%	0%	2%	3%	2%
Finland	2%	5%	4%	1%	1%

Source: (Nordecon, 2016)

The revenue earned outside of Estonia has been increasing over the years, except for 2017. The revenue decreased by 1%.

2.3. Nordecon AS financial indicators and forecasts

Financial forecasts of this particular paper have been prepared by the author. The following forecasts are for the next ten years starting from 2018 up until 2027. The following forecasts have been conducted by using six years historic data of Nordecon AS from the year 2012 up until the year 2017 and own assessments.

Nordecons historic data is an indication of how unstable the firm has been performing over the past few years; there has been sudden and extreme increases and decreases in accounts such as revenue, COGS and operating expenses for instance. The author will be analysing the following accounts under the income statement-trend analysis presented in Appendix 1. For instance referring to revenue growth between 2013 up until 2017. There has been both increases and decreases in revenue that very much from one another, for instance the change in 2015 was ten percent and 2016 and 2017 it was positive twenty-six percent. Gross profit had the highest increase in 2013, and then in 2016, there was another increase. The rest of the years had decreased. In 2014 operating expense had increased the most amongst the six years. In 2013 Nordecon had its highest decrease in operating expense which can be-be the reason why the net income was the increased the highest that year. Depreciation has the smallest fluctuation differences among the presented data.

Due to the fluctuation over the past few years, the author used a combination of historic data and estimates/ targets presented in the annual statements of Nordecon AS. The author only took into consideration the estimates/target of the latest annual statements 2016 and 2017.
From the given and calculated information, the author could calculate forecasts for the next ten years.

The forecasts presented in the excel file uploaded by the author suggest that the revenue growth percentage between 2018 and 2027 will decrease with time, not suddenly. The EBITDA margin of the firm will increase gradually with 0.20% per year. The higher the EBITDA margin gets, the

lower the operating expenses will be about total revenue. The Depreciation expense as revenue, CAPEX and dividends as a percentage of net profits will remain constant between 2018 and 2027 according to the computed forecasts of the firm. NWC growth (proportional to sales) and the gross investment growth of Nordecon that have been computed by the author indicates that there will be a gradual decrease over the years. The net profit as a percentage of sales will be increasing over the years according to the forecasts. The firm's taxes paid over the past years have been fluctuating and continue to fluctuate over the next ten years. The author used the net profit as a percentage, dividends as a percentage of net profits and sales revenue forecasts to compute the forecasts of taxes paid.

The author calculated the forecasts of ROE and ROA for Nordecon to see the measure the rate of return to stockholders and the effects of profit margin and asset turnover.

Return on equity (ROE) is defined as the measure of a firm’s ability to produce profits from the investments of its shareholders. The measure of the stockholders’ equity generated from each dollar. (Theron, 2016). In short, every common stockholder’s equity generates 1 dollar of net income if the return is 1. The efficiency of a firm to produce net income is shown through this ratio, which means this measure is significant. (Theron, 2016)

According to the forecasts presented in table 3, the ROE ratio of Nordecon will increase over the years, except for 2022. In 2022 there is a slight decrease in ROE, and then it continues to increase over the years. Each year the firm has been able to produce net income, no negative results are presented in the forecasts. The lowest percentage return is in the most recent year, and the highest percentage return is presented in 2027.

In relation to its overall resources return on assets (ROA) displays the percentage of profit a company earns. (Efisiensi, 2015)

The ROA of Nordecon has been increasing over the years except for 2022 and 2023. In those two years, there was a decrease in ROA which is an indication of fewer profits. The rest of the years indicate better profits year after year. The highest ROA percentage is given in 2027; this is an indication that the firm has its highest profits that years compared to the other years. In 2018 the firm will have its lowest profits compared to the rest of the years.

Table 3: Nordecon AS ROE and ROA (2018-2027)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
ROE	8.0%	10.1%	11.6%	12.1%	11.3%	11.4%	12.3%	13.9%	16.7%	21.0%
ROA	2.3%	2.7%	3.0%	3.0%	2.7%	2.5%	2.6%	2.8%	3.2%	3.9%

Source: (Compiled by the author)

The firm can produce profits from its shareholder's investments even though the ratios are low.

2.4. Discounted cash-flow valuation model of Nordecon AS

The author of this paper has valued Nordecon AS by using the Discounted cash flow valuation model. Using the DCF model the author was able to find the FCF for the next ten years of Nordecon operations.

The assessment of Nordecon takes place in different phases, taking into consideration the market data presented within the chapter named Industry and market overview in this paper and the historic finances presented under the chapter financial indicators and forecasts. The author of this paper has taken all the phases into account and has complied the forecasted revenues and cost of Nordecon AS. Forecasts are presented in an excel sheet send in by the author with all the calculations.

The first phase of assessing the value of Nordecon involves finding the WACC of the firm. WACC equation (4) as mentioned above under the topic 1.2.2 involves finding the cost of debt and the cost of equity of the firm for the forecast period. The ratio of debt to equity had to be calculated/found for the forecasted period, the equity used (in the ratio for the ratio) was taken from Morningstar market value of equity, the market value of the firm currently and debt can be taken from the balance sheet. Computing the cost of equity the author used the CAPM model as mentioned in chapter 1.2.2. The author had to get the unleveraged beta from Damodaran's website (Damodaran, Betas by Sector , 2018) and from that calculate the leveraged beta. The implied market risk premium was taken from Damodaran's' website on 9th of May 2018. The risk-free rate the author used was the German government ten-year bond yield which was 0.53% plus the 0.72% given by Damodaran under adjusted default spread. Cost of debt was taken from the balance sheet of Nordecon, with all the variables found and calculated the author was able to calculate the WACC of Nordecon which is 8.58% which is presented in Appendix 2.

Nordecon has been fluctuating extremely over the years with its revenues, COGS and operating expenses, and due to the fluctuations the past year's information does not really help much in forecasting into the future. There has been no consistency what so ever. The annual statement however do have some assumption / prediction as to how the firm will be performing. The author combined both the assumptions or targets with the five years performance to forecast for the next ten years of the firm.

The author has computed the following table with forecasted FCF and DCF using the calculated WACC presented in Appendix 2.

Table 4: Discounted Future Cash Flows for Nordecon AS (2018-2027)

€	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
EBITDA	5,553	7,147	8,966	10,976	13,003	15,046	17,333	19,429	21,395	19,683
Taxes Paid	-975	-292	-336	-396	-453	-527	-569	-600	-713	-738
Gross investment	-1250	-1356	-1458	-1553	-1630	-1696	-1763	-1812	-1848	-1913
Net working capital	-1000	-1230	-1501	-1801	-2053	-2258	-2439	-2634	-2792	-2890
FCF	**2,328**	**4,268**	**5,672**	**7,227**	**8,867**	**10,566**	**12,562**	**14,383**	**16,042**	**14,143**
DCF	2,144	3,621	4,430	5,200	5,875	6,448	7,060	7,445	7,647	6,209

Source: (computed by the author)

Based on calculations computed by the author in table 4 the free cash flow will increase by approximately twelve thousand euros between 2018 and 2027. The author was able to compute the terminal value for year ten (2027) for Nordecon which is 126,507,000 euros, and the present value of the terminal value to be 55,541,000 euros. The author could calculate the value of Nordecon to be 111,620,000 euros. From the firm's value, the author could calculate the value of equity by subtracting the value of debt. The author found the number of shares from Nasdaq's' website (NORDIC, 2018) and with that calculated the Market price of 1.22 million euros for Nordecon. This calculated stock price is an indication that Nordecon is neither over nor

undervalued in the market. Nordecon is seen as neutral. In other words, the company is properly valued at the market. If future investors are interested in investing into Nordecon, they will be looking at the true value of the firm.

The author has computed two of the relative pricing ratios given in chapter 1.2.1. The EV/EBITDA and the P/E ratio. The forecasted ratios were computed using the forecasted information computed by the author in Appendix 3.

The EV/EBITDA ratio is calculated as the firms net of cash, total market value which is divided by the earnings before interest, taxes, depreciation, and amortization. (Persson & Stahlberg, 2006). According to the computed findings, the firms EV/EBITDA will be decreasing, net cash could be the main reason for this.

The price/ sales ratios are decreasing as well, this decrease is expected due to todays price and forecasts. The profit margin influences the price/sales ratio directly. (Damodaran, s.a.). The P/E ratio is also expected to decreasing over the years, the ratio is even lower than the EV/EBITDA ratio which is not the case for most companies. (Persson & Stahlberg, 2006)

The author used estimates of Merko Ehitus found on the 4-Traders website to do a comparative analysis with Nordecon. The P/E ratio of Merko Ehitus is higher then the P/E ratio of Nordecon in 2018, 2019 and 2020. This shows that Merko Ehitus has a higher growth rate in earnings, and the results of the higher growth rate equals to a higher net present value of future earnings compared to Nordecon (Persson & Stahlberg, 2006). The higher P/E ratio also shows that Merko Ehitus has higher risk then Nordecon and lower reinvestment rates then Nordecon due to higher P/E ratio. The overall results show that Merko Ehitus has a higher market value compared to Nordecon AS. (Damodaran, s.a)

The EV/EBITDA of Merko Ehitus and Nordecon are very close to one another. Both firms seem to be healthy. Low EV/EBITDA is usually an indication of undervaluation and vise versa high EV/EBITDA could be an indication of overvaluation. According to the calculations Nordecon is neither over nor undervalued it is neutral, therefore one could assume that Merko Ehitus is also neutral based of this ratio. (Damodaran, s.a.)

CONCLUSION

The value of a firm typically is based upon the assumed idea of an interested buyer and interested seller of a firm. Due to this assumption, it would imply, that a transaction is always required for the valuation of a firm. To evaluate a firm no transactions are required, there are several other reasons as mention in the beginning of the paper as to why a firm would need to be valued.

As there are different reasons to why a firm would be valued, there are also different approaches to value a firm. All valuation approaches are acceptable; the evaluator needs to familiarise him/herself with the company being valued and the market in which the company operates, to use the appropriate approach.

The purpose of this research was to introduce the types of fundamental valuation approaches and processes, and use the appropriate approach/method to evaluate the publicly held company known as Nordecon AS. With the findings the author can propose to invest or not to invest into Nordecon AS.

The author has presented in this paper which method is best suited in for which type of firm in chapter 1. In making this decision, the author thought that the discounted cash flow method would be the most appropriate method to evaluate Nordeon. The author has taken into account that historic data and estimates would be used to do the forecasting of the firm. The author did, however, use the forecasted computed information to calculate some of the common price values of the firm which is under the market approach. The combination of different methods gives a better view of how the firm is doing or will do in the future. In other words, there is more than one appropriate method depending on the company, market and what exactly the value is looking for, there are several different methods that can be used for a publicly held company.

The author found that the enterprise value of Nordecon AS, using the discounted cash flow approach to be 1.22 million euros. The author used historic financial reports and estimates on annual reports to conduct the forecasts. Nordecon is a publicly held company, most of the firm's information are public records, therefore, the author could find the eliments to compute the cost of equity. The cost of debt could be taken from the balance sheet of the firm.

The main aim of this research paper was to see whether the firm is being over or undervalued and as mentioned above, the firm is neutral. This is a good sign; this is a true indication of the firm's value.

From the information computed by the author, with the use of the appropriate method in this case, the DCF that falls under the income approach. The author can propose to potential investors an investment strategy.

The advice the author would give to potential investors is that Nordecon has lower risk then Merko Ehitus, therefore Nordecon is the safer investment. The market value of the firm is not over nor under valued, the firm is considered to be neutral (the market value of the frim is equal to the true value of the firm). If investors are interested in the firm they can be assured that the firm is healthy and according to the forecasts Nordecon show indication of growth. Nordecon currently has a different shares from both national and international investors. Nordecon is a good addition to already diversified long term portfolio. With that note the author would advice future investors to go ahead and invest into Nordecon AS.

References

(n.d.).

Beitel, T. t. (2016, june). *Terminal value calculations with the Discounted.* Retrieved from essay.utwente.nl: http://essay.utwente.nl/70011/1/ten%20Beitel_MA_Faculty%20of%20Behavioural,%20Management%20and%20Social%20Sciences.pdf

Bragg, S. (2017, December 30). *Accounting Tools.* Retrieved from Accounting tools.com: https://www.accountingtools.com/articles/what-is-free-cash-flow.html

Bragg, S. (2017, december 30). *free cash flow*. Retrieved from Acccounting Tools: https://www.accountingtools.com/articles/what-is-free-cash-flow.html

Capital Valuation Group, I. (s.a). *An Introduction to business valuation*. Retrieved from http://capvalgroup.com/documents/intro-to-business.pdf

CFI. (2016). *Valuation Methods*. Retrieved from corporatefinanceinstitute: https://corporatefinanceinstitute.com/resources/knowledge/valuation/valuation-methods/

Damodaran , A. (s.a.). *Valuation: Part IDiscounted Cash Flow Valuation (63-92)*. Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/eqnotes/discrate2.pdf

Damodaran, A. (2006, NOVEMBER). *Valuation Approaches and Metrics*. Retrieved from people.stern.nyu.edu: http://people.stern.nyu.edu

Damodaran, A. (2007, July). *Return on Capital (ROC), Return on Invested Capital (ROIC) and Return on Equity (ROE): Measurement and Implications*. Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/papers/returnmeasures.pdf

Damodaran, A. (2012, March). *Equity Risk Premiums (ERP): Determinants, Estimation and Implications*. Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/papers/ERP2012.pdf

Damodaran, A. (2018, January). *Betas by Sector* . Retrieved from stern.nyu: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html

Damodaran, A. (2018, JAnuary). *stern.nyu*. Retrieved from Country Default Spreads and Risk Premiums: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Damodaran, A. (s.a). *Price earnings ratio.* Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/eqnotes/earnmult.pdf

Damodaran, A. (s.a). *Probabilistic Approaches in Valuation*. Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/ovhds/inv2E/probabilistic.pdf

Damodaran, A. (s.a.). *Price Sales Ratio.* Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/ps.pdf

Damodaran, A. (s.a.). *Valuation: Part I. Discounted Cash Flow Valuation.* Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/eqnotes/packet1a.pdf

Damodaran, A. (s.a.). *value/EBITDA.* Retrieved from stern.nyu: http://people.stern.nyu.edu/adamodar/pdfiles/vebitda.pdf

Efisiensi, J. B. (2015). *ANALYSING THE EFFECT OF RETURN ON EQUITY,RETURN ON ASSETS AND EARNINGS PER SHARE TOWARDSHARE PRICE: AN EMPERICAL STUDY OF FOOD ANDBEVERAGE COMPANIES LISTED ON INDONESIA STOCK*

EXCHANGE. Retrieved from ejournal.unsrat: https://ejournal.unsrat.ac.id/index.php/jbie/article/download/9855/9441

Ehitus, M. (2018). *Merko Ehitus (MKS).* Retrieved from 4-traders: http://www.4-traders.com/MERKO-EHITUS-4008678/financials/

Feldman, S. J. (2005). Principles of a private firm valuation. In S. J. Feldman, *Principles of a private firm valuation.* New Jersey: John Wiley & Sons, Inc., Hoboken.

Fernandez, p. (2007, January Rev. February). *Company valuation methods. The most common errors in valuation.* Retrieved from iese.edu: http://www.iese.edu/research/pdfs/di-0449-e.pdf

Galitskihh, V. (2015). *Legal factors and components that influence an intellectual property valuation.* Tallinn.

Hõbemägi, A. (2017, Q4). *investors presentation.* Retrieved from nordecon: http://www.nordecon.com/images/source/Nordecon_investor%20presentation%20Q4_2017.pdf

IVSC. (2016, April 7). *IVS 105: VALUATION AND APPROACHES.* Retrieved from ivsc.org: https://www.ivsc.org/files/file/view/id/648

Kalle Ahi, l. (2017, December 05). Financial management. Tallinn. Retrieved from moodle.hitsa.ee.

Koller, T., Goedhart, M., & Wessels, D. (2010). *VALUATION MEASURING AND VALUE OF COMPANIES.* New Jersey: John Wiley & Sons, Inc., Hoboken,.

Lee, I. (2004, May 20). *Valuation: Discounted Cash Flow (DCF) Model*. Retrieved from semanticscholar: https://pdfs.semanticscholar.org/presentation/584d/11cb1aee58bee69727eceac65d6e5553a5ae.pdf

MorningStar. (2018, May 14). *Nordecon AS NCN1T*. Retrieved from quotes.morningstar: http://quotes.morningstar.com/stock/analysis-report?t=XTAL:NCN1T&region=est&culture=en-US&productcode=MLE&cur=

Nammacher, S. A. (2005, November 14). *Income Approach: Basic concepts and Do's & Don'ts*. Retrieved from empireva: http://www.empireval.com/sites/default/files/library/SAN_Income_Approach.pdf

Nevada. (2017, August 17). *Cost Approach*. Retrieved from tax.nv.go: https://tax.nv.gov/uploadedFiles/taxnvgov/Content/LocalGovt/Education/6-2%20Cost%20Approach%20Powerpoint.pdf

Nordecon. (2016, January-December). *Group annual report*. Retrieved from http://www.nordecon.com: http://www.nordecon.com/images/source/Nordecon_annual_report_2016_1.pdf

Nordecon. (2016). *values.* Retrieved from nordecon: http://www.nordecon.com/company-info/values

Nordecon. (2017). Retrieved from nasdaqbaltic: http://www.nasdaqbaltic.com/upload/reports/ncn/2017_q4_en_eur_con_00.pdf

Nordecon. (2017). *Investor Presentation.* Retrieved from Nordecon.com: http://www.nordecon.com/images/source/Nordecon_investor%20presentation%20Q4_2017.pdf

Nordecon. (2018, may 8). *Nordecon AS.* Retrieved from quotes.morningstar: http://quotes.morningstar.com/stock/analysis-report?t=XTAL:NCN1T&region=est&culture=en-US&productcode=MLE&cur=

NORDIC, N. (2018, May 09). *NCN1T, NORDECON, (EE3100039496)*. Retrieved from nasdaqomxnordic: http://www.nasdaqomxnordic.com/aktier/microsite?Instrument=TAL34544

Persson, E., & Stahlberg, C. (2006). P/E and EV/EBITDA investment strategies VS the market. (MASTER'S THESIS). Tallinn. Retrieved from diva-portal: http://www.diva-portal.org/smash/get/diva2:23073/FULLTEXT01.pdf

Talviste, R. (2012). *investor presentation.* Retrieved from nordecon: http://www.nordecon.com/content/files/presentation_NORDECON_2Q2012.pdf

Telmer, C. (2016, February 10). *The Valuation of Common Stock*. Retrieved from bertha.tepper.cmu: http://bertha.tepper.cmu.edu/telmerc/70391/annotations/05_stock_valuationA.pdf

Theron, C. (2016). COMPUTING FINANCIAL RATIOS WHICH COVER ALL ASPECTS OF MERKO EHITUS. *Basic Research Paper*.

Walters, B. (2014). *The Market Approach*. Retrieved from mercercapital: https://mercercapital.com/assets/Mercer-Capital-ESOP-Trustee-Practice-Aid-Market-Approach.pdf

APPENDICES

Appendix 1. Trend Analysis of Nordecon (2012-2017)

INCOME STATEMENT NORDECON AS	2012-12	2013-12	2014-12	2015-12	2016-12	2017-12
Revenue	100%	109%	101%	91%	115%	145%
Gross profit	100%	138%	119%	110%	134%	106%
Other operating expenses	100%	-259%	170%	14%	-156%	58%
depreciation	100%	95%	105%	103%	97%	93%
Net income	100%	314%	132%	12%	206%	266%

Source: (computed by the author)

Appendix 2. WACC calculation of Nordecon

WACC	**8.58%**
	Amount
Equity	**37,200**
Debt	**72032**
	109232
market risk premium	**5.89%**
Rf	**1.25%**
leveraged Beta	**3.054**
Rm-Rf	**4.6%**
Cost of Equity	**20.1%**
Cost of Debt	**2.65%**
Tax Rate	**0%**
After Tax Cost of Debt	**2.65%**
unleveraged Beta	**1.04**

Source: (computed by the author)

Appendix 2. Ratio Forecasts of Nordecon AS and Merko Ehitus (2018)

	Nordecon AS	Merko Ehitus
EV/EBITDA	10.87	10.8
P/S	0.14	-
P/E	14.26	18.1

Source: (computed by the author Nordecon) & (Ehitus, 2018)